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## Citizen science towards the regulation of medical cannabis in Argentina

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### ABSTRACT

In this paper, we discuss the meanings assumed by citizen science for the regulation of therapeutic and medical uses of cannabis in Argentina, considering the mobilization of experiences in three municipalities of the province of Buenos Aires. Through conceptual tools of the STS field and techniques such as documentary analysis of resolutions and ordinances, participant observation, and in-depth interviews, we address the role of proximity experienced locally in the development of municipal regulation initiatives; the combination of different types of expertise (technical, scientific, medical, legal, experiential); and the processes of resignification and change of social identifications. The research shows that local regulations emerge from a heterogeneous social base that, in the form of citizen science, produces, uses, and transmits diverse expertise around the therapeutic uses of the plant and its derivatives. It also reveals that the construction processes of local government policies promote new social perceptions of certain groups (supportive growers, physicians, child users) that influence the way that therapeutic cannabis is settled as a public problem.

### KEYWORDS

Cannabis regulation; expertise; activism

### PALAVRAS-CHAVE

regulamentação da cannabis; perícia; ativismos

### PALABRAS CLAVES

regulación del cannabis; experticias; activismos

## Ciência cidadã para o uso terapêutico de canábis na Argentina

### RESUMO

Este artigo estuda os significados assumidos pela ciência cidadã para a regulamentação da cannabis para usos terapêuticos e medicinais na Argentina, considerando experiências de mobilização em três municípios da província de Buenos Aires. Usando ferramentas conceituais do campo STS e técnicas como análise documental de resoluções e leis, observação participante e entrevistas em profundidade, o trabalho aborda: o papel da proximidade vivenciada localmente no desenvolvimento de iniciativas municipais

de regulamentação da cannabis; a hibridização de tipos de perícia (técnica, científica, médica, legal, experimental); e os processos de resignificação e mudança de identidades sociais. A pesquisa mostra que a regulamentação municipal da cannabis se desenvolve a partir de uma base social heterogênea que, na forma de uma ciência cidadã, produz, utiliza e transmite diversos conhecimentos especializados em torno dos usos terapêuticos da planta e seus derivados. Também revela que os processos de construção de políticas governamentais locais promovem revalorizações sociais em torno da identidade de certos grupos (produtores solidários, médicos, usuários infantis) que influenciam a forma como a cannabis terapêutica é configurada como um problema público.

## Ciencia ciudadana por el uso terapéutico de cannabis en Argentina

### RESUMEN

En el presente artículo se estudian los sentidos que asume la ciencia ciudadana por la regulación del cannabis para usos terapéuticos y medicinales en Argentina, considerando experiencias de movilización en tres municipios de la provincia de Buenos Aires. A través de herramientas conceptuales del campo STS y de técnicas como el análisis documental de resoluciones y ordenanzas, la observación participante y la realización de entrevistas en profundidad, se abordan: el rol de la proximidad vivenciada localmente en el desarrollo de iniciativas municipales en torno al cannabis; la hibridación de experticias (técnicas, científicas, médicas, legales, experienciales); y los procesos de resignificación y cambio de identidades sociales. La investigación muestra que las regulaciones municipales del cannabis se desarrollan a partir de una base social heterogénea que, bajo la forma de una ciencia ciudadana, produce, utiliza y transmite diversas experticias alrededor de los usos terapéuticos de la planta y sus derivados. Asimismo, revela que los procesos de construcción de políticas gubernamentales locales promueven revalorizaciones sociales en torno a la identidad de ciertos grupos (cultivadores solidarios, médicos, niños usuarios) que influyen en el modo de configuración del cannabis terapéutico como problema público.

## 1. Introduction

In Argentina, the Medical Cannabis Law, No. 27350, approved in March 2017, is the first non-punitive legal regulation of the use of cannabis and its derivatives. The law was built upon debates, new regulations, and laws already in development in Argentina's municipalities and provinces; these earlier initiatives as well as the early drafts of the new federal legislations pushed to include cannabis products in health insurance coverage. The drafting and enactment of the national law took place during the government of the Cambiemos coalition, it was quite limited in terms of accessibility and was coupled with a drug policy anchored in the "war on drug trafficking" paradigm (Labiano 2020; Darraidou et al. 2019). Since 2019, and amid a shift in governing administrations, regulatory affairs on the medical use of cannabis – among all the other claims for cannabis regulation and decriminalization of drug possession – gained a new impulse. However, it is important to point out that National Drug Law No. 23737,

enacted in 1989, still criminalizes the cultivation, simple possession, possession for consumption, and commercialization of illegal drugs, including cannabis, its resins, extracts, and tinctures.

As in other Latin American countries, the process of regulating cannabis for therapeutic use in Argentina has showed, since its beginnings, characteristics of imitation (Labiano 2020) and bottom-up design, that is, its primary drivers were social organizations made up of cannabis users and cultivators. Such actions reflect a broader global development in drug policy reform initiatives, in which cities and other subnational jurisdictions have become favorable sites to design regulatory frameworks that can bypass national legislatures. These regulation paths allow for an exploration of legal gaps or gray areas and permit proponents to find forms of regulation that serve the needs and problems of affected communities (Blickman et al. 2019).

