

# Co-production as a co-creation or co-destruction process? An internal evaluation of a co-production exercise with family caregivers living in a rural and remote area

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## Research article

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# Abstract

**Background:** Co-production has been widely recognized as a plausible means to reduce the dissatisfaction of service users, the inefficacy of service providers, and conflicts in relations between the former and the latter. However, this enhancement of co-production has started to be questioned: co-production is not always a panacea, and its effects may not always be fruitful. To understand and prevent unsuccessful user and provider collaboration, the recent literature has begun to focus on the causes of co-destruction. This paper investigates how the possible limiting factors that arose during the co-production of a new social service with family caregivers of older patients living in a rural and remote area might influence the process of co-creation and/or co-destruction.

**Methods:** To investigate this topic, we performed a single case study by considering a longitudinal project (Place4Carers) intended to co-produce a new social care service with and for the family caregivers of elderly patients living in a rural and remote area. We organised collaborative co-assessment workshops and semi-structured interviews to collect the views of family caregivers and service providers on the co-production process. As part of the research team that participated in the co-production process, we contributed to the analysis with a reflexive approach.

**Results:** The results confirmed that the project experienced both the processes of co-creation and co-destruction. Some dimensions are crucial in such processes. In particular, the dimension related to trust in the promoter of a project and the other partners can determine its success or failure. Moreover, the level and effectiveness of engagement and creating a cohesive partnership among partners are key aspects for a co-creative project.

**Conclusions:** Our article confirms that the co-creation and co-destruction processes coexist. The role of researchers and service providers is to prevent or remedy co-destruction effects. To this end, we suggest that in co-creative projects more time should be spent on creating mutual trust through conviviality among participants, and institutions should foster collaborative research in order to help organizations that are not used to working together. Hence, particular attention should be paid to internal evaluative procedures.

## Plain English Summary

The case study investigated in this paper focused on the possible limiting factors that may arise during the collaboration between family caregivers of elderly people living in a rural and remote area and health and social care experts for the planning of a new service. In particular, the type of collaboration ensured a substantial contribution of users to the final decision, in accordance with a process called 'co-production' in the scientific debate. Differently from traditional participatory research, our inquiry reflected critically on the experience of caregiver involvement. It supports practitioners and researchers in preventing drawbacks during co-production with vulnerable actors. It also illustrated possible service solutions to

support family caregivers looking after their elderly relatives at home, highlighting the importance of this informal category in the health and social care system.

Researchers and practitioners have adopted co-production for years, taking its effectiveness for granted. However, there has been a recent stream of negative empirical examples of co-production, especially when involving vulnerable users. Indeed, the involvement of vulnerable users takes time and effort, and they may not have the necessary skills. At the same time, their voice is rarely heard and their needs barely satisfied by the existing service systems. This study makes a first attempt to identify ways to prevent failure in involving vulnerable actors.

## Introduction

In recent decades, practitioners and researchers have identified co-production as a possible solution for several managerial issues. Indeed, recent studies have suggested co-production as a means to increase users' satisfaction and trust in service providers [1], enhance innovation [2], and improve the effectiveness and efficiency of products and services[3,4]. However, its fame has increased to such an extent that the co-production concept has 'enchanted' its audience [5]; it seems to have become a magic solution for both public and private challenges [6]. But this optimistic view of public engagement is unrealistic [7]. Organisations may encounter difficulties in involving citizens. For instance, the misalignment among goals, power [8], knowledge [9], expectations, and engagement [10] may reduce the possibility of equal interaction. Hence the effectiveness of citizens' involvement cannot be taken for granted [11]. For this reason, scholars have started to challenge co-production by highlighting that 'it is not a panacea' [12] (pp.856). Within this scenario, interest in the concept of co-destruction has emerged. Co-destruction was first introduced in the private service literature, which defined it as 'an interactional process between service systems that results in a decline in at least one of the systems' well-being (which, given the nature of a service system, can be individual or organizational)' [13]. By reflecting on the co-creation of value, the private service literature has criticized the over-optimistic view that considers collaboration between customers and private firms as always positive. It is likely that the 'collaborative process among parties' may create both positive and negative results, co-creating or co-destroying value [13]. Based on this consideration, the public service literature has started to reflect critically on the concept of co-creation in the public services, because the interactions between service providers and service users (or, in broader terms, the community) can also generate negative effects.

Unfortunately, the factors that cause co-destruction are not easy to identify [14]. For instance, an interactional process between users and providers may fail because users do not have enough information about the topic of discussion [15]. On the contrary, it may fail because the organization does not want to share some information with users [14], or because the local rules and regulations do not allow organizations to share that information [16]. Finally, the failure may be caused by all these three reasons together, demonstrating the intricacy of this field.

