VinclesBCN: combating solitude in Barcelona

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Faced with the inevitable ageing of the population and the consequences of this, Barcelona City Council launched a pilot of a project --VinclesBCN - in 2014, with the main objective of combating the feeling of loneliness among the elderly. Five years later, that project, which came about thanks to the Bloomberg Foundation and for which the municipal government received the Mayors Challenge award, has become a consolidated service that now has 2,000 users.

Why was VinclesBCN created?
In 2011, 20.8% of the population of Barcelona was 65 years of age or older. In 2018, that percentage was 21.6%, 349,922 people, of whom one in four were living alone (about 90,000). These figures are expected to rise, so that by 2030 it is estimated that one in three inhabitants of Barcelona will be 60 years or older.

Ageing is associated with loneliness, a complex feeling that results from the discrepancy between the relationships we have and the ones we want to have, that is, when a person's social needs do not correspond, either in quantity or quality, to their real social relations. Loneliness has become a phenomenon that affects today's society and has implications for physical and mental health, as well as the use of health and social resources. Scientific evidence shows that some interventions in the area of loneliness prevention have improved quality of life and mental and physical health, and have also reduced resource use and mortality. The most widespread view, however, is one that has associated loneliness with isolation or solitude, and not so much with loneliness as feeling. And this feeling of loneliness, if left unattended, can cause constant suffering.

In addition to the ageing population and an increased sense of loneliness, we must add the digital divide that many older people suffer. It is true that older people are a very heterogeneous group and, therefore, a standard profile cannot be established. But it is also true that the use of mobile devices among this group is lower than in the rest of the population, not so much because they do not see their usefulness, but because they don't have the skills or practice. VinclesBCN was set up, therefore, to combat the feeling of loneliness among the elderly, through the use of new technologies and with the support of a social revitalisation team. The service intervention is focused on strengthening the social relationships of older people who feel lonely and creating new ones, improving their well-being and quality of life[1].

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1. All programme information can be found at the following link: www.barcelona.cat/vinclesbcn.

What is VinclesBCN?
Thanks to VinclesBCN, older people can manage their social relationships based on new technologies, using a simple app installed on a tablet or smartphone as a means of communication.

The app makes it possible for users to communicate with their families and friends, as well as with other people in VinclesBCN groups. The communication is in either a text message, or in audio, photograph or video format. They can also invite other people to activities and make appointments in their personal diary. So, VinclesBCN is a new way of communicating - easy, simple and visual - for getting in touch with networks of family and friends, but also for creating communities of older people with common interests. The service is based on the following principles:

- Promoting empowerment and personal autonomy.
- Encouraging communication in a trusted environment.
- Promoting social participation and a sense of belonging.
- Facilitating to giving and receiving support.
- Facilitating intergenerational relationships.
- Providing entertainment and fun.

Who can become a user?
To be a VinclesBCN user, the person must be over 65 years of age, be registered as a resident in the city of Barcelona, have a feeling of loneliness, be motivated to participate and have sufficient sensory, psychomotor and cognitive ability to manipulate a tablet and use the app.

What is the service intervention like?
On the one hand, VinclesBCN offers support and empowers the user to activate their trusted personal network, incorporating family, friends, neighbours and people from their surroundings. Today, more than 7,000 people make up the family network of the 2,000 users who currently access the service.

But, on the other hand, the service facilitates the incorporation of users into groups created with other seniors, and proposes participation and interaction in online activities as well as face-to-face activities that are promoted by professionals. It is this community aspect that makes the service unique, because beyond promoting online communication, what is most valued by users is the ability to have face-to-face meetings and the consequent bonding with the community.

Image 1. Diptych and postcard of the VinclesBCN project

Service intervention model

As representative data of these group networks, it should be said that in 2019, 160 groups were counted. There are currently 138 active groups, consisting of an average of 25 people each who participated in a total of 247 activities with streamlining and 91 training workshops on the use of the VinclesBCN application.

The community side and the role of streamlining

The VinclesBCN service has been evolving from the beginning to adapt to the real needs of the elderly and to promote a person-centred service. It is in this sense that in 2015 the project was reconsidered in order to deepen the involvement and participation of the community, the territory and the group network, as well as empowering the elderly when dealing with their situation of loneliness.

