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Special Issue

Contemporary Community Social Services: Issues and Challenges

Edited by

Dr. Marta García-Domingo, Dr. Adrián-Jesús Ricoy-Cano and Dr. Lucía González López



<https://doi.org/10.3390/socsci15090578>

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Technologies and Community Care: An Intersectional Analysis

Raquel Latorre Martínez ¹, María Teresa Martín-Palomo ^{2,3} and Jesús Muyor-Rodríguez ^{4,*}

- ¹ Departament of Geography, History and Humanities, Area of Sociology, Center for Migration Studies and Intercultural Relations (CEMyRI), University of Almería, La Cañada de San Urbano, 04120 Almería, Spain; rlm044@ual.es
- ² Departament of Geography, History and Humanities, Area of Sociology, University of Almería, La Cañada de San Urbano, 04120 Almería, Spain; tmartinp@ual.es
- ³ Institute for Feminist Research, Complutense University of Madrid, 28040 Madrid, Spain
- ⁴ Department of Psychology, Area of Social Work and Social Services, Center for Migration Studies and Intercultural Relations (CEMyRI), University of Almería, La Cañada de San Urbano, 04120 Almería, Spain
- * Correspondence: jesusmuyor@ual.es

Abstract

In recent decades, the digital transformation has increasingly influenced structures and practices in community social services in Spain and other European countries. The progressive integration of telecare systems, home automation, mobile applications, and digital tools into the community sphere has enabled the optimisation of certain interventions, but it has also generated ethical dilemmas and new forms of inequality. This article examines how technologies are incorporated into community social services and home care practices in Spain within a context marked by gender, class, and age inequalities. Drawing on qualitative research involving thirty-two interviews with care recipients, carers, and representatives of social organisations, we analyse the socio-technological networks that mediate care, their impact on self-determination, and the limits and resistance to digitalisation. Our findings indicate that, within the community sphere, technologies can only contribute effectively to greater well-being when they are integrated into an ethical framework that prioritises human accompaniment, social co-responsibility, and the recognition of care as a right. We further discuss the tensions faced by cooperative and community organisations in providing sustained inclusive and dignified services within a precarious socio-economic context that highlights shared responsibility. Finally, we offer reflections on technological innovation, advocating for interdisciplinary collaboration that strengthens community networks and advances social justice.

Keywords: digital transformation; community social services; home care; care technologies



Academic Editors: Karen Soldatić,
Christine Morley and Qingyun Peng

Received: 18 February 2026

Revised: 7 August 2026

Accepted: 20 August 2026

Published: 26 August 2026

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1. Introduction

Care sustains life on Earth, the environment, and human well-being. Care is a universal necessity, as humans are vulnerable at every stage of our existence. This vulnerability and need for care highlight our interdependence ([Gilligan 2023](#)). The maintenance and repair of bodies and subjectivities depend on complex networks involving both human and non-human beings.

In their now classic definition, [Fisher and Tronto \(1990\)](#) defined care as an active social process unfolding in four phases: the provision of attention, the assumption of responsibility, the deployment of skills, and the verification of good care by the recipient. Later, [Tronto \(2015, 2023\)](#) incorporated the notion of the circularity of care, challenging the linearity and unidirectionality present in public policies (the idea that care flowed only from the carer

to the cared-for). Care is a relational activity (Ibos et al. 2019), with several dimensions: *material*, relating to bodies and their environments; *emotional* (affections, emotions, feelings and the involved in care); and *moral* (the responsibility that is assumed, who feels called upon to care, and how they do so) (Martín Palomo 2020; Salazar Parreñas 2001).

1.1. More-than-Human Entanglements

Technologies play an active role in care (Mol et al. 2010). In fact, they have been present ever since humans began to create the first and most basic tools, helping to sustain, renew, or repair bodies (Martín Palomo and Muñoz Terrón 2024). Today, there are a wide variety of care-related technologies, ranging from devices used in telecare to artificial intelligence (De Togni et al. 2024; Nurock 2020) and nanotechnologies (Bavngaard et al. 2026). Technological devices have become increasingly prevalent in the home (Grulich et al. 2025), serving as mediators that enable care while redefining the way in which it is provided.

This assemblage of care technologies operates through a process of *tinkering*. These processes facilitate autonomy and require people's participation even in situations of extreme frailty. However, technologies are not neutral (Murphy et al. 2021; Vallès-Peris 2021; Vallès-Peris and Domènech 2023; Vallès-Peris et al. 2026) but rather active mediators in moral and political action; therefore, it is crucial that we examine both the concrete practices of care and the ethics embedded in artefacts. In the context of the forthcoming entry into force of the *EU Artificial Intelligence Act* (European Commission 2026), which aims to regulate high-risk systems and safeguard fundamental rights, we argue that this legal framework must be critically examined through the lens of care ethics. Drawing on Tronto's dimensions of moral responsibility and Gilligan's concept of human vulnerability and interdependency, care systems and AI integration must be assessed not merely for their technical efficiency or regulatory compliance, but for their capacity to sustain life in a dignified, equitable, and just manner. In this context, the use of advanced technologies, such as robotics or AI, raises questions regarding the irreplaceability of the human element and emotional connection. Resistance stems from potential privacy breaches and concerns about constant surveillance (World Health Organisation 2021; Zuboff 2019). In this sense, the article does not treat advanced AI systems as the main empirical object but rather uses the analysis of digitally mediated care to illuminate wider questions about autonomy, surveillance, labour and relational support.

1.2. The Community Dimension and the Management of the Commons

The community is a network of relationships, affections, and care that make life in common possible (Barañano Cid and Uceda Navas 2025; Ortiz and Duque Franco 2026). Community care is a socio-practical process that is fundamental in the perpetuation of the common world, acting as a catalyst in strengthening solidarity and social bonds (Martín Palomo and Venturiello 2021). To investigate community is to explore how the social fabric is woven. By 'community', we refer to social relationships inspired by a sense of shared belonging and the definition of a common identity in contrast to an external one.

In urban contexts, the city, understood as a moral and political organisation, plays a role in the vital processes of its inhabitants (Muxí 2020). However, it is not neutral: it is designed and managed and grows based on the needs of a section of its inhabitants. The concept of the right to the city involves looking for solutions to social inequalities resulting from the formation of social classes, segregated and stigmatised groups, and other privileged groups (Fillola and Carmona 2025; Peukert and Vogelpohl 2025; Rico and Segovia 2017). Several studies have highlighted the importance of building shared environments that foster cooperation and neighbourhood networks to improve quality of life for the most vulnerable

groups and for all citizens (Barañano Cid and Uceda Navas 2025; Blas-Buruaga et al. 2025; Bodoque-Puerta et al. 2022; Hernández and Marrero 2025).