Understanding the antecedents that cause failure in the interactional process has both practical and theoretical benefits [5]. On the one hand, organizations may succeed in preventing or limiting negative actions that can generate negative effects on the interactions among actors. On the other hand, scholars may be able to analyse co-production and its effects critically, opening the way to a conscious re-enchantment of this magic concept [6].

Despite the importance of co-destruction, the current public service literature has made little effort to investigate the concept [17] (with a few exceptions: Williams 2016 [18], Engen et al. 2020 [14]), highlighting the urgency of further study in this field [19].

However, the public service literature has reported empirical experiences of co-production that led to sub-optimal and sometimes negative results. In particular, several negative experiences of co-production have arisen from the involvement of vulnerable and marginalized service users, such as patients [20–22], family caregivers [23] and asylum seekers [24]. Indeed, vulnerable and marginalized users may be unwilling or unable to participate [25,26] and may not have the abilities necessary to collaborate in partnership with providers[27]. For this reason, their involvement in co-production activities is still an open question [28,29] especially in the health and social care field [15].

On the basis of these considerations, this paper investigates the barriers and limiting factors that arose during the co-production of a social care service with family caregivers of elderly people living in a rural and remote area, and it studies how they influenced the process of co-creation.

By investigating this field, this paper responds to calls in the public service literature for studies on potential dysfunctional aspects of co-production, especially in the health and social care field by involving vulnerable actors, [5,6,17,18,30], and opens the way for future studies.

## Theoretical Background

### *Co-destruction vs. co-creation*

The private service literature defines co-creation and co-destruction as ‘two sides of the same coin’[31]: co-creation is the interactional process that improves the ‘service system’s well-being’ [32] (p.149), while co-destruction is the interactional process that reduces ‘at least one of the systems’ well-being’ [13]. Although co-creation and co-destruction generate opposite results, they are considered by the private service literature to be dynamic processes that may coexist [16] and alternate with each other over time [31]. The concurrence and dynamics of these opposite processes can be explained by three main factors. First, the effects of the resource integration may be perceived as positive by some customers and negative by others at the same time. Since the effects of the interactional process depend on the individual perception of each customer [33], the same co-production activity may be experienced in different ways by customers, generating both positive (i.e. co-creation) and negative (i.e. co-destruction) effects [7,10]. Second, the co-destruction process cannot be considered an absolute loss of value [14] because it may still yield some expected and planned benefits and effects [34]. For instance, the

interactional process that occurs during co-production activities can increase customers' well-being by enhancing their satisfaction and, at the same time, reducing providers' well-being by affecting their effective usage of time and resources. Third, the value perceived by participants may change over time because the effects of resource integration can have long-term impacts on customers [8,35]. The personal feelings experienced during the process of resource integration may differ from those experienced during the execution of the service or after its completion [8], making the process of co-destruction dynamic and changeable. For instance, customers may be satisfied with the interactional process with service providers during the interactional process (e.g. co-production activities), but the effect of the service in the medium-long term may negatively affect their satisfaction.

### ***Co-destruction in the public sector***

Differently from the private service literature, the investigation of co-destruction in the public service literature has garnered little attention in the past decade [36]. However, the public literature contains several empirical examples of co-production that led to negative (or partially negative) results. In what follows, we cluster the causes of unsuccessful results that emerged from studying empirical co-production experiences in four groups. The first group comprises factors that limit the effectiveness of the 'interactional process' due to the lack of resources by consumers and/or providers. This group includes consumers' lack of technical information [15], knowledge of users' needs and expectations [37], transparency and understanding of the other parties' roles and responsibilities [14], trust [38] and public investment [30]. The second group of limiting factors of co-destruction consists of limitations related to the context of analysis, such as rigidities of the public service organizations [37]. The third group includes factors that facilitate the misalignment of resources among actors. Scholars have shown that an imbalance of knowledge, power, capabilities and resources among actors might be a cause of co-destruction [39]. The last group comprises factors that encourage misbehaviour in participants during and after the interaction process. Examples of such misbehaviour are corruption, infringement of privacy, discrimination [30], listlessness and denial [5,37].

Almost all these studies address service failure besides investigating other topics, so that the findings are fragmented and difficult to generalize. Moreover, not one of these studies has investigated the possible negative effects of co-production. But definitely worth mentioning are two authors who have investigated co-destruction empirically: Jarvi et al. [19] and Engen et al.[14].