In Argentina, the regulation process is strongly intertwined with the production of scientific knowledge on cannabis, and with demands for public policies based on “strong objectivity” (Zarhin et al. 2020), i.e. policies that take into consideration knowledge about the experiences of medical cannabis use. These demands of access for cannabis as a complementary treatment through home cultivation, collective production in social organizations, or the purchasing of phyto preparations in pharmacies, were intertwined with the movement’s more enduring claims for the decriminalization of all uses and/or for a comprehensive regulation of the plant. In this process, such claims were quickly legitimized in the public arena and on the parliamentary agenda, introducing bills to regulate the therapeutic use of cannabis in national, provincial, and municipal regulatory bodies (Díaz 2019) and setting in alliances and co-productions with scientific research groups that supported those claims both technically and symbolically (Romero 2019; Romero and Aguilar 2020).<sup>1</sup>

We observe that, when it came to alliances between users, growers, and scientific or healthcare professionals, citizens play a central role in the production, stabilization, and circulation of the plants; in other words, in their effective use. Citizens also take part in the setting up of social and political schemes that cover both the cannabis supply of users and the surveying of their own experiences and practices,<sup>2</sup> and in training and specialization regarding plant cultivation and modes of therapeutic consumption.

Because of the relevance of this social base in the history of the cultivation and regulation of the plant, we consider the social mobilization for medicinal and therapeutic cannabis in terms of citizen science (Irwin 1995; Jasanoff 2003). In this paper we argue that the mobilized citizen science for the regulation of medical or therapeutic cannabis<sup>3</sup> in Argentina is based on three fundamental aspects: the role of local proximity in the development of municipal regulation initiatives and actions; a

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<sup>1</sup>Resistance also existed among the scientific community and the different medical professions and specialties. For example, the [Argentine Society of Child Neurology \(SANI\)](#), the Argentine League Against Epilepsy (LACE) and the Epilepsy Working Group of the Argentine Neurological Society (SNA) jointly drafted a document warning about the need to “wait cautiously” for the results of clinical studies and avoid the use of homemade preparations (August 2017).

<sup>2</sup>Currently there are more than 180 cannabis organizations in Argentina linked to medical use. [Federal Map of Cannabis Organizations](#), available at: <https://cutt.ly/pTX3Baa>. Accessed November 25, 2021.

<sup>3</sup>In this work, the terms “medical” and “therapeutic” are not used interchangeably. “Medical” refers to pharmaceutical-grade cannabis and those demands that are connected to the plant and its derivatives related to research and medicine. “Therapeutic” refers to the position of those who conceive of cannabis as phytotherapy, emphasizing the practices of cultivation, the singular relationship between the plant, users and health understood as an integral process.

hybridization of expertise in order to have a political impact on the problem's framing; and a process of resignification and changes in social identities triggered by these transformations.

Therefore, a first approach to the citizen science notion refers to the participation of citizens in the framing of public problems (Gusfield 1981), that is, the configuration of specific issues as problems, on which they can intervene both technically and politically. This kind of citizen participation sets the background for conducting research or "undone science" on cannabis (Frickel et al. 2010). According to Delgado (2010), such participation can be sponsored by decision makers as a mechanism of legitimization (optimistic approach), a spontaneous citizen involvement for the production of knowledge (pragmatic approach), or a citizen intervention with a self-critical capacity on the production of knowledge (critical and reflective approach). In this paper, we assume that these participatory dynamics are based on relationships of inter-knowledge (Quirós 2018) and mutual trust, wherein reciprocal understanding, as well as personal, tacit, local, and affective knowledge, have powerful effects of articulation and legitimization just as powerful as the technical expertise about the problem that is involved (Wynne 1992; Epstein 1995).

In the construction of medical cannabis as a public problem, we highlight the integration of institutionally accredited expertise (legal, scientific, and medical), and its close bond with experiential, practical, or empirical expertise (Vessuri 2004; Frickel and Moore 2006). In fact, the idea that citizen groups can provide relevant forms of knowledge and expertise into scientific governance processes has been widely recognized in STS studies (Epstein 1995; Collins and Evans 2002; Jasanoff 2003; Irwin 2008). Irwin (1995) has shown that knowledge, in these contexts, becomes an active process of co-production and meaning-making (594), given that "situated knowledge" means to speak of "citizen science" and that this is linked to the contextual formation of ways of knowing and involves agreements about the natural and social worlds. This way of doing science assumes uncertainty, risk, and ambivalence about its own knowledge and practices, as opposed to a rigidity of scientific and medical expertise governed by a predictive and uncertainty-denying model of modern science (Wynne 1992; Funtowicz and Ravetz 1993).

Citizen science is also strongly oriented towards political action, influencing processes of resistance and political criticism (Kullenberg 2015), or facilitating hybrid processes of social resignification and the emergence of new social identities (Callon 1999). We noticed this in the very social movement, with the arise of the roles of the "supportive grower" [*cultivador solidario*] and the mothers of therapeutic users (Rivera Vélez 2019), and also in the fields of medicine, politics, and the university, with the increasing interest of some professionals to be trained in cannabis issues.