This new approach promotes the relationship and integration of the users within the local community. The aim is to bring the user closer to the resources and services of their neighbourhood and motivate them to participate actively in their environment. At the same time, the aim is also equally to reach the entire elderly population, regardless of the neighbourhood in which they live and their economic possibilities.

The new conceptual orientation entails a rethinking of technology, as well as of the theoretical framework of reference, the profile of the user and the design of the service. But, most of all, what is emphasised is the figure of the promoter as the fundamental axis of the service, as the element that favours the links between the elderly and the links with the community.

These professionals are the leaders of the groups. Therefore, they must know all about the resources, facilities and services of the neighbourhoods that they promote in order to gain information and bring them closer to the users. They are also facilitators of networking in the neighbourhood and propose daily activities to the users in order to establish links beyond the app.

And what do the users of the service say?

VinclesBCN was born with the following ambitious goals and expected impact:

• Reducing the feeling of loneliness among the elderly.

• Helping older people who live alone maintain and strengthen their social relationships, as well as expanding and creating new relationships.

• Teaching people how to use information and communication technologies (ICT) as a tool for interacting with their environment.

• Improving the quality of life and promoting active ageing.

• Giving more autonomy to the users, because it makes it easier for them to share their day to day life with family and friends.

• Providing new motivation through the group network, through which activities based on interests, hobbies and needs are promoted.

• Connecting senior citizens with each other, and fostering inter-generational relationships.

• Increasing social support and opportunities for senior citizens to interact by participating in VinclesBCN user groups.

• Improving self-esteem, because users feel more useful, more technologically competent and more socially active.

• Combating isolation while allowing new friendships to be made and providing entertainment.

The service as such was set up in 2017 with the first user in January of that year. As we mentioned earlier, VinclesBCN wanted to help improve the lives of older people by expanding their social interaction circles and supporting them in the process of active ageing. The app, creating personal and group networks, connecting with the neighbourhood, introducing new technologies and promoting activities made us think that older people's well-being would be improved and, in particular, they would feel less alone. But we could not rely solely on intuition. When we asked the users' about their experience, the elderly have told us that being part of both the personal and group networks brings the following benefits (Diagram 2 and 3).

Diagrams 2 and 3. Benefits for seniors who are members of VinclesBCN
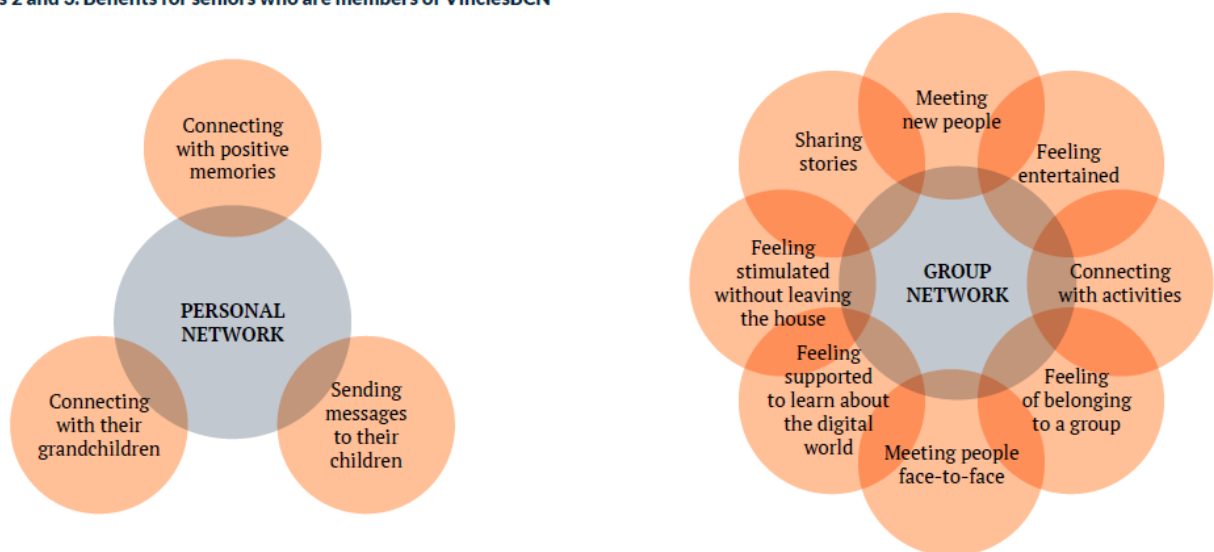
In addition, the results of qualitative interviews with users indicated the positive effects of VinclesBCN. The first thing to note is that more than 50% of people thought that participating in the VinclesBCN service had changed their lives. But what is very significant is that more than 70% of the users managed to expand their network of friends.