1.3. Intersectionality and Care

Care, without which we could not live, involves a range of social actors, institutions, and processes. However, its value has rarely been recognised, as it is considered the preserve of women. The city and the home are spaces marked by gender: the former linked to the public and political spheres (male) and the latter to the domestic, the and the intimate (female). This traditional feminisation of care practices persists even with the integration of technology (Martín Palomo and Muñoz Terrón 2024). Women tend to take on the learning, maintenance, and supervision processes for devices. Consequently, they assume the primary responsibility for these tools, along with the significant mental load that they entail (UNESCO 2025).

Technology is designed for a very specific user/consumer profile (white, from the Global North, without disabilities, without a strong accent, from a certain social class, etc.) and thus leads to structural inequalities. Access to assistive devices often depends on the purchasing power of families or the people being cared for. This amounts to the privatisation of care and limits access to a select few: those who can afford it. Furthermore, even when social policies promote access to assistive technology for lower-income social groups, the weight of ageism or ableism limits the actual accessibility of these resources (Winance 2024).

State and public policies are viewed with ambivalence: on the one hand, they are valued if they streamline access to technology; on the other hand, they can be criticised for bureaucratic rigidity and delays in processing aid (Ombudsman 2025). In the face of such rigidity, organised civil society is attempting to reach places that the state is failing to reach or is reaching too late. Many community organisations operate in a non-institutionalised and precarious manner, which makes it difficult to deliver resources to working-class neighbourhoods effectively (Barañano Cid and Uceda Navas 2025; Blas-Buruaga et al. 2025; Bodoque-Puerta et al. 2022; Hernández and Marrero 2025; Sanchís 2020). Therefore, achieving equity in care provision goes beyond rethinking practices through technology. It also requires analysing how artefacts are introduced and the new relationships they generate (Vallès-Peris 2021).

2. Materials and Methods

This research was conducted using a qualitative methodological approach. This research was conducted using a qualitative methodological approach to capture participants' perceptions from the perspective of their lived experiences (Taylor and Bogdan 2010). The research strategy employed is based on grounded theory (Glaser and Strauss 1967), which utilises the method of constant comparison and theoretical sampling for the analysis process. Generally speaking, the study's inferences were generated through the emergence of categories derived from the data.

2.1. Empirical Framework

This article is the result of a broader social research endeavour developed over a decade through various projects carried out in Spain. The research underpinning this article was carried out within the framework of the following projects: *Sustainability of care for people in situations of dependency: experiences and dilemmas in the design of techno-care*, funded by the Regional Government of Andalusia—Andalusian Plan for Research, Development and Innovation (PT18-2624); *Care frameworks and technologies. A study from an intersectional and gender perspective*, funded by the Spanish Government's Institute for Women (33-4-ID24);

and *Technological arrangements, supports and assemblages in care provision. A study from an intersectional and gender perspective* (P_LANZ_G_2023/006), funded by the University of Almería's Own Plan.

Specifically, the empirical analysis in this scientific article is based on fieldwork from the research project '*Care frameworks and technologies. An intersectional and gender-based study of*', funded by the Spanish Government's Institute for Women (33-4-ID24). The article focuses on analysing how technologies are integrated into care provided in the home for people in situations of dependency. However, in this work, we provide an analysis within a broader context, aiming to elucidate the significance of technologies in caring for people.

2.2. Sample

A non-probabilistic, purposive sampling method was used to conduct this study, in accordance with the researchers' objectives. The inclusion criteria are divided according to the three main groups of participants: (1) care recipients, (2) carers, and (3) organisations involved in care. Initial recruitment began through contact with two key informants: a social worker from a home help agency and a care worker from a municipal service. They helped identify potentially interested participants based on the research team's referrals. Subsequently, the research team contacted these interested individuals directly, providing comprehensive information about the study and its objectives and procedures, in order to obtain their written informed consent prior to inclusion. Furthermore, guided by the analysis of the initial interviews, the research team's professional networks were utilised to select new cases, building on previous collaborations with institutional bodies involved in similar care studies, which facilitated finding further participants.

Thus, contact with informants was established through various channels, with the aim of balancing the biases associated with each (e.g., personal and academic networks, social organisations). The channels for finding contacts were diverse and included (a) coordinators and staff at home help service providers; (b) active associations and groups in the field of care for people in situations of dependency; and (c) professionals in the field of social services. Structural bias could arise if interviewees knew that their family members or care professionals were also participating. To avoid this, we ensured that none of the participants were connected to one another. Prior to each interview, permission to record the session and a signed consent form were requested (with the interviewee informed that this consent could be withdrawn at any stage in the project). Throughout the process, we ensured strict compliance with legal and ethical regulations regarding confidentiality and the protection of personal data. The Bioethics Committee of the University of Almería reviewed and approved the protocols used for informed consent and data security.

This article presents the results of 32 interviews conducted in Spain, a specific and situated context. To contextualise the analysis, the profiles of the interviewees are described, distinguishing between the three groups interviewed: care recipients (G1), carers (G2), and organisations involved in care (G3).

Within the group of care recipients (G1), 9 people were interviewed, 5 women and 4 men, with varying situations and degrees of dependency. In terms of profile, the interviewees ranged in age from 34 to 89 years old. The reasons for receiving care were varied: illnesses diagnosed at a young age or in middle age, acquired illnesses, or deterioration associated with old age. They had diverse living arrangements: some lived alone, some with descendants or ascendants, and some with their partners (see Appendix A Table A1). At the time of the interviews, none of these individuals were in paid employment and their general socio-economic status was stable, with sufficient financial resources to support their care and meet other personal needs or life circumstances. However, in some people's cases,

whilst their financial situation was sufficient for care, it was also very limited in terms of coping with any other unforeseen events.

In the group of carers (G2), 7 carers were interviewed—5 women and 2 men—with different family relationships to the care recipients, varying living conditions, and differing levels of dependency among the latter. As shown in the table below, their ages varied, ranging from 33 to 66 years old. These individuals had varied living arrangements, and none of them provided professional care for the person they were looking after. In all cases, they were related to the person receiving their care; however, none of them were relatives of the care recipients that we interviewed. In most cases, they constituted the primary source of support for the care recipient. Exceptionally, in one case, the interviewee's financial support was secondary, as the care recipient's material support fell directly on their parents (see Appendix A Table A2).

In the group of care-related organisations (G3), 16 interviews were conducted with 15 people (the person identified by the code G3E61 was interviewed twice, in March and September 2025). The interviewees had various relationships with the organisations. In some cases, they were worker-members of the cooperatives; in others, they were salaried employees of the organisation; and in some instances, they had leadership, management, or voluntary roles. It is worth noting that several of the interviewees were international migrants (from Nicaragua, Colombia, the Dominican Republic, and Peru). Their reasons for coming to Spain varied: family reunification, asylum applications, improved economic circumstances, or for their studies. The interviews with the organisations provide a broad perspective on their stance and actions regarding care and the use of technology, as well as the care provided by these individuals within their organisation (as workers and/or managers) (see Appendix A Table A3).