In the civil mobilization towards medical and therapeutic access to cannabis, citizens themselves led the initiative to address research problems including scientific institutions. Cannabis users, their families, and growers achieved this by visiting hospitals, scientific congresses, and research institutes in order to express their own worries and experiential findings. In these types of actions, citizens made such problems visible, seeking a social transformation goal rather than one that could be measured in terms of scientific production (e.g. placing an issue on the public agenda, winning legal battles, influencing public policies, promoting human rights, among others). In this way, the construction of expertise on cannabis lies in "gray zones of innovation" (Moreno-M and Guerrero-C,

2020), where the illegal/informal enables grassroots innovation processes developed clandestinely by growers and users (for instance, seeds breeding, cultivation methods, technologies for extraction and use, and collective actions). Such experiences came into dialogue with the current professional practices of healthcare and scientific institutions that started to bring support at first, and later, became part of the whole social mobilization. In this way, citizen science puts in tension the controversial distinction between expert knowledge (scientific) and lay knowledge, insofar as results – instrumentally obtained and achieved in a participatory, democratic, political way – must be judged according to a process of veridiction in line with the sciences (Kullenberg 2015; Dickel and Franzen 2016).

Although the case analyzed in this paper has a strong contesting dimension, it seeks to fit into the modes of veridiction of “real science,” given that it is not the model of science that is in question, but rather the objectives or problems that science resists against or does not address. What is instated are new spaces of experimentation that affirm and maintain their links to established science. As Kullenberg (2015) argues, rather than targeting formal evaluation processes, in these cases the linking of citizens with scientific institutions is more instrumental or oriented towards the context of application (Gibbons et al. 1994): a joint publication increases credibility, access to laboratory equipment and some expertise – such as the quantification and qualification of cannabinoids based on chromatography – can help to transcend localized meaning.

Based on these conceptual inputs, this paper discusses: What is the role of activists, growers, users, or in other words, of this heterogeneous citizenry linked to the use of cannabis, in the generation of new scientific, medical, and regulatory knowledge? How do they organize and mobilize to influence the framing of health-based cannabis use as a public problem (Gusfield 1981; Jasanoff 2003)? How are the meetings (Schwartzman 1989) that mediate people’s participation in scientific matters?

The methods used to carry out this work were documentary analysis, participant observation, and in-depth interviews. Our reflections emerge from the work and empirical monitoring of three cases of local regulation of medical and therapeutic cannabis in Argentina that were innovative with respect to the National Law No. 27.350, and that were developed in the Municipalities of General La Madrid, San Vicente, and Hurlingham, located in the province of Buenos Aires. Resolutions and ordinances in General La Madrid (henceforth GLM) (July 2015, September 2018), San Vicente (June 2019), and Hurlingham (September 2019) were analyzed, and the contexts of their formulation and sanction were considered. Five interviews were conducted: two interviews with the physician who advocated for the first local regulation in GLM and the current director of the Cannabis Program of the [National Ministry of Health](#), a third with the president of ACCEDA civil association of San Vicente – member of the Network of Medical Cannabis Users (REDUCAM) –, a fourth with the president of Annanda Cultiva, a Hurlingham civil organization, and the fifth with a GLM grower who was member of Cannabis La Madrid. All of those are civil associations with communal identification since their organizational goals include the development of productive projects in their localities and because their main political interventions are located at the municipal level. Additionally, we used notes from participant observations on medical cannabis meetings between 2015 and 2019.

### 1.1. The role of proximity in cannabis citizen science

In Argentina, mobilization based in municipalities helped to gradually construct cannabis access as a public problem (Gusfield 1981); it also enabled the production of scientific research. One of the first places in which the issue came to the forefront was GLM, an agricultural and livestock town with 8000 inhabitants located in the southwest of the province of Buenos Aires. Efforts related to what became known as “medical cannabis” were publicized by specialized media – cannabis magazines – and also taken up by national mass media outlets.<sup>4</sup>

When considering the connections between cannabis users, their families, growers, legislators, and healthcare professionals, it is important to recognize the dimensions of trust (Wynne 1992) and inter-knowledge (Quirós 2018) that traverse proximity relations at the local level. When we speak of trust, we refer to a process that links the credibility and legitimization of certain problematizations and demands (Epstein 1995) to the development of links and networks. Meanwhile, the notion of “inter-knowledge” developed by Quirós (2018) in her analysis of political work in towns and neighborhoods in Argentina, allows us to trace the importance of interactions that are often considered weak because of their low personal intensity, but that allow the conformation of what is often referred to as “territory,” and the construction of certain unique life paths (2017, 133).<sup>5</sup> In the reconstruction of these selected cases, the path of Marcelo Morante stood out: Morante is a physician and native of GLM who had worked for years in the town and then had continued his career at the National University of La Plata (UNLP) as a professor of Internal Medicine. His encounter with the therapeutic use of cannabis took place amid a search for a treatment to alleviate a family member’s medical symptoms. Wanting to learn more about the subject, he traveled to Canada to train with the physician Mark Ware, who later visited Argentina to give a lecture.