Jarvi et al. (2018) studied what factors facilitate the failure of the interactions between customers and providers (i.e. co-destruction) in business-to-consumer (B2C), business-to-business (B2B), business-to-government (B2G) and government-to-consumer (G2C) markets. They did so by looking at the service provider's perspective working in the private and public sectors. On carrying out this analysis, they identified eight causes of co-destruction: absence of information, lack of trust, lack of clear expectations, inability to serve, inability to change, mistakes, customer misbehaviour, and blaming that can occur before, during and after the collaboration process. The first cause, i.e. the ***absence of information***, arises from the inability of providers and users to understand and share information. The second cause, i.e.

*insufficient level of trust*, occurs when actors do not rely on each other. The third cause, i.e. *lack of clear expectation*, is determined by users' inability to express their expectations clearly. The fourth cause, the *inability to serve*, arises from the incapacity of providers to achieve users' expectations effectively and on time. The fifth cause, i.e. *inability to change*, refers to the incapacity of both providers and users to modify their routine activities and approaches according to new environments. The sixth cause, i.e. *mistakes*, arises from unintended events such as the application of wrong assumptions or the purchase of wrong products. The seventh cause, i.e. *customer misbehaviour*, refers to the misuse of resources or the immoral acts of users. Finally, the last cause, i.e. *blaming*, arises from users complaining about the products or services [19].

Engen et al. investigated the causes of co-destruction by looking at the direct interactions between service users and the Social Insurance Agency and the Tax Agency in Sweden. Their results showed that failure is usually caused by more than one action performed by more than one participant, making identification of the culprit very difficult [14]. Their research highlighted the need to analyse co-destruction by studying the interactions of the actors belonging to the service ecosystem, and it identified four reasons for co-destruction: inability to serve, mistakes, lack of bureaucratic skills, and lack of transparency. The first two causes of co-destruction confirmed the part of the framework identified by Jarvi et al. in 2018. The other two causes arose from the adoption of a broader perspective that included service users and third parties. This proved the importance of investigating the causes of co-destruction by including the perspectives of all the actors in the service network.

### ***Challenges in involving vulnerable actors***

The literature is currently debating how to involve vulnerable and marginalized actors in the co-production process [40]. To prevent equity issues, providers must involve all target users, even if their involvement may be challenging. The exclusion of one or more user segment will reduce the system's capacity to respond adequately to the needs and expectations of all the target users. For instance, Pelletier et al. (2020) highlighted the importance of involving 'hard to reach' users that are usually excluded from the co-production activities. Although they face several challenges in participating, i.e. long distances, cultural barriers and lack of confidence, their opinion is crucial for understanding how to modify and shape traditional urban practices in rural and remote areas [26].

However, the involvement of vulnerable and marginalized users, especially in the healthcare sector, may increase the risk of diverting a co-production process towards a co-destruction process [15]. The current literature identifies four main challenges that facilitate the failure of co-production with vulnerable and marginalized actors. First, the engagement of vulnerable users requires time and effort. Providers and their organizations (especially the ones working in health care) that decide to adopt co-production should take account of a medium-long period of time required to involve service users and a large amount of resources [41]. Second, providers should build trustful relationships with vulnerable users. As highlighted by Pelletier et al. (2020), the lack of strong relationships among actors makes users feel abused by researchers because they do not feel part of the research project [26]. Third, users should have all the

abilities necessary to collaborate in partnership with providers, especially in the healthcare sectors where the disparity of competences, skills and knowledge between users and professionals is high [42]. The lack of equal knowledge and information makes vulnerable users, such as patients, feel inferior and inadequate, reducing their willingness to participate in and contribute to co-production activities [43]. Finally, time, resources, trustful relationships and skills may still not be enough to prevent co-production failure [15]. Providers may fail to address users' expectations because they do not take account of ideas and opinions of vulnerable users that are not feasible in economic or organizational terms or do not fit with the aims and boundaries of the project [44]. The lack of consideration of users' opinions makes them feel useless because it seems that providers' decisions have already been taken[45].

## Data And Methods

To investigate the positive and negative outcomes of the co-production process we used a case study methodology because it facilitates understanding of the interactions and exchanges among actors [7]. To answer our research question, we considered all the project outcomes in terms of services provided, encounters, and both providers' and carers' satisfaction. At the same time, in order better to grasp the negative outcomes that are sometimes neglected, we also focused on Jarvi et al. (2018)'s framework, even if our main concern was not to reflect solely on negative outcomes of co-production. For these reasons, we adopted from Jarvi the dimensions of lack of trust and mistakes, but the interview focused more generally on an evaluation of the entire process of co-production and (but not only) possible causes of co-destruction. Thus, we preferred to adopt a single case study.