The interviews were recorded with the prior consent of the informants and transcribed in full, and, in order to safeguard privacy, the references were anonymised using an alphanumeric code.

2.3. Research Methodology and Data Analysis

Semi-structured interviews were used as the primary data collection technique to analyse the meanings and interpretations that care recipients, carers, and social agents attributed to the use of technology (Taylor and Bogdan 2010). Its application enabled us to highlight and analyse the meanings and interpretations that care recipients, carers, and social agents attributed to the use of technology in the care of dependent persons.

The interview guide was organised around five main sections (personal and professional history; care activities received and provided; care provided using objects and technologies; self-care and interdependence; and assessment of care).

The specific criteria for determining data saturation in this study were based on the iterative analysis of interviews and observations, with recruitment halted when new informative contributions had become redundant and no additional relevant themes, categories, or variations were emerging.

Data analysis was conducted using the constant comparison method (Glaser and Strauss 1967), assisted by NVivo 15 software. This procedure is based on an inductive e-analysis through data coding. The units of recording consist of words, sentences, paragraphs, or textual fragments with potential meaning in the transcribed interviews, whilst the units of context encompass the broader fragments that give them meaning and coherence (López-Aranguren 2016). Emerging concepts and ideas are grouped into codes through an iterative coding process, generating a final categorisation matrix derived from the synthesis and grouping of these units (Strauss and Corbin 2016). Thus, inferences

are constructed from the coded elements and interpretative depth based on the context analysed (Krippendorff 1990).

In the present study, artificial intelligence tools were employed—specifically Perplexity and the automated assistance of the NVivo 15 software—to carry out a preliminary approach to thematic analysis and to complement the analytical process. In this regard, a preliminary auto-coding was performed to tag recurring noun phrases and identify a possible grouping of broad thematic areas. This approach was established in an initial phase of the analysis and served to initiate reflection on the coding protocol. Thus, automated coding was carried out initially and in an open manner, under careful human supervision, followed by axial coding in NVivo 15 performed by the research team. In this way, the open codes were grouped into subcategories by properties (causes, contexts, strategies, consequences), with the research team exploring relationships interpretatively. In a subsequent phase, the dimensions (material, moral, and emotional) were selectively consolidated by comparing them with the literature on existing theories of care frameworks.

The results are reflected through a visual representation via the compilation of the codebook. Finally, the categories emerging from the content analysis are analysed from a qualitative–interpretative perspective.

3. Results

The information in this section is organised around three main analytical categories, namely material, moral, and emotional dimensions, and five cross-cutting subcategories derived from the inductive qualitative analysis (see Table 1). The information in this section is presented following an inductive qualitative analysis, organised around the emerging codes from the interview corpus. These are grouped into three main analytical categories—material, moral, and emotional dimensions—and five cross-cutting subcategories, from which the specific codes that structure the codebook emerge.

Table 1. Codebook.

Main Category	Subcategory	Emerging Codes
Material dimension	Social and economic situations	Private vs. public resources; social organisations
	Use of technology	Conventional technologies; digital technologies; advanced technologies
	Perception of care needs	Basic needs; autonomy and agency; technological dependence; work–life balance
Moral dimension	Role of agents (state, family, community)	State; families and gender; community/social actors
	Dilemmas	Dilemmas: human–technology substitution; autonomy vs. dependence; interdependencies
Emotional dimension	Emotions, feelings, resistance and solutions	Emotions and feelings; resistance (emotional rejection, invasion of privacy); solutions (support and training, natural and family support)

3.1. Material Dimension

The material dimension of care refers to the network of artefacts, technologies, spaces, and infrastructures that enable, condition, and give concrete form to the practices of caring and being cared for. From a sociomaterial perspective, this dimension recognises that care relationships are embedded in specific physical contexts and that bodies never act alone. Rather, they act in conjunction with objects, devices, and environments designed or repurposed in everyday life. Analysing the material dimension involves considering

both formally available resources and creative everyday adjustments. In the interviews, this dimension encompasses assistive products and technologies ranging from telecare systems and mobile apps to technical aids and home automation.

A recurring theme in the interviews is how these elements do not appear merely as neutral technical products but as active components of the care framework. They enable the redistribution of burdens, facilitate or restrict movement, and reshape the nature of the relationship between carers and care recipients.

3.1.1. Social and Economic Circumstances

The accounts of those receiving care highlight how access to care technologies reflect structural inequalities. These are determined by individual purchasing power and the limited coverage provided by public authorities. The initial purchase of devices such as adapted wheelchairs or hearing aids involves significant investment, with subsidies covering only part of the cost. Furthermore, the cost of maintenance (repairs, specialised consumables) exacerbates the financial burden for people in need of care and the families providing it. This commercial logic of assistive technology transforms care into a privatised commodity, where the agency of people in situations of dependency is made contingent on financial resources. This creates a gap between the emancipatory potential promised by technologies and the practical reality of economic exclusion due to high costs.

The other day I saw a system for moving an electric wheelchair from below. I find it very interesting. But the thing is... the whole service cost 10,000 euros (...). This wheelchair, for example, was funded for me at about half the cost. It cost me... 10,000 euros. And Health Service X paid half, I think. I think half. (G1E41)

I bought a hearing aid (...), it cost 5000 euros and I signed up for a loan of 100 euros a month (...). I returned the hearing aid because I couldn't stand it (...). They threatened to repossess my house. I went to speak to the bank manager (...) and he told me the only thing was that I'd become a defaulter. (G1E51)

These narratives reveal a perverse effect inherent in the technification of care. Whilst they promote autonomy, they also generate financial risks that destabilise middle- and lower-income households. They lead to debt, default, and penalties that jeopardise family stability and increase precariousness.

In the same vein, social organisations involved in care also face severe constraints in acquiring technology that facilitates both administrative management and direct work with those in their care. This is because they depend on unstable and insufficient public grants that cover neither the initial purchase nor the maintenance of IT equipment, software, or care devices.

One of the problems we're going to face in the Federation is funding, because we've been given funding to create the app, but not to maintain it. (G3E46)

If you apply for a project and it's approved, they'll pay you. But first you have to carry it out and justify it (...) and who can advance 120,000 euros? (G3E63)

The participants' narratives indicate that technology introduces new demands, such as the need for additional funding for licences, updates, and training, which frequently results in technical and financial pressures for care recipients.