In Morante’s conversations with friends, colleagues, and family, the rollout of medical cannabis at GLM found fertile ground. His brother was a councilman at the time and one of the candidates for mayor had been a college classmate of his. In the prospective

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<sup>4</sup>Cannabis magazines began to appear in the Argentine publishing market around 2006. *THC La Revista de la Cultura Cannabis* was the first publication of its kind. On February 3, 2016, the cover of *THC* magazine was entitled “Todo por amor” (All for love): its major article told the story of a girl with epilepsy who was a therapeutic user of cannabis, and her family’s efforts to access the necessary phytopreparations for her treatment (THC Year 10, No. 87). National newspapers echoed this news: on February 10, 2016, *Clarín* newspaper published an article entitled “La marihuana le permite vivir a mi hija” (Marijuana allows my daughter to live) (Soriano 2016), and a month later *La Nación* published the article “Cannabis medicinal: el aceite de marihuana que le cambió la vida a niños con epilepsia” (Medical cannabis: marijuana oil that changed the lives of children with epilepsy) (Amaya 2016). In the realm of audiovisual media, the news report broadcasted by *Telefé* channel about *Mamá Cultiva Argentina* in August 2016 is of note (<https://www.youtube.com/watch?v=NCmizPMMDXw>). In November of that same year, *Mamá Cultiva Argentina* released the hashtag #Yomepongoensuzapatos (I put myself in their shoes), a campaign that featured videos with testimonies of mothers of children with epilepsy. Among them, there was a video with well-known actors and journalists expressing their support for the regulation of the medical use of cannabis: <https://www.youtube.com/watch?v=ZGwnJ5YtvJg&t=32s>. In another instance of viral media, the mother of the girl whose story had reached national audiences appeared on the popular late-night talk show *La Noche de Mirtha Legrand* (<https://www.youtube.com/watch?v=CFjWJP266yQ>) and the video was circulated by activists. It is worth pointing out that those shows are very popular and their contents are later retrieved and discussed in other media. Accessed on: November 1, 2017 (Díaz 2019).

<sup>5</sup>We consider that this combination of trust and inter-knowledge in citizen science for therapeutic cannabis in Argentina is an element that explains the formation of networks made up of cannabis users, growers, physicians and scientists, but at the same time it explains the territorial anchoring of the claims for regulation, which took the form of productive projects and municipal resolutions like the ones analyzed in this paper. Further comparisons could be made in the future with other universes of citizen science in which these variables have been of analytical use, such as the social movement of people living with HIV-AIDS (Epstein 1995).



mayor's political campaign, cannabis production was introduced as an innovative industry that could bring important job creation to the town. One of the first presentations on the topic was a community workshop held in mid-2015 at the Municipal Palace. Numerous neighbors convened. Reflecting on the event, Morante highlighted the closeness of the actors and the ease which they could be identified, enhancing the effectiveness of the proposed actions:

I remember that first meeting and there is the parish priest, the policeman, the teacher, the patient, the doctor, the politician; that is, these are quickly identifiable people, first name and last name, allowing for one to make the debate much more personal in a way (...) strikingly, it was a very exciting meeting. We talked for more than two hours about medical cannabis in the world and in [General] La Madrid, how the regulatory framework could be ... (Interview September 10, 2021)

Relational proximity also came up as a crucial factor in conversations with an activist from the local group Cannabis La Madrid. The activist narrated how growers mobilized by highlighting that the formation of a group had been facilitated by the fact that they all knew each other: "we all know each other, everyone knows who has flowers and who doesn't" (Interview September 14, 2021). Contact with local authorities had also become feasible because it was possible to encounter one another in person on a daily basis and in town. The visibility of their actions as a collective arose out of a larger seminar prompted by Morante and held in 2016. On this occasion, speakers from other countries were invited and GLM's cultivation project was officially presented (Morante and Morante 2017). In terms of access to cannabis, the presence of therapeutic users who began to publicly present themselves added steam to the push being made by health professionals and officials. Among these narratives, the story of a beloved older adult stood out; their stature in the community broadened the panorama of uses associated with cannabis, detaching them from recreational consumption associated with young people.