### *Case and context description*

Since the purpose of our research was to investigate the causes of a specific outcome, we chose a case in which we had great accessibility to the data [46]. We decided to investigate a project in which we were involved directly as project partners. Moreover, this research enabled us to reflect critically on the achievements of the project by considering the limiting factors encountered during its implementation. The project investigated is a longitudinal project launched to co-produce a new social and community service for the family caregivers of elderly citizens in a hard-to-reach valley in northern Italy, Valcamonica. The project is being carried out by the Università Cattolica del Sacro Cuore, a local home care agency (ATSP), Politecnico di Milano University and the Need Institute, and it is funded by Fondazione Cariplo. Furthermore, four local assisted living facilities collaborate with this project [47].

This research is part of a larger study intended to make a substantial contribution to the debate on the involvement of vulnerable actors in co-production activities This research was performed in the latest phase of the study in which we considered the transferability of the project to other similar hard-to-reach areas. To reflect on the lessons learned during the development of the overall project, we adopted a distinctive lens of analysis that helped us to identify the possible limiting factors arising from the co-production of social care services with family caregivers. Moreover, given the fragility of family caregivers and the scant accessibility of local health and social care facilities in rural and remote areas, we can

consider this case study as a useful empirical example on how to investigate co-production with vulnerable users.

During the project, the ATSP and the researchers involved the family caregivers of older patients resident in Valcamonica in the co-design of a new public service for them. On the basis of results from co-design workshops, the project team envisaged the new public service as comprising four activities: training programme, mutual-help meetings, citizens committee, and project and services' information. The training programme was a set of practical courses for family caregivers to elderly persons. The mutual help meetings were groups of family caregivers, coordinated by a psychologist, which shared their feelings and fears with each other. The citizens committee was a group of family caregivers, researchers and ATSP representatives set up to support implementation of the pilot. The project and services' information consisted of online and offline channels (i.e. Facebook page, Project website, brochure) created by the project team to spread awareness of the project and local services for the elderly. The new service was designed according to caregivers' suggestions by valuing their contributions; researchers organized and summarized the service proposals that had arisen during the co-design workshops, and discussed their feasibility with ATSP representatives.

The table below summarizes the quantitative drivers used to gain a preliminary overview of the new social care service. In order to assess the effectiveness of:

- *the training programme*, we collected: the participation rate, the level of understanding of the content (by asking participants before and after each meeting to answer questions about the content of the course)[48] and the level of satisfaction with the course (by asking participants at the end of each course to complete a satisfaction survey)[49].
- *mutual-helpmeetings*, we studied the participation and the satisfaction of family caregivers with regard to this activity [50].
- *citizens committee*, at the beginning of the service pilot we self-defined together with ATSP a set of expected achievements from this activity, and, at the end of the pilot, we jointly checked their realization.
- *The project and service's information*, we ascertained knowledge about the project and the service online and offline by checking how many new patients of ATSP had been informed through the project's channels. Moreover, we integrated the analysis by collecting the level of usage of the online project's channels [51].

## Table 1 Assessment factors

<b>Activities</b>	<b>Assessment Factors</b>	<b>Results</b>
<b><i>Training programme</i></b>	Number of courses	<i>5 courses (+1 cancelled)</i>
	Average number of participants per meeting	<i>7 caregivers</i>
	Average % of understanding by participants of course contents	<i>88%</i>
	Average % satisfaction of participants	<i>98%</i>
<b><i>Self-help meetings</i></b>	Number of meetings	<i>5 meetings (+2 cancelled)</i>
	Number of participants per meeting	<i>6 caregivers</i>
	Average % satisfaction of participants	<i>86%</i>
<b><i>Citizen committee</i></b>	Achievement of a set of pre-defined goals	<i>28% achievement of the expected results</i>
<b><i>Project and services' information</i></b>	Number of "likes" on the project's Facebook page	<i>59 likes</i>
	Number of visits to the project website	<i>130 visualizations</i>
	Number of downloads of informative materials on the project website	<i>11 downloads</i>
	Number of new patients of ATSP informed through the project's channels (two months' time period)	<i>0</i>

Although on average satisfaction with the pilot was high (i.e. above 85% on average), the number of meetings organized and the caregivers involved seemed quite low. The access to and use of the channels created to inform the local community about the project and the local services seemed also not satisfactory. To achieve a satisfactory number of activities and participants, the project team had to extend the pilot by two months in order to help the ATSP, which was in charge of implementing the pilot, in organizing additional service activities. However, the findings should be contextualized within the field of the analysis, i.e. a remote and hard-to-reach valley. The logistic difficulties [52] and the "distrustful culture"[53] typical of such contexts might have influenced the participation rate. The successful and unsuccessful results reveal that the interactional process among actors generated both co-creation and co-destruction processes. On the one hand, the project increased users' well-being by enhancing family caregivers' satisfaction. However, it failed to increase the well-being of the project team, because the time and resources invested did not balance the number of family caregivers reached with the service pilot.