3.1.2. Use of Technology

The use of technology by the carers interviewed falls into three emerging categories: conventional technologies (walking sticks, wheelchairs or bath chairs, adjustable beds),

digital technologies (mobile phones, tablets, Alexa or apps for communication such as WhatsApp, tracking apps), and advanced technologies (robots, generative AI, eye-tracking systems). All are deeply integrated into daily life to alleviate physical burdens and facilitate family or professional coordination.

I've been using a walking stick since my operation (...) and I had to stop constantly at benches and have a friend accompany me (...). So we looked at a scooter, and I thought it was wonderful (...) I can go wherever I want, go out (...) see the sea, go on my own... and I can't do that with crutches or a walking stick. (G1E03)

Yes, I have... a Google speaker. Sometimes I ask it something... like what day it is. The day of the month—sometimes I don't know if it's the 20th or the 21st. Or I can ask it the time. And I also use it sometimes at night to call my mum or dad if they can't hear me. (G1E41)

For me, just saying: "Play me a history podcast...". What I used to have to do myself—switching the radio from one station to another—Alexa does it now. (...) [M]y sister already has the blinds going up, the lights switching off and all that sort of thing; she's got it all sorted... (G1E02)

What I think is that, of course, as far as robotics and that sort of thing goes, from what I can see, it will mainly be about providing companionship—talking, just being there and keeping an eye on things—as is the case with people's loneliness too. Perhaps it could also help with cognitive aspects through games. (G2E69)

In the interview responses, technological tools are viewed positively when they are integrated into daily routines, taking into account timeframes and rhythms that lie beyond the realm of technology and increasing the autonomy of those receiving care. On the other hand, they elicit reluctance when they dehumanise care, impose digital bureaucracy, or require technical skills that are not available, especially among migrant or older carers. Advanced technologies remain largely on the horizon, seen as potential allies with varied but largely inaccessible expectations, whilst homemade or improvised solutions are predominantly used to make up for shortages when such technologies are not available on the market or are prohibitively expensive.

3.1.3. Perceptions of Care Needs

Conventional devices (such as electric wheelchairs or telecare) and digital devices (Alexa, apps) are perceived as extensions that support daily routines without replacing human connection. The interviews reflect a pragmatic relationship: technology alleviates physical burdens and is integrated into the fabric of independence. However, this relationship is not uniform, since the meanings attributed to technology vary depending on the device, the context of use, and the form of mediation involved. But there are also ambivalence, mistrust, fear, and insecurity in relationships with technologies integrated into care.

Sometimes they ring me, because I have the little device (telecare) (...). It's a help because if I fall to the floor, I can't get up on my own. So I press here, and they call a neighbour, a member of staff or someone, to come and help me up. (G1E57)

I have a camera at home... in case I leave him on his own. Especially at night too... you log in for a bit, see that he's asleep, and you feel reassured. (G2E71)

The analysis shows that many of these technologies help to expand the interdependency and functional autonomy of care recipients. Furthermore, they reduce the physical strain

on carers and reorganise daily tasks, which enables intensive care to be maintained at home. At the same time, their effects are not homogeneous: while some devices are experienced as supportive and autonomy-enhancing, others may generate tensions associated with operation, time management, privacy concerns, or technical dependencies that introduce new vulnerabilities into daily life.

If the hoists were much more advanced, so you didn't have to support her head, so you didn't have to exert so much effort to get her into it... You have to get her under the sofa, then move her over to the chair... It's not that the process is tedious, but just to lift her into the chair, you might need as long as fifteen minutes just to get it set up on the chair. (G2E59)

Last week we tried the hoist, but it didn't go well. We have to learn how to lift her, how to position ourselves and move the arm, how not to hurt her (...). It takes time to get used to the equipment. (G2E60)

The interviews also highlighted issues regarding the rhythms of technology-mediated care. Machine-dictated schedules, app waiting times, and frequent device breakdowns demand constant adjustments. Consequently, these factors reshape the daily routines and overall availability of carers. In this sense, the material dimension shapes an ecology of care in which bodies, objects, spaces, and temporalities are interwoven in situated practices. It is also highlighted that in order to provide this care under good conditions, additional training is necessary. Financial resources must be provided, which are not always available.

3.2. Moral Dimension

The moral dimension of care refers to the web of ethical values, responsibilities, and normative tensions that guide the practices of caring and being cared for. Thus, it shapes what is considered good, dignified, fair, and proper care. From a socio-moral perspective, this dimension illustrates how care relationships are embedded within specific axiological frameworks. Within these, the actors involved—the state, families, communities and social organisations—negotiate roles, boundaries, and obligations, whilst technologies and objects not only facilitate actions but also raise dilemmas regarding autonomy, vulnerability, and equity. Analysing the moral dimension therefore involves considering both the normative expectations regarding who should provide care and how. It also entails analysing the resistance, solutions, and ethical justifications that arise in the context of techno-care.

3.2.1. Role of the Agents

In the corpus of interviews, the subcategory 'role of agents' (the state, family, community, and social organisations) emerges as a central axis of the moral dimension, revealing how care practices are rooted in ethical assessments of the distribution of responsibilities and the legitimacy of institutional, family, and community support systems.

The state is viewed with ambivalence. On the one hand, it is viewed positively when it facilitates access to technology such as telecare. However, this perception is drastically reversed in the face of bureaucracy and chronic delays. The interviews are dominated by accounts describing institutional negligence that exacerbates inequalities by prioritising administrative rigidity over vital needs.

I remember, it's been 11 years now since we applied for care. First, an assessment by IMAS, and then the care itself. That was a real ordeal. A year later, we still hadn't started receiving that support (...). Bureaucratically speaking, it's... it tires me out more than a 40-km run. (G2E44)

I've been waiting four years for the care home. Everything has come far too late. In these cases, everything moves hyper, hyper-slowly, at a standstill. Nothing arrives on time (...). The waiting list is a year long. So in a year's time, he'll surely have passed away (...) I find it very unfair that home care takes so long. An electric wheelchair would help me enormously, but they won't give me one. As he isn't self-sufficient enough to use the wheelchair, they won't prescribe it. (G2E71)

Families, in contrast, view caregiving as an inescapable moral burden, internalised as a duty and a responsibility. They take on this role because of the bonds that unite them, committing themselves to providing care even at the expense of their own autonomy and self-care. Intergenerational dynamics emerge, where sisters take on tasks to relieve their mother but always under the gender imperative (as women) and the moral duty to 'be there'. This assumption of responsibility by the family network creates tensions in filling public gaps, reproducing gender inequalities, and causing unrecognised exhaustion.