This experience had an impact on other provincial localities, including San Vicente and Hurlingham, more populous and urbanized cities closer to the Autonomous City of Buenos Aires and located in the south and west of Greater Buenos Aires, respectively. There, activists took up a tradition of participating in local political life<sup>6</sup> and mobilized networks of acquaintances, friends, and neighbors to ensure the issue reached the municipal political agenda. Unlike what happened in GLM, in these cases, the spokespersons were mainly fathers and mothers of therapeutic users and there was a tighter connection between civil associations and the municipality as they aimed to put into action collaborative projects. In San Vicente, in large part due to the work of the civil association ACCEDA, cannabis became an issue at the municipal level via a focus on medicinal users and on building a community cultivation project. In Hurlingham, the Annanda Cultiva collective also promoted connections among users and with health professionals. As with the GLM community workshop, a large meeting motivated officials to commit their support for citizens in favor of a municipal ordinance of their own. If initially, the inhabitants of these cities had seen municipalities that had passed ordinances as models, they were

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<sup>6</sup>A reference specifically to the "banca 25," a method of institutionalization of citizen participation existing in the municipalities of the province of Buenos Aires that permits residents to relay opinions, complaints, and subjects of interest on behalf of their neighbors. In its formulation, this mode of legislative activity was intended to create a channel of communication between those on the council and residents.



progressively inclined to look for methods that were more consistent with the nature of the problem in their specific localities.

The above shows a framing (Irwin 2008; Jasanoff 2003) of medical cannabis as a social issue that connected therapeutic users, their families, growers, professionals, and officials, based on relationships of trust and bonds of proximity as neighbors. Thus, even if the therapeutic use of cannabis had emerged as a demand in previous years, it was the mobilization of local networks that created the conditions of intelligibility that could transform individual demands for access by users into a collective political cause. In doing so, these demands were channeled into research projects on cannabis in which university study groups, growers' collectives, suppliers, and health centers converged. Meetings and scientific events stand out as dynamizing events that in turn generated epistemic efforts towards the creation of a multidisciplinary network of experts and approaches to a particular problem (Akrich, O'Donovan, and Rabeharisoa 2013, 7); the local devices of help, containment, and care integrated by growers, health professionals, and users also played a role (Díaz 2019).

In parallel to the process taking place since 2015 in GLM, organizations like *Mamá Cultiva Argentina* and *Cannabis Medicinal Argentina (CAMEDA)* brought together therapeutic users and their families. Their efforts were oriented towards the creation of a national law with most of their actions targeting the National Congress. National Law No. 27350 on "Medical and scientific research on the medical use of the cannabis plant and its derivatives" was sanctioned in March 2017 and ruled on twice (September 2017 and November 2020). Organizations such as *Cannabis La Madrid*, *ACCEDA*, and *Annanda-Cultiva* focused their strategies and actions on the promotion of regulatory frameworks within their local places of residence.<sup>7</sup>

## **1.2. Expertise and networking capabilities**

Cannabis citizen science is not only based on relational proximity, that is, on face-to-face relationships in small or medium-scale spatial dimensions, but it is also characterized by including different types of expertise: technical, scientific, medical, legal, experiential (Brown et al. 2004), empirical/practical, and local (Wynne 1992). These are generally mixed in the structure and functions of social organizations, and in the advocacy process they carry out at the local level.

Reflecting this, *ACCEDA* civil association in San Vicente has different types of professionals in its ranks: a social worker, social psychologist, medical epidemiologist, and communicators; it also maintains connections with doctors from the Roffo Hospital in the City of Buenos Aires. *Annanda Cultiva* of Hurlingham also works with doctors and child neurologists from the Children's Hospital of the City of Buenos Aires, with scientific researchers from national universities and the National Council for Scientific and Technical Research (Consejo Nacional de Investigaciones Científicas y Técnicas, CONICET), and with lawyers from organizations specialized in legal aspects of substance use, such as *RESET*, an NGO dedicated to drug policy from a human rights perspective.

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<sup>7</sup>Most social organizations in Argentina have moved in this direction, attempting to provide concrete solutions to the principal issue: the secure access to cannabis products. One example is that the province of Buenos Aires is composed of 135 municipalities and has more than 50 projects of ordinances regarding cannabis, most of which were passed between 2019 and 2021 (Romero and Aguilar 2020).

The expertization (Epstein 1995) of social organizations for therapeutic cannabis in Argentina is visible in the structure and composition of the organizations, as well as in their functional and operational dimensions. Through the design of informative and educational content on the uses and cultivation of the plant, its therapeutic benefits and risks, the organizations design workshops and conferences where they present and transmit this knowledge based on historical, scientific, and journalistic sources, as well as on practice and experience.

In these information and educational spaces, technical-scientific, legal, and professional expertise from different disciplines were united with the practical and experiential expertise of cannabis growers and users. For example, ACCEDA in San Vicente took part in the Cátedra Libre de Cannabis y Salud at the UNLP, in the presentation of the Cepas Terapéuticas Argentinas CAT (Argentinian Therapeutic Strains) project at the CONICET of La Plata and in meetings with groups of parents of children with autism spectrum disorders (ASD). In these spaces, participants shared medical, social, and legal information on the use of cannabis, and doctors from hospitals and foundations specializing in ASD took part in discussions. In April 2019, a public event in the city included local referents as well as institutions and professionals interested in the use of and access to medical cannabis. These instances are detailed as background in the Ordinance of the Municipality of San Vicente, No. 5096.

Some professionals affiliated to civil organizations are often cannabis growers and users, overlapping different knowledge resources and using expertise from both worlds. On the other hand, there are professionals who are neither growers nor users and therefore they have to link with growers or users to acquire knowledge and complement or combine it with their own professional and technical expertise.