On the basis of these considerations, we deem this project suitable for investigating our research questions for three main reasons. First, it reflects on the adoption of co-production with vulnerable and marginalized actors in the public sector. Second, the time horizon of analysis is medium-long, facilitating the evaluation of co-production activities during the execution and beyond. Third, the involvement of users in the co-designed service yields both positive and negative effects, making the investigation of the driver of co-creation and/ or co-destruction interesting and important.

### ***Data collection***

In order to answer our research question, we used different methods for data collection by involving all the actors participating in the co-production activities. To understand the opinion of the ATSP, we used *semi-structured interviews* with three ATSP representatives responsible for implementation of the new service. To collect the perspectives of family caregivers, we organized two co-assessment *workshops* with ATSP representatives, researchers and family caregivers. In the meantime, we adopted a *reflexivity approach* suggested by Bradbury et al. (2020) to gather our points of view as researchers [54].

*Table 2 Data Inventory*

<i>Actors involved in the co-production activities</i>	<i>ATSP representatives</i>	<i>Family caregivers</i>	<i>Project researchers</i>
<i>Methods of data collection</i>	<i>Semi-structured interviews</i>	<i>Co-assessment workshops</i>	<i>Reflexivity approach</i>
<i>Number of actors</i>	4 representatives	2 workshops (one at the middle and one at the end of the pilot) involving: <ul style="list-style-type: none"> <li>• 11 caregivers (out of 26);</li> <li>• 2 researchers (out of 8);</li> <li>• 3 ATSP representatives (out of 3).</li> </ul>	4 researchers



The interviews and the co-assessment workshops were designed in order to evaluate the co-design process, the co-delivery of the service, and the collaboration among research team members. The interview trace was structured as follows. Firstly, we looked at personal involvement in the project, duties, expectations and a general evaluation of the process. Secondly, we focused on the dimensions suggested by Jarvi, but not as taken for granted. We were interested in determining if the dimensions of Jarvi were reliable and to what extent they were linked to the difficulties encountered in the project. Thirdly, we asked for an evaluation of the collaboration among research team members. In this project, several stakeholders were involved, and this could have been a powerful factor for a successful co-production or excessive difficulty in achieving the general aim of the project. Hence it warranted particular attention in our evaluation work package. In parallel, we conducted the same process in workshops with caregivers, asking for an exhaustive evaluation of the co-production process, pros and cons of being involved in the co-design of the service, an evaluation of the service delivered and the collaboration with researchers and providers. The evaluation process involved all the research team members effectively involved in the co-production process and in delivery of the service. All the caregivers concerned were asked to participate in the focus groups, but many could not participate due to their caring duties. To the best of our knowledge, none refused because s/he was opposed to the project outcomes or process. Finally, as part of the research group, we adopted the developmental reflexivity approach suggested by Bradbury et al. (2020) and were involved in reflections on co-destruction in order to provide suggestions

on what we had learned in this project [54]. The authors of this paper? were all involved in the analysis and critical reflection. We did not involve an independent researcher because we have a specific methodological background in qualitative research that we think fully respected the ethical and professional standards for reliable qualitative research and critical thinking. Bradbury et al. suggested involving researchers in this process in order to provide a personal and self-critical stance on their role. The evaluation component of the project, like the entire research protocol, was approved by the ethics board of the Politecnico di Milano University and the Catholic University of the Sacred Heart, Milan. Data were collected by two members of the research team: a post-doc in Sociology with specific skills in qualitative research, and a PhD student with expertise in service management and evaluation.