Also, when asked about how they believed their participation in the service was affecting their capacities, abilities and feelings, 80% said it had improved their self-esteem, 60% said it had improved their mood, 53.4% had gained in mental agility, and finally, 70.5% said they felt less alone. Some 84.4% of users gave the service an overall rating of excellent.

Assessment of the impact with artificial intelligence
To measure the actual impact of the VinclesBCN service on reducing feelings of loneliness, a tool was designed that has begun to be used experimentally. This tool automates, through the application of Machine Learning, the analysis of different data sources with the creation of models that are then updated. This analysis generates reports that show the state and evolution of VinclesBCN's impact on feelings of loneliness. The aim is to detect patterns of behaviour and to have a tool that is fed daily with new data, enriching the model and constantly monitoring its impact. Automated data sources are as follows:

• DUKE-UNC questionnaires (feeling of loneliness), LUBBEN social network (social activity), WHOQOL-AGE (quality of life) that are conducted every six months;

• Detailed data from video conferencing by each user;

• Messages that users send to each other;

• Messages that the users exchange in the groups, and

• Data extracted from the Comprehensive Social Care Service - SIAS (date of registration, origin of registration, date of termination, reason for termination, address, post code, gender, file number).

This artificial intelligence tool will allow us to assess the impact the service has on reducing solitude based on three elements:

1. The difference between the results of the questionnaires referenced above, conducted every six months by VinclesBCN users.

2. The clustering algorithm is calculated based on a) the results of the questionnaires, b) the activity of using the tablet, and c) the group activities. In this sense, four clusters have been created according to the degree of perception of loneliness.

3. Cluster change difference. In the event that the impact is to reduce loneliness, the results should indicate that the users of clusters 1 and 2 (those with the lowest results) have moved to clusters 3 and 4. That is, they would get more positive results and, therefore, feel less lonely.

As the number of users increases and also the period of time they have been enjoying the service, this tool will give us more reliable and consistent data on the impact that VinclesBCN has on older people.

How do we want the service to evolve?
From its inception, VinclesBCN has been configured as an evolving service that, with a focus on the person, has been incorporating improvements and functionalities based on what the older people have told us. In this sense, we could say that this evolution has enabled, on the one hand, the following in the technological field:

1. Opening the app on mobile devices that users already have.

2. Redefining the features of the app in accordance with their needs, incorporating new features such as text messaging and the ability to send videos and links.

3. Creating a responsive app, with a design that adapts the display to their mobile phone or tablet.

4. Eliminating kiosk mode, so they have access to any application or service offered by their tablet. Therefore, they enjoy the free provision of service and information.

5. Addition of new features.

On the other hand, focusing the intervention on revitalisation and community involvement through online and face-to-face group activities.

Once we have reached this point, the future of VinclesBCN is based on three key points:

1. Integrate, or further link, VinclesBCN with the rest of the services that are part of the municipal services portfolio aimed at the elderly. We are referring, for example, to the Radars project or the telecare service.

2. Getting VinclesBCN to become a platform for older people to access, with a single click, information, social resources and other public services aimed at their age group.

3. Starting the line of work to make the service accessible to the hearing and visually impaired.

Adapting technology to the needs of users and redefining VinclesBCN to focus on the person and their involvement in the community network have been key in the evolution and consolidation of this innovative service, which continues to evolve every day to adapt to technological advances and the changing needs of users.

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