Another task carried out by the organizations, which shows the high degree of expertise that characterizes them, is institutional advice lent to other organizations, state agencies, legislators, and governments.<sup>8</sup> The organizations' specialization can also be seen in the main actions they carry out. They have registers of users, with information on strains, effects, accompanying physicians, dosage, and changes in dosage/symptoms.

We have a registry, we estimate more than 200 active families, they come and go, it is dynamic, the number moves. Cumulatively we estimate that 800 that have come through, consulted. We have put together a modest thing, but we have an exhaustive, demanding registry of who the users are, what strain they use, what effects it has on them. The professional team has a registry, there are dialogues between growers and doctors on how to adjust things, what to do and what not to do, [to consider] entourage effects, etc. (Interview with the President of ACCEDA, February 10, 2020)

These records are used by ACCEDA's professional members to produce knowledge about the different uses of cannabis in the locality and they use them not only to design their own care arrangements, but also to influence the development of local public policies informed by their own research.

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<sup>8</sup>Some have even influenced the design and development of university diploma and/or postgraduate courses on the subject between 2020 and 2021, such was the case for Centro de Estudios de la Cultura Cannábica (CECCa) which worked with the Universidad Nacional de Quilmes (UNQ) and the Asociación de Usuarios y Profesionales para el Abordaje del Cannabis y otras drogas (AUPAC) which contributed to the 2021 graduate level course "Abordaje integral de la planta de Cannabis para la salud" offered by the Facultad de Ciencias Médicas de la Universidad Nacional de Rosario (UNR).

### **1.3. Domino effect: local advocacy expertise**

It is interesting to consider diffusion and imitation in local ordinance creation in the same light in which Labiano (2020) analyzes the process of regulation and creation of public policies on cannabis and health in Latin America – that is, to observe how different actors circulate and carry successful experiences from one locality to another. GLM’s 2015 resolution requesting the National Congress to hear the presented bills, and the 2018 ordinance authorizing agreements with the National Cannabis Program to develop community cultivation for medicinal purposes, in this way, become antecedents or models that catalyzed other municipal experiences:

At ACCEDA we began to study the General La Madrid case. (...) We contacted the people of General La Madrid. But, in the end we put together our own proposal for an ordinance thanks to a lawyer who is part of the network, after months of working on drafts. The aim was to have our own public policy. (Interview, February 10, 2020)

“I started looking for local people along with [a neurologist], thinking of putting together something like in San Vicente. We took that ordinance as a model” (Interview with Annanda Cultiva President, October 15, 2019).

The ordinance in San Vicente was enacted in June 2019, and the Hurlingham ordinance shortly thereafter, in September. Both ordinances created a registry of local users and introduced the possibility of developing cooperative municipal cultivation that included the participation of CONICET, universities, and the National Institute of Agricultural Technology (INTA), and the support of each local government. In the case of San Vicente, a Cannabis Program was created at the Municipal Hospital with dedicated professionals who would prioritize the attention of the municipality residents. The program focused on pain and collaborated with doctors at Roffo Hospital. In Hurlingham, the endeavor also included a collaboration with a municipal laboratory that, if provided continual funding, could become a locus of production of therapeutic and/or medicinal derivatives.

Expertise in the realms of advocacy and political activism – two aspects of citizen science – can be found at the beginning of the trajectory of the cannabis regulation movement (Corbelle 2016; Díaz 2019). The expertise connected to plant cultivation, its uses and effects were transmitted from the historical cannabis movement to the social organizations that emerged since 2015.

Unlike the networks and organizations of mothers of users that understood their field as national or federal, organizations such as ACCEDA and Annanda Cultiva concentrated their forces on influencing the local territory.

“Together with the head of Unidad Ciudadana we organized a public informative talk in Hurlingham and about 300 people attended. Before then, he committed himself to promoting its treatment before the Deliberating Council” (Interview with the President of AnnandaCultiva, October 15, 2019).

Both ACCEDA and Annanda Cultiva aimed to, above all, initiate “the first community cultivation of cannabis for scientific research and medicinal purposes” (San Vicente Ordinance No. 5096, art. 2 and Hurlingham Ordinance No. 8966, art. 3). This aim echoed the arguments posed in the GLM ordinance but was adjusted to the local context. For example, in drafts for the San Vicente ordinance, the obstacles to cannabis are made explicit via the National Registry of Patients and Persons in Cannabis Treatment (RECANN),

implemented as of the passing of National Law No. 27350. For this reason, in addition to establishing cultivation as part of the regulation, activists suggested having a Municipal Registry of users and growers (Interview, [February 10, 2020](#)).

Although the issue of production appeared in the GLM mayor's first speeches, it did not appear explicitly in any article of the 2015 resolution. At that time there were other priorities: to inform, deconstruct prejudices and legitimize the therapeutic medicinal use of the plant in the municipality. Later, this issue was included in the scientific research project that the local government, through agreements with science and technology organizations such as CONICET, INTA, and the UNLP, developed and presented to the National Ministry of Health. These were for scientific research on medical use for refractory epilepsies (Res 891/2021). In this sense, unlike later processes like those in San Vicente, the case of GLM shows how medical and therapeutic cannabis in its initial stages were constructed as a public problem, especially in relation to children with severe epilepsies.