### ***Data analysis***

The interviews took place in January 2020 in Breno (Brescia, Italy), in Vallecamonica and overall lasted 201 minutes, with an average of 51 minutes each. One interview was conducted by telephone, and lasted the same time as face-to-face interviews. The co-assessment workshops took place in July and December 2019 and overall lasted 138 minutes. The interviews and the workshops were analysed using a deductive approach (Boyatzis 1998). Each interview and workshop was audio-recorded with the participants' consent and analysed by investigating their perspective on the co-production outcomes and the pros and cons of co-design. We analysed the perspectives of all actors in the service network that were involved both directly and indirectly in the service delivery, as suggested by Engen et al. (2020). In particular, we enriched the analysis by investigating the collaboration and the possible difficulties in the communication or roles identification within the research group, with family caregivers and with the other stakeholders of the service network. The compilation of this paper followed the Standards for Reporting Qualitative Research guidelines [55]. NM and EG, who conducted the data collection, were supervised by CM and GG in order to maximize the reflexivity and transparency of the process.

## **Results**

Four main results of the interviews induced us to believe that we had experienced a co-existence of co-creation and co-destruction processes. The dimensions evoked by interviewees were related to trust, engagement, barriers to change and the importance of a cohesive partnership. Moreover, following Engen's approach, we also investigated the interaction among all the actors involved in co-production activities.

### ***The importance of trust***

Lack of trust emerged as a powerful initial obstacle to co-production that influenced many refusals to participate in the first stage of the project. Both caregivers and research team members affirmed that in the context of Valle Camonica it is still difficult to speak about health problems and difficulties in caregiving, and to ask for help from both friends and local institutions. This dimension emerged in multiple forms: towards the institution (ATSP) and towards the project.

*“It is typical behaviour of this valley: people participate [in a new activity] only if they know [who is the organizer] or they have received the information by word of mouth” (research team member, male, 1).*

Even if the ATSP is a fully recognized institution in the context of Valle Camonica, it had great difficulties in obtaining the trust of caregivers about participation in the project. This may also have been related to a lack of knowledge about the benefits of the project. But caregivers who participated stated that the objectives and their role was clear from the first contact with the ATSP. The reason why the caregivers involved decided to participate and maintain their contribution to the project was that they received clear explanations and constant contacts and interest in their experience from the project team, and especially from ATSP.

*“The first time I was doubtful. What did they want from me? It was the first time. I was afraid that I would have to pay. But when I met .... of the ATSP I changed my mind. He explained the project to me, my role, and I was really happy to participate, even if I wasn't sure how I could actually help with the project”.*  
*(Caregiver, female, 8).*

However, the trust dimension did not concern only caregivers: during the first co-assessment workshop that took place during the pilot scheme, caregivers complained about insufficient external information and communication, saying that in their opinion few people knew about the project. Caregivers declared that many social workers and general practitioners were not informed about the project.

*“I usually go to the support group for caregivers of patients with dementia [at the hospital], and they didn't know about the project. I think it is important to connect different initiatives that all together can reach all caregivers” (Caregiver, female, 9).*

After that claim, members of the ATSP went to practitioners' conferences in the valley and informed the coordinators of social workers. But during the second co-assessment workshop caregivers still reported that information was not widespread.

As can be seen from the interviews, lack of trust certainly influenced the participation of caregivers in the initial phase, but those who participated created a positive relationship with the ATSP and research team members that led to a successful co-production. In regard to this dimension, we can see ambivalence in the co-production: on the one hand, caregivers convinced by the ATSP to participate experienced a positive co-production, participating in the entire project and being positively impressed by the role that the ATSP was assigning them, even if they were doubtful about their effective capacity to make effective proposals.

On the other hand, those who had not been convinced did not participate in any of the appointments organised: neither the co-production scheme nor the support services. In this case, co-production was a positive result even if large participation was not achieved due to a lack of trust in ATSP and university researchers.

### ***The importance of an effective engagement***

Evident from the interviews and workshops were difficulties in establishing an effective engagement to which more attention should have been paid. In particular, caregivers who participated felt truly involved in the co-production, but in some cases the research team took decisions without asking them for their opinion, and this created frictions. For example, the research team decided to postpone some events of education/training and support due to the expected low participation of caregivers. The decision was taken *“not to involve trainers for only a few people, considering that all of them came for free” (research team member, male, 1)*. However, caregivers contested this decision by stating that *“Even if there is low participation, we have to start with something. It is important, for otherwise we’ll never get started. I absolutely understand the reasons why you cancelled some meetings, and I was not angry but sorry because I need these moments and I would have preferred few participants but maybe the possibility to speak, get some relief”*. (caregiver, female, 4).

This claim highlights that caregivers felt insufficiently involved in the decision and asked for explanations. In this case, the engagement created in the co-production prevented this mistake from becoming, following Jarvi’s approach, a cause of co-destruction because this problem emerged in an initial phase of the service delivery, so that we were able to adjust the decision-making mechanism.