I think I've really internalised caregiving, because it's something I've been doing since I was very little. (...) [B]ecause of the way things are, a dynamic of care develops at home. So, I've internalised it as something normal (...). It's a responsibility you have to take on. (...) So, often, seeing or focusing on your own things—for example, 'no, I'm not going to sit down and read a book'—while you see your mother needing help with everything, doesn't make you feel at ease. You say, 'Why am I enjoying my free time and not giving that time to my mother?' (G2E45)

Significant gender differences emerge in the caregiving experiences. While female carers, such as G2E45, describe caregiving as a moral mandate internalised since childhood that generates guilt when attempting to enjoy free time, the two male carers interviewed (G2E44 and G2E60) articulate their experiences primarily around bureaucratic obstacles and technical management. For instance, G2E44 focuses his narrative on the exhaustion caused by administrative bureaucracy, stating that it is more tiring than running 40 kilometres, and on solving problems using assistance apps. For his part, G2E60 highlights the difficulties involved in learning how to use a mobility hoist. Neither of the two men expresses the emotional burden linked to the 'duty to care' that transversally permeates the women's accounts. This illustrates that, even when men take on technology-mediated caregiving tasks, the moral burden, emotional supervision, and guilt remain deeply feminised.

Technology is increasingly integrated into care practices. However, it has not yet managed to disrupt how moral responsibility is assumed, nor has it broken away from structural gender inequalities. The processes of gender socialisation that lead to this being seen as 'natural' contribute to reproducing these inequalities, including through care technologies. Within the framework of techno-care, devices such as sensors, alarms, or robots alleviate material burdens by facilitating everyday tasks, but they only reconfigure the ethical responsibilities that fall disproportionately on women. Our younger interviewees describe how they take on the tasks of learning, maintenance, and supervision while maintaining the traditional roles of primary carers. Thus, whilst the gendered moral dimension of care remains intact, digital and access gaps perpetuate inequalities. Consequently, technical innovations fail to dismantle the feminisation of care.

Finally, communities and social organisations operate as networks of intermittent support, fostering dignity through the proximity of their support or services. These social agents do not have the capacity or the vocation to replace public responsibilities, but due to their proximity, they are attentive to the people they serve, though they have more willingness to help than they do resources. The role of digital volunteering is highlighted, as it is beginning to play an important part in providing technological support to older people.

My neighbours keep a close eye on me. In what way? Firstly by phone, and secondly, they help me without me having asked them explicitly. And then in the sense that there's a neighbour who has keys to my house; if I don't give any sign of life for a while (...) or they see something odd, they ring me and say, 'Hey, are you alright?' (G1E13)

Volunteers provide companionship to people experiencing unwanted loneliness... digital volunteers who teach older people how to use mobile phones and tablets. (G3E67)

However, some organisations lament their funding being discontinued, which means they can no longer sustain or increase some of their services on an ongoing basis, even when they have identified people's needs.

We have stopped growing or maintaining services because we did not have sufficient human resources (...). We have not had the capacity to promote projects or apply for grants due to a lack of human resources. (G3E61)

These actors are integrated into care networks working to preserve the capacity for agency of people in situations of dependency. However, this solidarity is sporadic and does not respond to complex demands, leaving families as the ultimate responsible parties; thus, the community mitigates but does not resolve the absence of public responses from social policies, ultimately the responsibility of the state. Taken together, these agents form a fragmented continuum. That is to say, the state legitimises rights but fails in terms of equity; families sustain the system through sacrifice; and communities and social organisations uphold dignity, albeit precariously. At the same time, they demand systemic shared responsibility to prevent the moral responsibility for care from falling disproportionately on the private sphere.

3.2.2. Dilemmas

Beyond the tensions over who assumes responsibility for care provision, the interviews raise concerns about technology potentially replacing human contact. Participants question whether robots or devices can do so without weakening empathy and emotional bonds. They also express doubts about whether technological tools genuinely enhance independence or, on the contrary, generate new forms of control and passivity, especially when they are associated with constant monitoring and the loss of privacy. In this sense, technology is experienced ambivalently: while it may support care and autonomy in certain situations, it can also reinforce vulnerability when it is perceived as intrusive or when its use increases dependence on others.

I felt useless (...) For me, independence and freedom have come through the adapted electric vehicle (...) the vehicle has been my salvation (...). I don't want telecare—I don't want it—because it's like having a policeman on my tail all the time, keeping tabs on me. I'd rather have people help me when I need it, not that constant surveillance. (G1E21)

Ultimately, the solutions lie in combining support and training with family assistance through the deployment of networks and learning processes. These can be personalised by humanising technology and integrating it in a contextualised way into the daily lives of carers and those they care for.

When you meet someone who starts explaining the apps (...) and gives you some guidance (...), you can get a tip and start developing your own method depending on what your daughter is like and what works best for her. This isn't something orthodox, but rather it's flexible depending on the characteristics of the person with a disability. (...) [I]t would be ideal if they explained how things are done. (G2E44)

If Alexa or the mobile phone gets reset (...) I ring my children. My children tell me that I've just got used to calling them. It's true, it's true that it's for convenience. But the fact is, there's come a point where I often feel helpless. (G1E02)

These solutions aim to bridge the gap between dependence on technology and the need for ongoing human relationships. Sometimes, they are very makeshift solutions, as evidenced by accounts of how families improvise device set-ups. These efforts promote relational autonomy, as the process of learning to manage technology mobilises emotional bonds. However, technological products are not isolated devices; rather, their use, or the way in which they are used, forms a network that influences how people experience the act of caring and being cared for. In cases where interviewees have not integrated these functionalities, they express negative emotions related to their use.

3.3. Emotional Dimension: Feelings, Emotions, Resistance, and Solutions

In relation to the emotional dimension, tensions are evident between the coldness of technical innovation and the warmth of human connection. Technology is associated with a lack of emotional sensitivity that can translate into neglect (Martín Palomo 2021).

A robot can help you, but it cannot replace you (...). I can be bathing my daughter whilst a robot is cooking for me. It is not the same as the robot bathing your daughter whilst you cook. (G3E36)

Among our informants, resistance manifests as emotional rejection. In addition to difficulty in accepting technological innovations, resistance stems from fear of an invasion of privacy that violates intimacy or the replacement of personal relationships with technologies (especially in the case of care robots). However, when the devices work and provide support or security and people get used to using them, an attachment to objects and devices can be formed.