In addition to the issue of production as a local and cooperative-community scale, these local regulations also proposed a reframing of the problem by expanding their call for the use of cannabis in the treatment of other diseases beyond refractory epilepsy. This is mentioned in the drafts of the San Vicente ordinance, distinguishing it from the GLM ordinance, the Hurlingham measure, and the National Law No. 27350 itself.<sup>9</sup> In this sense, the extension and non-limitation to certain diseases, the incidence of the research carried out informally by local social organizations can be seen:

At the time we did surveys, in-depth interviews here in San Vicente, what prevails is pain. That is why the Roffo doctors got involved. Here in San Vicente the Program aims at accompanying the user: since it started operating two months ago, 50 people have been helped, mostly elderly and for pain. (Interview, [February 10, 2020](#))

Another element that highlights the participation of citizens mobilized for the medical and therapeutic cannabis use is the inclusion, in such ordinances, of an Advisory Council composed of medical users and/or family members of users, members of NGOs, along with professionals, members of the legislative and executive branches.

#### ***1.4. Public participation and reconfiguration of social identifications***

As previously discussed, throughout the process of the legalization of medical cannabis, citizen science materialized through a diverse repertoire of actions and situations, with varying levels of intensity, commitment, and degrees of spontaneity. This variety implies different approaches to the public participation of citizens in political decision-making.

Within what has been called an "optimistic approach" to citizen participation in technoscientific issues (Delgado 2010), the calling by government administrations (both national and municipal) to the diverse organizations of cannabis patients and users, alongside with experts, to integrate the regulatory advisory councils, can be understood as part of the logic of public consultation, of democratic openness (Rowe and Frewer,

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<sup>9</sup>Beyond the fact that the regulation in San Vicente has been discursively legitimized in cases of children with severe epilepsies – analogous to the national law and the initiatives in GLM and Hurlingham – ordinances and concrete public policies, such as the Cannabis Program implemented in the local Hospital, have also applied to other groups of users and conditions, including patients with fibromyalgia, rheumatism, ASD and pain.

2005 cited in Bucci and Neresini, 2008) but it can also be regarded as a way of addressing and restricting certain demands, like a typical mechanism of the so-called regulatory science (Jasanoff 1990). For instance, in GLM, the government administration and its allied experts promoted citizen involvement through workshops, conferences, and seminars for the presentation of cases and therapeutic experiences, although at the same time, they did so by pre-selecting the topics and their audiences.

In San Vicente and Hurlingham, citizen involvement in regulatory framework arose from patients' and users' organizations and was suggested as a way to translate their claims and forms of activism into municipal ordinances. In this way, citizens introduced concrete ideas such as the local registry of patients and growers, and community cultivation projects, elevating them to decision-making and configuring a pragmatic sense of citizen participation (Delgado 2010).

While public participation acquired different meanings within the cannabis regulatory process, these hybrid spaces enabled the reconfiguration of social identities and a moral rebranding of various prejudices related to the production and consumption of marijuana.

Among the physicians and users of medical cannabis, there was a reevaluation of cannabis for human health, shifting a conceptual framework that was once anchored in drug addiction, toxicology, and psychiatry, for a new one based on the therapeutic exploration of cannabis in the context of various medical specialties: palliative care, oncology, neuro-pediatrics and the treatment of chronic pain. The clinical restructuring of cannabis intersected the professional trajectory of several of the activist physicians. In the case of Marcelo Morante, this not only represented his alignment with an emerging disciplinary field (cannabis medicine) but also a reconsideration of epistemic frameworks that served as alternatives to evidence-based medicine.

Cannabis medicine helped me to get a little angry with the scientific society and to be condemned. Because I as a professor at the medical school, I had never had a social condemnation from the scientific society (...) But in the condemnation I experienced, I felt at some point respected, because it is more logical and more humane to be close to the mothers, than to a certain scientific society that is not willing to listen, that only receives the message of evidence-based medicine and does not receive the messages of a mother, or cannot process those messages, does not know how to interpret them, or considers it of low statistical quality. (Interview, May 3, 2017)

But this hybrid forum of cannabis regulation did not only have an impact on professionals' practices. It also had an impact on the identification of public subjectivities associated with cannabis producers and consumers within their communities. Thus, groups of friends who once organized clandestinely around the cultivation and consumption of cannabis went from being recognized within their communities as "pot-heads" [*pibes de la droga*]<sup>10</sup> to being called experts in the various workshops and neighborhood events for the socialization of medical cannabis (Díaz, 2019, 2020). There, they demonstrated all their knowledge about cultivation and – both in GLM and in San Vicente and Hurlingham – assumed the role of suppliers of plants and oils for patients' treatments.

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<sup>10</sup>Interview with GLM grower, September 14, 2021.