It also shows that even if there were misunderstandings, the climate within the co-productive team was good because everyone felt at ease in explaining what they found wrong and requiring explanation, and more importantly, they were aware of the importance of participation in the project.

### ***Barriers to change***

A significant barrier to successful co-production that could lead to co-destruction is the incapacity to change of both caregivers and providers. However, we asked more in general what had been the main barriers to the project’s success. Interviewees revealed that caregivers find it difficult to leave their care receivers alone for four main reasons. First, caregivers usually cannot leave their care receivers alone at home, so that they must find a substitute who is both professionally trained and accepted by the care receiver. Second, caregivers usually feel responsible for and engaged in caring activities and do not trust any other person. Third, the distinctive culture of Valle Camonica often induces citizens to hide their family’s problems, which might reveal their personal weaknesses. Fourth, the ATSP as a service provider was unable to offer additional home service to encourage participation.

*“Leave him (care receiver) alone at home? It’s not possible, and also when the professional caregiver comes or the social worker, if I go away he starts to scream and cry. (Caregiver, female, 5).*

*“I understand you, and I also do not feel comfortable, my professional caregiver is not able to manage the feeding tube and so I am always worried” (Caregiver, male, 10)*

*“ I would like to find a professional caregiver to have some relief and to participate in these events, but it is very expensive” (Caregiver, female, 2).*

Is this, to use Jarvi's terminology, an impossibility to change or an inability to change? Probably both: in fact, when the social worker came to the home, our caregivers could quickly go out to do some shopping or run errands, but only when they felt comfortable with the social worker (and this was often not the case). Moreover, it was not possible to provide a specific service for caregivers when involved in the project's activities because this would have required additional human and economic resources that were not available.

Finally, caregivers suggested using local mass media to disseminate information about the project. This was done, but in a weak format (some interviews and short news items in local newspapers). As stated by the ATSP, the fees required for iterative publications and investments in marketing campaigns were particularly expensive, and this was not foreseen because this service was intended to be free and not a commercial service.

*"I was a little bit disappointed by local journalists because they asked for a fee like it was a normal commercial spot. This is a free service to our people!" (research team member, male 1).*

### ***The strengths and weaknesses of a partnership***

One of the innovative features of this project was a large and previously rare partnership with two universities and the local services provider. This is rather unusual in the Italian health and service system; hence, in our opinion, it is important to identify strengths and weaknesses in order to inspire and counsel other researchers. In fact, the actors of co-production were caregivers, ATSP representatives, and researchers, while the service eco systems comprised nursing homes, social workers and local communities.

Caregivers were enthusiastic about the partnership. They felt at ease with someone that for the first time listened to them. Moreover, even in the co-production, caregivers gained indirect benefits because they could speak with peers who were experiencing the same difficulties and had direct access to more information.

*"When I came here the first time I felt alone and did not know what to do. After hearing other people with same troubles, and also some good suggestions, I felt more empowered" (Caregiver, female, 8)*

*"Having the possibility to give advice, suggestions and ideas was great even if not easy because it was difficult to find time to participate, but it was the first time that I took some time for myself. Also having universities was something strange but it helped us greatly to give ideas" (Caregiver, male, 10).*

*"Understanding the point of view of caregivers helps us to identify their needs better, you receive more attention. At the same time, it helped us understand what kind of doubts they had about existing services" (research team member, female 2).*

*"I felt very surprised and grateful for this, even if I knew that I was not doing this for myself because my mother is now in a nursing home, but I hope to help someone not to experience what I felt in terms of*

*loneliness and lack of information. Usually there is not much interaction with service providers, so it was an important new opportunity” (Caregiver, male, 13).*

*“Laws, projects and services are usually deliberated and approved by people who live in large cities. This project directly involved and put us as thinker and developer of a new service a rural valley. This does not mean that we do not need universities from cities. Universities help us to look to the future, to grasp future directions” (research team member, male 1).*

Interviewees expressed great enthusiasm for the cooperation and sense of belonging created by the project. However, the interviews evidenced difficulties of collaboration and coordination within the research team. Firstly, ATSP complained about different expectations in regard to each role and especially related to coordination issues like, for example, the scheduling of the project’s various phases. This emerged clearly in the interviews:

*“There is a difference in work style between universities and local service providers. Universities are more flexible, giving more autonomy to partners to achieve their results. We (the local home care agency) need more supervision, someone that clearly states what we have to do and in what times” (research team member, female, 1).*

This reflection was shared within the research group: usually universities tend to give full autonomy to each coordinator of a work package, and a close supervision would be an act of intrusion or lack of trust by the other partners. Different organizational cultures led to this difficulty that, unfortunately, created less cohesion within the research group [56] and caused misunderstandings in the co-production process.

