

## Social Innovation in Health

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### **Abstract**

*The first course on Social Innovation in Health (SIH) was conceived and implemented in order to provide students with the necessary tools to assume an active role in the current health and well-being issues of the population, through social undertaking and innovation. Each group created and developed a minimum viable product, covering various global health problems, such as visual impairment, existing contextual barriers for people with Down Syndrome or Autism Spectrum Disorder, among others. From the course, it is evident that SIH represents an incipient tool, with the potential to resolve health problems from a communitarian and interdisciplinary approach. Teaching undergraduate students is essential, as it allows tools and skills to be integrated in the development of future health professionals, as a complement to an ethical medical practice.*

**Keywords:** *Social Innovation; health problems; interdisciplinary approach; institutional collaboration.*

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## **1. Introduction and Problematic Contextualization**

Social innovation in health (SIH) provides answers to health needs that have not been resolved through the traditional approach. It is still a developing concept, which has not been defined, but – as its name indicates – seeks to create value for society, involving the community directly, and is transversal, replicable, scalable and sustainable (Phills *et al.*, 2008). Thus, it arises as a response to problems and inequalities at the population level, providing tools for the community and the possibility of expanding towards improving health outcomes (Castro-Arroyave & Duque-Paz, 2020). It is developed in a multidisciplinary manner and involves actors from the public and private world (Battilana & Dorado, 2010; Mason *et al.*, 2015), aiming to identify social determinants and contextual factors in health, and aspiring to break down barriers that prevent the adequate promotion of health.

Multiple research has confirmed the urgency of adopting a renewed perspective, in which social innovation plays a vital role (Sibthorpe *et al.*, 2005; Mason *et al.*, 2015). The evidence is clear in showing that disadvantaged social groups, whether due to socioeconomic or ethnic aspects, tend to experience more risk and worse health outcomes (Mitchell, 2016). Traditionally, these problems have been sought to be solved by strengthening healthcare facilities, which generally translates to greater economic investment by governments or private groups. However, even with highly complex health facilities and great care capacity, the results continue to be unfavorable because, to a large extent, the errors and shortcomings of healthcare systems at a local level are not recognized (Ruckert & Labonté, 2014). Therefore, it is possible that, by connecting the people of a community and using unperceived resources (be it geography, social structures or culture), problems that do not require a large financial expenditure, but rather a collaborative management, can be solved. For this, it is essential to generate social impact, community economic and socio-cultural value that allows continuous sustenance over time until a change in conditions is achieved, not only of health but of life and general wellbeing.

Consequently, it is necessary to promote the adoption of "upstream" strategies, meaning methods that seek to modify social determinants of health, which although they are outside of medical action as we traditionally understand it, are part of people's daily lives and affect the process of disease development (Roy *et al.*, 2013). As it deals with these issues, the approach of SIH places the well-being of people as the main objective, allowing the achievement of the Sustainable Development Goals proposed by the United Nations (Mulgan *et al.*, 2007).

In Latin America, the *Social Innovation in Health Initiative (Iniciativa de Innovación Social en Salud*, in Spanish) has managed to identify and map different cases of social innovation.

Cases such as the professionalization of a training program for health workers in indigenous communities from Brazil, the promotion of initiatives for the prevention of Chagas disease through education, the improvement of housing in Guatemala, and the creation of videos and mobile applications that improve access to health in Honduras, among others, stand out.

In Chile, despite the promotion of many innovative initiatives in the field of health, SIH has not yet been developed. Recently, a research led by Castro-Arroyave & Duque-Paz (2020) identified all the publications related to SIH in Latin America between 2013 and 2018. From the 80 publications found, only 1 came from Chile, and overall, there is major evidence in countries such as Colombia or Brazil.

At the third cycle educational level, there is also a deficit in curricular instances to allow its development, preventing its diffusion and growth.