We are recreational users, friends for life, we used to grow for fun and relaxation. Then, around that time, three years ago, my mom got sick, and my friends and I made an oil for her. She lived a little longer. The meaning of use changed. The same thing happened to other friends with whom I shared the practice of cultivating. Then the meaning of use changed for all of us and we created ACCEDA so that other people, who needed it, like my mom, could find and use cannabis. That's when we got more into medical cannabis. (Interview, February 10, 2020)

This new productive function remained under the precepts of a shared fraternity typical of local cannabis activism (Corbelle 2016), thus shaping their new identity as supportive growers and even finding formal accreditations from government administrations, as in GLM:

For La Madrid it is very important to generate medicinal cultivation not only because of what meant legitimization in the debate, but also because what La Madrid seeks, as part of a social remedy, is to generate work for its people. And medical cannabis means generating work (...) They are going to be working on a new venture that is going to serve to open the head and in turn to develop a different social look at a plant and a medicine. (Interview with Marcelo Morante, May 3, 2017)

The resignified role of the supportive grower was mediated by continuous learning, both individually and collectively, in regard to new medical knowledge (endocannabinoid system), and the interaction between cannabis and the body (entourage effect). Likewise, greater emphasis was placed on the chemical composition of the plants; growers went from valuing marijuana for its psychoactive potential to being interested in other compounds, as well as possible therapeutic uses (Díaz 2019). In addition to local and international anecdotes on therapeutic uses, a renewed commitment to activism became centered on community health.

We see the plant. And well, from seeing the plant in general, we began to focus on the subject of extractions, in how the endocannabinoid system worked. Again, I am very curious and I started to become interested in the chemical or biochemical part of what was going on inside the body. (Interview with Cannabis La Madrid grower, September 14, 2021)

For their part, cannabis users diversified their identities by emphasizing its medicinal and therapeutic use and, in several cases, legitimized its use by distancing themselves from recreational use.<sup>11</sup> In this process, that a family or caregiver might supply cannabis to children became socially acceptable, as well as the figure of marijuana mothers gaining prominence (Rivera-Vélez 2019). Similarly, the elderly appeared within the localities as a majority group of morally acceptable users. Both mothers and seniors dabbled in cannabis cultivation and spread the word of supportive therapeutic networks and communities. These new categories of growers: mothers, grandmothers, and families, became more prominent thanks to links with professionals and activists in multiple personal encounters, but also from virtual spaces mediated by the internet, where interactions are generated around multiple topics such as cannabis cultivation, scientific research, regulatory frameworks and political actions of social organizations.<sup>12</sup>

<sup>11</sup>Various patient organizations participate in the "international day for medicinal cannabis" celebrated on November 15.

<sup>12</sup>One of these spaces is on Facebook and has about 14,000 users. The group identifies itself as "families in favor of personal cultivation for the relief and assistance of our loved ones and against purchase and sale [of cannabis]." In the rules of the group it is established that they gather to learn about growing for personal use; to find out about courses and conferences of interest, to receive the latest news about the current legal framework; to obtain guidance on various

## 2. Final comments

The process of therapeutic regulation of marijuana structured a field of negotiation of meanings, representations, and identities that, while incorporating elements and discourses of modern science, disputed aspects such as the formulation of policies based on scientific evidence by introducing alternative forms of veridiction (anecdotal evidence). At the same time, it allowed and expanded new meanings of marijuana in terms of health and solidarity production – softening the association between marijuana, drug trafficking, and addictions; it empowered new forms of trade within communities (supportive growers) and reshaped professional trajectories (cannabis doctors and researchers) inside the analyzed communities. It is remarkable how these new social identifications were made possible by the development of a citizen science for the therapeutic and medical use of cannabis based on relationships of trust enabled by local proximity, with the inclusion and cooperation of scientific, professional, and experiential expertise of users, growers, professionals, physicians, and by their advocacy and public participation in municipal regulations.

This research has observed the rise of cannabis regulation processes at the local level in Argentina, their imitative or domino effect dynamics, and their development from the impulse of a heterogeneous social base, which we analyzed in terms of citizen science. This movement produces, uses, and transmits diverse expertise on the therapeutic uses of the plant and its derivatives so as to influence its formulation as a public problem and the contents of ordinances and legislative projects. The inclusion of citizen science expertise and demands for therapeutic cannabis in local ordinances can be seen in the promotion of municipal community crops, the use of local records created by social organizations seeking to write their own public policies, such as the Cannabis Program in the San Vicente Hospital or Hurlingham Municipal Laboratory's oil production project, and finally, in the establishment of mixed Advisory Councils, made up of professionals, users, and social organizations.

Future research will deepen our understanding of the role of citizen science in the therapeutic use of cannabis in Argentina, its ability to use science and politics instrumentally to achieve regulatory changes, and the extent to which politics has nurtured the expansion of this type of citizen science to the detriment of other reforms, like, for example, decriminalization and universal legalization of cannabis.

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methods of natural preparations and access to scientific research documents; any posts regarding the buying or selling of products, or for generating profit is emphatically forbidden.



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