Secondly, the meeting style had an impact on the discussion of problems and ways to manage difficulties.

*“We (ATSP) are not used to making rapid skype or conference calls. I was not comfortable in explaining difficulties and problems about the piloting” (research member, male, 1).*

*“We usually have a weekly meeting, not long, but just to share news and difficulties within each project. We missed that part, we need constant feedback. (research member, female, 1).*

## **Conclusions**

This paper has reflected on the strengths and weaknesses of an innovative co-productive project when dealing with vulnerable, hard-to-reach communities. It has done so with an analysis of a concrete research project for the co-production of a support service for family caregivers living in the rural context of Vallecagonica. We have explored the literature on co-production and co-destruction and tested it with interviews and co-assessment workshops with the representatives of the local home care agency and caregivers that had participated in the co-design workshops. Moreover, we joined the critical thinking as part of the research group responsible for co-production. In answer to our research question, there are several conclusions that we want to highlight.

Second, universities and providers still have different organisational cultures, and in a co-production regime this may generate incoherent strategies and practices. Collaborative projects, like our co-production, require forms of mutual adaptation that can help create coherent and efficient practices even in challenging and shifting scenarios. Incoherence could be erroneously perceived as a low interest in dealing with the problems experienced by the population, and this could lead to mistrust. Our experience showed that incoherence may prove to be a factor of co-destruction, but that it can be addressed with thorough work on roles, division of competences and boundaries.

Third, in our research we saw that the two dynamic processes (co-creation and co-destruction) coexist [16]. Caregivers were involved in and contributed to the new services, but in some cases their scepticism inhibited their active involvement. There is a need for more empirical studies in remote and challenging scenarios and with vulnerable populations in order to identify better solutions for critical issues.

Moreover, it is important to strengthen a beneficial link between universities and providers in order to be more effective towards, and with, vulnerable people. In this case, it could be particularly important to foster funding for research projects aimed at collaboration between these two groups of actors.

The most important lesson that we draw from this project is that co-production with caregivers has to take serious account of the evolving condition of caregivers and care receivers, since this could heavily influence their willingness or ability to participate in the overall co-production process. Moreover, methodologies and tools of co-production have to be shared with the entire research group and not only among members that are already experts in co-productive and engagement processes.

In our research, we identified some powerful limitations. Firstly, we were not able to reach caregivers that participated in initial workshops but later did not show up at events. It was particularly difficult to access these caregivers, who had abandoned the project due to their isolation and reluctance to speak with institutions and universities. We still do not know if they did not participate for lack of interest, lack of time, or the death of their care receiver. On our side, we properly informed every caregiver about the importance of participating in every workshop for the assessment of the project. We believe that providers, and all actors involved with carers, should spend more time on building a trust relationship with carers and patients. This would have the beneficial effect of knowing each other better, giving better advice, and being more able to speak about needs and requirements in order to foster a more efficient health and social care system.

Secondly, to assess possible limiting factors of co-production, we interviewed caregivers twice, but research team members did only once. In the first round of interviews/workshops, caregivers had a crucial role in modifying and re-thinking some services. Probably, an intermediate round of interviews with research team members would have highlighted prior problems in creating a cohesive partnership. We think that it would be better to devise an assessment plan of the co-production at different stages of the co-production process and involving all the actors. Moreover, the evaluation of a collaborative research project is strongly recommended not only at its end, and it should become part of a successful research team culture. In particular, specific co-assessment of the cohesive partnership should become a

widely used tool in these projects. Only in this way can the dark side of co-production be uncovered and fixed in order to avoid co-destruction.

## **Declarations**

This study is part of the Place4Carers project funded by Fondazione Cariplo. The authors declare that they have no competing interests.

### **Availability of data and materials**

Not applicable.

### **Ethics approval and consent to participate**

The Ethical Committee of the Catholic University and the Polytechnic of Milan have approved the protocol for caregiver involvement. Caregivers signed an approval form for participation in the research and in specific collaborative workshops. Participants in the project signed a consent form to participate in the research proposal.

### **Consent for publication**

Not applicable.

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### **Authors' contributions**

EG and CM built the scientific background on co-production and co-destruction that led to workshops and interviews, and to this article. NM and GG designed the schemes of the co-assessment workshops with caregivers and of semi-structured interviews with research members, and led interviews and collaborative workshops. NM analysed the collaborative workshops and interviews and structured the results. All the authors contributed to the discussion.

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