## **2. Strategy Course on Social Innovation in Health**

Based on the information from regional and national context, in 2020 a group of interested teachers who worked together at OcuLab, Chilean Laboratory for Social Innovation in Visual Impairment, together with Ashoka and 2811, decided to conceive and implement the first course of Social Innovation in Health, in this opportunity at the Pontificia Universidad Católica de Chile (PUC). Its aim was to promote the development of skills and knowledge of specific tools to the undergraduate students, in order to generate social innovations in the sector by co-creating solutions to certain challenges in the community. Multidisciplinary groups were organized, each one working together with different health centers and departments.

Due to the success of the course and the need to continue generating collaborative work, the course was repeated in 2021, this time in an international level and in alliance with “La Triada”, a cooperative university network composed by Universidad de Los Andes of Colombia (UA), Technological Institute of Monterrey of Mexico (ITM), and PUC.

Both versions were semi-annual, virtual, and included students aged 18 to 25, from different academic disciplines. The details about each course are detailed in table 1.

Throughout the semester, theoretical classes were held about the concept and importance of SIH. Afterwards, each team of students was encouraged to search for obstacles and/or challenges of the people from the center that they were assigned to work with and make contact with them in order to co-create a solution. These contacts were made under a strict information confidentiality protocol, and they could leave the activity at will, without prior justification.

**Table 1. Specifications of each course**

|   | <b>2020</b>   | <b>2021</b>  |
|---|---|--|
| Number of students                      | 31 undergraduate students from PUC  | 25 undergraduate students (7 from UA, 6 from ITM and 12 from PUC)  |
| Groups                                  | 5 groups of 4-5 students each   | 8 groups of 3-4 students each  |
| Disciplines of students                 | Medicine, Engineering, Psychology, Nutrition, Design, Nursing, Speech Therapy, Kinesiology and Social Work.   | Medicine, Engineering, Nutrition, Design, Nursing, Kinesiology and Social Work   |
| Health centers and departments involved | <ul style="list-style-type: none"> <li>1. OcuLab PUC Laboratory for Social Innovation in Visual Impairment</li> <li>2. PUC Cancer Center</li> <li>3. PUC Down Syndrome Center</li> <li>4. PUC Department of Geriatrics</li> <li>5. PUC Department of Ophthalmology</li> </ul> | <ul style="list-style-type: none"> <li>OcuLab PUC Laboratory for Social Innovation in Visual Impairment</li> <li>Mesón group (Mexico)</li> <li>PUC Center for Autism Spectrum Disorder (Chile)</li> <li>Suma Foundation (Chile)</li> </ul> |

Abbreviations: PUC, Pontificia Universidad Católica de Chile; UA, Universidad de Los Andes of Colombia; ITM, Technological Institute of Monterrey of Mexico.

The work process was accompanied and followed-up by health-related mentors from the university and collaborating organizations, and conducted by a Social Lean Canvas, which allowed the students to identify factors involved in the process. Once the team detected the challenge and its origin, the potential solutions were developed; a Minimum Viable Product (MVP) was co-created, corresponding to the initial version of a product or service with the necessary characteristics to be offered to an initial group of clients (institutions), and to obtain feedback on it in order to modify or improve it before its full development (Lenarduzzi & Taibi, 2016).

The course concluded with a closing ceremony, where all the groups presented their progress and achievements in a 5-minute pitch presentation. They were evaluated by a jury

of professionals and specialists who determined the best project, to whom *Ashoka* Foundation granted financial support to continue their development.

### 3. Results and Findings

The groups of students worked with different institutions, detailed below:

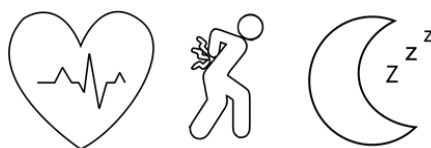
OcuLab PUC: the 2020 group focused on encouraging laboral inclusion of people with visual impairment, creating a virtual platform designed to facilitate contact with companies and social groups, in order to find job opportunities. The 2021 group created an automated matchmaking service between people and programs, delivering personalized recommendations to each user with the objective of directing people with visual disabilities to specific aid programs.