I feel that the emotional side is neglected. It's not the same talking to a robot that's just going to give me a pre-programmed response... What if I want a hug? It's not the same feeling a hug from another person as feeling something metallic hugging me. (G3E63)

I see robots as something very cold. When dependent people are unwell or ill, what they need is affection and care. And they stick a machine in there... I see it as something very cold. (G2E71)

With the motion sensors, I'm being watched all the time. I've told my daughter I'm going to get rid of it (...). Your children can see if you go out onto the street (...). It's just that they're listening. When I open and close the door, they listen. And my daughter asks me: 'What happened last night? And yesterday?' And I say: 'Look, I'm going to take it off, I don't want that much control' (...). If I open the fridge, if I have breakfast, if... I'm very closely monitored in that respect. (G1E57)

In summary, the results derived from the qualitative analysis of the interviews reveal that technologies in community care are configured across three interconnected dimensions: (1) material, in which socio-economic inequalities are reproduced by conditioning access to and maintenance of private resources available to individuals or families against a backdrop of insufficient public provision; (2) moral, characterised by a fragmented continuum of responsibilities between the state, families, and social organisations, which perpetuates the feminisation of care despite and through technological integration; and (3) emotional, marked by dilemmas regarding human–technology substitution and resistance to invasions of privacy, which are reduced when personalised support is provided.

Overall, the results show that technologies are embedded in care as materially, morally, and emotionally situated practices. Rather than producing a single or uniform effect, they shape care through multiple and interrelated processes: they may facilitate daily routines and functional autonomy, but they also generate unequal access, maintenance costs, added workloads, tensions around responsibility, and ambivalent experiences of privacy, control, and dependence. These findings provide the empirical basis for the discussion that follows.

4. Discussion

The main findings reveal that the impact of technology in the care sector is shaped by the material, moral and emotional conditions of everyday practice, such that the same device can promote autonomy in some contexts, whilst in others it creates inequality, additional burdens and resistance. Taken together, these results show that technology in care is not simply adopted, but is actively negotiated, repurposed and made workable through situated practices.

The findings of this research confirm that the technological integration of care does not operate in a neutral manner but rather forms part of what we refer to as ‘more-than-human assemblages’ (Moyà-Köhler and Domènech 2021; Martín Palomo and Muñoz Terrón 2024; Vallès-Peris et al. 2026). By becoming integrated into care networks, technologies redefine the boundaries of autonomy and interdependence, which overlap in practice. This is one of the study’s main theoretical contributions: it shows that autonomy and dependence are not opposing states, but co-produced and constantly renegotiated in everyday care.

These findings align with what Cozza et al. (2021) define as a “*caring apparatus*”. This apparatus is not merely technical but embedded within social, ethical–political, and gender frameworks that determine whether socio-technical assemblages succeed in “*caring together*” or end up “*caring apart*” (De Togni et al. 2024). Our data add to this argument by showing how these dynamics are experienced in practice, especially when devices become sources of coordination, friction or emotional labour.

In this process, we find marked socio-economic stratification in access to technology. Technology, far from being a neutral artefact, thus emerges as a socio-economic actor that crystallises capitalist tensions within the care sector. This is particularly true when a decline in quality of life, coupled with a loss of purchasing power, leads to a risk of financial breakdown in weaker households.

Whilst in terms of accessibility, we must highlight the potential of telecare, empirical data reveal that essential devices, such as hearing aids or electric wheelchairs, have become high-cost goods that not everyone can afford. This creates inequalities in the attainment of self-determination and in how responses to care needs are organised (Venturiello et al. 2024). This empirical pattern demonstrates that technological autonomy is socially conditional, not universally available.

The findings of this study show how technologies, far from being neutral, can exacerbate intersectional vulnerabilities. On the one hand, class vulnerability becomes evident in financial dependencies; a clear example is the case of G1E51, who recounts severe indebtedness, taking on multiple loans and facing threats of repossession to acquire a hearing aid that he ultimately returned. On the other hand, bureaucratic dependence aggravates the situation of families dealing with an ineffective state, as evidenced by accounts of waiting years to receive dependency support or places in care homes. Finally, the vulnerability linked to age and the loss of agency manifests in emotional dependencies and a loss of privacy; for example, interviewee G1E57 describes constant surveillance via motion sensors as excessive control by her relatives, making her feel watched in her own home. Thus, the data support the assertion that the deployment of technology in care intensifies pre-existing gender, class, and age gaps.

This reality aligns with the arguments of [Wajcman \(2015\)](#), who contends that technological innovation is often designed according to market logic that ignores the realities of social class, turning autonomy into an economic privilege. Furthermore, the precarious position of the agents involved in incorporating and maintaining these technologies is part of what [Vinsel and Russell \(2020\)](#) call the ‘*innovation delusion*’: a public policy that funds the purchase of new devices but neglects the maintenance and repair of existing ones, which are the very practices that sustain life in the long term. In this sense, our findings suggest that the problem is not only access to innovation, but also the unequal distribution of the work needed to keep technologies usable over time.

With regard to community care, this research demonstrates that technology has not dismantled the feminisation of care; on the contrary, it has added the burden of managing domestic infrastructure, technical aspects, and institutional mediation. Women continue to care for others, as they feel a moral duty to do so ([Rico and Segovia 2017](#)). Technologies are reshaping care practices, and women now take on the learning and emotional oversight of devices, as is the case with digital communication between families ([Hu and Qian 2024](#)). They end up responsible for maintenance and repair, adding tasks, greater mental load, and extra stress to their duties as carers. Our study therefore shows that digitalisation does not reduce gendered care work, but redistributes it into new, often invisible, forms.

This phenomenon has been analysed by [Pols \(2012\)](#), who concludes that technology does not reduce work but rather shifts it towards new forms of ethical monitoring and adaptations that continue to fall on those who were already traditional carers. According to [Pink et al. \(2022\)](#), the technologies integrated into Smart Homes are designed for male users (white, upper-middle class, etc.), whilst the work of care, maintenance, and emotional adjustment to make the technology ‘liveable’ falls to women. Our findings reinforce this critique by showing that the burden is not only practical but also affective, as women often become responsible for making devices intelligible, acceptable and emotionally manageable.

Furthermore, the ambivalence in the relationship with the state and its administrative delays and bureaucratic complexities reinforce [The Care Collective’s \(2020\)](#) argument regarding the urgency of ‘universal care’ that does not depend on women’s private sacrifice to patch up the shortcomings arising from the care crisis. The community provides support but requires greater resources and recognition to shift care from the private to the public sphere, particularly to meet the needs of the most vulnerable populations ([Barañano Cid and Uceda Navas 2025](#); [Bodoque-Puerta et al. 2022](#); [Blas-Buruaga et al. 2025](#); [Hernández and Marrero 2025](#); [Fillola and Carmona 2025](#); [Peukert and Vogelpohl 2025](#)).