Down Syndrome PUC Center: to promote the autonomy of people living with this syndrome, a simulated house project was designed with the aim to create a supervised space that would allow training and promote independent living.

PUC Cancer Center: to improve the educational content available to patients with cancer and their support networks at Sótero del Río Hospital, this group created a didactic audiovisual medium to disseminate information about their disease and treatment, through cell phones and social media.

PUC Department of Ophthalmology: this group worked at co-designing a low-cost support device for cell phones, in order to facilitate its use by users with reduced visual acuity and low vision, especially elderly people.

PUC Department of Geriatrics: once recognized the deficit in identification of medication in elderly people, a group that presents polypharmacy and is exposed to higher rates of illiteracy and visual problems, this group created a system of graphic symbols to be included in drug labels, facilitating their distinction (Figure 1).



*Figure 1. Validated prototype of the instrument developed to facilitate the recognition of medication in elderly population with reading impairment.*

*Mesón* group: in order to decrease the rate of HIV infections in the population, a communication channel to develop content related to mental health and destruction of

prejudice, in addition to generating finance for PREP medication, was developed by one group, while the other designed an online educational platform.

PUC Center for Autism Spectrum Disorder (ASD): in the current context of online education, the challenge of improving the educational repertoire for children with ASD was identified. Subsequently, a virtual platform equipped with visual tools and interactive material to be used in virtual meetings were developed.

Suma Foundation: due to the actual pandemic, the health routine care of patients with ASD was interrupted, leaving the care solely in the hands of their caregivers. In this context, one group designed a mobile application that included the profile of patients, caregivers and health professionals, in order to facilitate communication between them, and the other group created a social media profile where caregivers could connect and share experiences and tools between them.

#### **4. Discussion**

SIH represents a change in the rehabilitative biomedical model, which has historically focused on improving health through new therapies, medications, infrastructure, among others. Although the contribution of these measures is valued, many times they are far from what the population requires. This has led various authors to conceive and promote SIH as a response to the failure of the current social and institutional systems (Oosterlynck *et al.*, 2013).

In essence, SIH seeks to create networks between different groups in society, recognizing the need to generate a collaborative process with the aim of obtaining favorable health outcomes (Mulgan *et al.*, 2007). For this, it is crucial to interfere in the daily life of people whose quality of life we seek to improve, and that is precisely what SIH aims to promote.

The main objective of the university course was to teach undergraduate students about SIH and its impact, encouraging them to apply its philosophy to their future professional practice. Given its multidisciplinary nature, it was possible to generate valuable networks of contacts and information between young students and professionals around the world. The adoption of “thinking outside the traditional model” was encouraged, which also helped develop skills useful for student’s future professional practice, no matter their original area of knowledge, considering an ethical purpose when acquiring these new skills.

As a way to improve, new ideas could be implemented to maintain the students' motivation throughout the semester as most of them have a busy university life and their schedules are hard to match. It was difficult to maintain continuous contact between the students of each group and their mentors, considering meetings and classes were held online, and sometimes had to take into account different time zones. This on some occasions interfered and slowed

down the work process.

As future directions, we hope that the implemented courses will be repeated in the coming semesters, and continue to grow, both locally and internationally. Likewise, we continue to work so that the evidence on SIH increases, and its definition is improved, as well as the identification of factors that lead to its success or failure, allowing progress in its implementation. For this reason, we emphasize the importance of further comparative studies and/or systematic analyses, in order to assess the real benefits and costs of SIH, compared to traditional approaches.

## 5. Conclusions

SIH represents an original and incipient tool, which seeks to obtain community well-being through a non-traditional approach, providing multidisciplinary and co-created responses to problems not resolved by institutional or state health systems. Its knowledge and application in the medical area allows the adoption of a complementary perspective on health outcomes and new competences in a social ethical context, making its early teaching in university essential. Given its global nature, undoubtedly increased by the COVID-19 pandemic, and its potential future projection, collaborative efforts for its dissemination must be carried out regionally and internationally.

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