The findings suggest that the incorporation of technology into care does not only expand functional possibilities but also raises concerns about the possible replacement of human contact, the weakening of empathy and emotional bonds, and the emergence of new forms of control and passivity. These tensions become especially visible when technologies are experienced as monitoring tools rather than as supportive resources, thereby reinforcing vulnerabilities in both carers and care recipients. As [Akrich \(1992\)](#) points out, users re-inscribe technical objects: the interviewees do not use the *apps* or devices exactly as they have been created and defined but rather devise their own methods adapted to the uniqueness of the person being cared for; they make do with them, adapt them, and adjust them. For [Fischer et al. \(2024\)](#), this stems from the fact that the design of the object is not conceived with the care recipients or carers in mind but rather in response to business logic or institutional demands. It is therefore necessary to ‘domesticate’ the technology, allowing a ‘cold’ or depersonalised artefact to become an extension of the emotional bond, ceasing to be just any artefact and becoming ‘*mine*’ with its own particularities and flaws yet easily recognisable and familiar. The artefact is thus identified within the socio-technical framework as one with practical and emotional implications within care ([Winance 2024](#)).

Overall, our findings show that domestication is not a secondary stage of use, but a central part of how care technologies become meaningful, sustainable and relationally acceptable.

5. Conclusions

This research sheds light on how technologies and community care are articulated within complex socio-technical networks and assemblages involving families, institutions, and social organisations. Through a gender and intersectional analysis, it is concluded that technology not only assists but actively redefines and challenges what it means to care and be cared for at home and within the community setting.

Future studies should expand and further diversify the samples used. It is acknowledged that, as this study is based on a limited sample of 32 interviews conducted exclusively in Spain, the results are not intended to make universal generalisations. Rather, the aim is to understand the situated discourses of the interviewees and the specific socio-technical processes they describe within this particular geographical and cultural context. Additionally, a key limitation lies in the gender composition of the sample. Although cisgender men were included across all three participant groups (four care recipients, two informal carers, and three organisation representatives), their small proportion limits a comprehensive cross-gender comparative analysis. Nevertheless, their accounts revealed distinct nuances focused on technical and bureaucratic management in contrast to the moral and emotional strain expressed by women. Furthermore, as the sample was exclusively cisgender, the findings do not capture the experiences of trans or non-binary individuals; therefore, future research should incorporate more gender-diverse samples to examine care technologies beyond a cisnormative framework.

In everyday life, it is evident that technologies are designed with an ableist approach and sold at prices that are beyond the reach of many people. Economic inequalities mean that, without institutional support, self-determination and independence depend on a family's economic situation, which is often precarious. Furthermore, their implementation based on 'universalizable' technological approaches often fails when confronted with the uniqueness of everyday lives.

To overcome these shortcomings, we turn to 'workarounds' or 'tweaks': creative practices whereby carers and care recipients must manually adapt devices that were not designed with their specific circumstances in mind. Whilst these solutions enable technology to reach places that standard design cannot, they also introduce an invisible workload, extra learning time, and new stresses that complicate the already demanding task of caregiving. However, it is also these processes that allow devices to cease being something alien or distant to those being cared for and instead become elements with emotional implications that form part of their routines.

In this process, women play a significant role, as not only do they primarily take on caregiving practices; they are also responsible for making do through practical arrangements and technical adjustments to meet the unique demands that are embodied and situated in each home. The community provides support, and organisations are also present, but their chronic shortage of staff and resources means that they cannot meet all needs. Their role is fundamental, as they ensure that the responsibility for care does not fall exclusively on families; however, without state intervention, these approaches can only offer micro-solutions to macro-problems.

For those interviewed, technology can be associated with experiences of surveillance and an intensified sense of being controlled, particularly in relation to certain preventive devices integrated into telecare systems, such as cameras, speakers or motion sensors, which some care recipients perceive as an invasion of their privacy. However, this perception does not relate to the technology itself, but rather to the way in which, in certain cases,

some family members may use it to repeatedly monitor the daily routines of their loved ones. In this regard, older people receiving care point out that these practices can reinforce their sense of dependency, as they feel that their habits and movements are being observed without their knowledge or explicit consent. Furthermore, *learning only specific functions* means users frequently rely on others for tasks beyond their knowledge. Consequently, if a device malfunctions, becomes outdated, or breaks, they completely lose their sense of control over it. This prevents a more autonomous use that would allow them to explore and discover further functionalities or applications according to their preferences and needs.

The article makes three main contributions: firstly, it adds nuance to existing debates on technology-mediated care by showing how technologies reconfigure the material, moral and emotional dimensions of care, rather than merely supporting or replacing them; secondly, it offers a conceptual view of autonomy and interdependence as overlapping and negotiated conditions within socio-technical care arrangements; and, thirdly, it demonstrates the added value of an intersectional perspective by showing how gender, social class, age and institutional position determine the real-life effects of technology in the care setting.

The most significant findings contribute to our understanding that technologies only enhance well-being when embedded within a framework that prioritises human support, social co-responsibility, and justice in care, underscoring the need to develop ethical interventions that go beyond mere technical innovation.

Based on our results, we propose specific contributions to social intervention that go beyond descriptive analysis and are geared towards the practical transformation of technology-mediated community care.

- Practical digital training for social services: Integrate inclusive digital skills training into the programmes of social services involved in direct care. The goal is for professionals to guide carers in adapting devices to their everyday contexts, thereby alleviating their invisible workload and promoting genuine user autonomy.
- Ethical protocols against intrusive surveillance: Create clear guidelines, co-designed with the affected individuals, to regulate the use of monitoring technologies in community settings. This ensures informed consent, protects privacy, and prevents these tools from being perceived as oppressive external control.
- Funding for public–community partnerships: Allocate state funding for collaborative projects between the public sector, social organisations, and families. This approach enables the co-design of local technological prototypes and helps scale these practical solutions into broader, more sustainable public policies.

In conclusion, our empirical findings reveal that digital transformation in community care cannot be separated from the relational and material realities of those who provide and receive care. The financial anxieties felt by families, the rigid boundaries of digital devices, and the disproportionate burden placed on women underscore that technology alone cannot sustain life or replace human vulnerability. Therefore, social policy must move away from an efficiency-driven, technocratic model. Instead, it must ground itself in an ethics of care that honours interdependence, prioritises meaningful human companionship, and embraces care as both a collective responsibility and a fundamental right.

Author Contributions: Conceptualisation, M.T.M.-P., R.L.M. and J.M.-R.; methodology, J.M.-R.; software, J.M.-R.; validation, M.T.M.-P., R.L.M. and J.M.-R.; formal analysis, M.T.M.-P., R.L.M. and J.M.-R.; research, M.T.M.-P., R.L.M. and J.M.-R.; resources, M.T.M.-P., R.L.M. and J.M.-R.; data curation, M.T.M.-P.; writing—original draft preparation, J.M.-R., R.L.M. and M.T.M.-P.; writing—review and editing, J.M.-R., R.L.M. and M.T.M.-P.; visualisation, J.M.-R.; supervision, M.T.M.-P.; project administration, J.M.-R.; funding acquisition, M.T.M.-P. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by the Spanish Government’s Institute for Women. (*Interwoven webs of care and technology: A study from an intersectional and gender perspective*. 2024–2026. 33-4-ID24).

Institutional Review Board Statement: This study was conducted in accordance with the Declaration of Helsinki and approved by the Ethics Committee of the University of Almería (protocol code UALBIO2025/011 and date of approval: 14 March 2025).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The raw data supporting the conclusions of this article will be made available by the authors upon request. Restrictions apply to the availability of these data to protect the anonymity and privacy of the interviewees, in accordance with the ethical protocols approved for this study.

Acknowledgments: The authors gratefully acknowledge the collaboration of the public and private entities that contributed to the development of this research. The research team thanks the interviewees for their participation. During the preparation of this manuscript, the author(s) used Perplexity Pro to perform an initial automated coding. The authors have reviewed and edited the output and take full responsibility for the content of this publication.

Conflicts of Interest: The authors declare no conflicts of interest. The funding sponsors had no role in the design of the study; in the collection, analysis, or interpretation of data; in the writing of the manuscript; or in the decision to publish the results.

Appendix A

Table A1. Profile of care recipients (G1).

Code *	Gender	Autonomous Community Interviewed	Age	Place of Birth	Place of Residence	Household Members (Including the Respondent)	Level of Education	Occupation
G1E03	Female	Basque Country	63	San Sebastian	San Sebastian	2 people (respondent and male partner), 1 dog	Nursing assistant	Nursing assistant
G1E13	Male	Andalusia	49	Jaén	Málaga	2 people (respondent and male partner)	University students	Banking
G1E49	Female	Community of Madrid	86	Salamanca	Madrid	2 people (respondent and male partner)	Primary	N/A
G1E51	Male	Community of Madrid	N/A	N/A	N/A	N/A	N/A	N/A
G1E58	Male	Andalusia	89	Seville	Seville	1 person	N/A	Factory worker
G1E57	Female	Andalusia	80	Málaga	El Rincón de la Victoria (Málaga)	N/A	N/A	N/A
G1E02	Female	Region of Murcia	63	Lorca (Region of Murcia)	Lorca (Region of Murcia)	2 people (respondent and daughter)	University students	Local government employee
G1E41	Male	Region of Murcia	34	Águilas (Region of Murcia)	Águilas (Region of Murcia)	3 people (respondent, mother, and father)	Primary	Not applicable
G1E21	Female	Region of Murcia	69	Lorca (Region of Murcia)	Lorca (Region of Murcia)	1 person and 1 dog	Primary	Former nun and carer

* Ordered by the date the interviews were conducted.

Table A2. Profile of carers (G2).

Code *	Gender	Autonomous Community	Age	Place of Birth	Place of Residence	Household Members (Including the Person)	Education Completed	Occupation
G2E45	Female	Basque Country	33	Urnieta (Basque Country)	Urnieta	2 people (respondent and younger sister)	University students	Assistant director
G2E69	Female	Andalusia	56	Venezuela	Almería (Andalusia)	3 people (respondent and a dependent daughter and a son). She has a husband and an older daughter in Venezuela	Nursing care assistant (Spain), administrative assistant (Venezuela)	Home help
G2E70	Female	Andalusia	40	Almería (Andalusia)	Almería (Andalusia)	3 people (couple, 14-year-old girl), 1 dog	N/A	Sales assistant (self-employed)
G2E71	Female	Andalusia	62	Almería (Andalusia)	Almería (Andalusia)	2 people (respondent and daughter) and 1 dog	Not specified in the interview	Caregiver (night shift)
G2E44	Male	Region of Murcia	46	Cartagena (Region of Murcia)	Mazarrón (Region of Murcia)	5 people (1 couple; 1 daughter; 2 sons)	University students: Medicine.	A paediatrician in A&E
G2E59	Female	Region of Murcia	36	Caravaca (Region of Murcia)	Murcia (Region of Murcia)	2 people (respondent and flatmate)	University students: Medicine.	A&E doctor
G2E60	Male	Region of Murcia	66	Caravaca (Region of Murcia)	Caravaca (Region of Murcia)	3 people (respondent, female partner, and daughter)	Level 2 Vocational Training in Electronics	Family-run car parts business

* Ordered by the date the interviews were conducted.

Table A3. Profile of individuals associated with care organisations (G3).

Code *	Gender	Autonomous Community	Age	Place of Birth	Place of Residence	Education	Occupation
G3E62	Female	Community of Madrid	40	N/A	Madrid	University student	Social worker and teacher
G3E67	Female	Community of Madrid	N/A	Madrid	Madrid	University student	Social worker and care assistant
G3E61	Female	Community of Madrid	67	N/A	Vallecas (Madrid)	Vocational training (secretarial and shorthand)	NGO (management/administration)
G3E63	Female	Community of Madrid	40	Managua (Nicaragua)	Madrid	Master's degree	Cleaning and care
G3E65	Male	Community of Madrid	66	Madrid	Madrid	University student	Social worker
G3E66	Female	Community of Madrid	67	Bluefields	Nicaragua	Secondary education (vocational)	Caregiver
G3E68	Female	Community of Madrid	57	Bogotá (Colombia)	Madrid	Postgraduate	Occupational therapist
G3E36	Female	Valencia	31	Utiel	Utiel	University student (Education and Social Work)	Education and social work

Table A3. Cont.

Code *	Gender	Autonomous Community	Age	Place of Birth	Place of Residence	Education	Occupation
G3E56	Male	Catalonia	32	Peru	N/A	Higher Diploma in Diagnostic Imaging (X-Rays), Nursing student	N/A
G3E52	Female	Catalonia	49	Chile	Barcelona	Law graduate in Chile. Master's degree in Gender and Women's Studies, specialising in public policy	N/A
G3E46	Female	Andalusia	43	N/A	Málaga (Andalusia)	N/A	N/A
G3E64	Female	Community of Madrid	70	Montecristi, Santo Domingo (Dominican Republic)	Villaverde (Madrid)	Special needs and pre-school teacher in the Dominican Republic	Domestic worker
G3E74	Female	Community of Madrid	64	Pamplona	Lavapiés (Madrid)	University graduate: Biological Sciences and Social Education (by qualification)	Social worker
G3E73	Female	Community of Madrid	56	Yecla (Region of Murcia)	El Pozo, (Madrid)	University student: Social Work	Social worker
G3E72	Male	Community of Madrid	44	Valencia	Madrid	PhD in Cultural Studies	

* Listed in the order in which the interviews were conducted.

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