

The Cooperative Intelligence Platform for Primary Health Care - Strengthening Territorial Governance for the 2030 Agenda implementation

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Science and health (knowledge and human life, respectively) are one of the sectors most affected by the new paradigm of digitalization. In this context, the concept of a “Technological Platform” emerged as a metaphor that brings together the communication process and the negotiation of many stakeholders, focusing on the technology factor.

These Platforms are instruments for coordination and organization of the technical-scientific research and development, associating private and public institutions of a certain productive sector, and defining the strategic investigation agenda. While allowing the knowledge sharing between society, technicians, and academics they conform to a sociotechnical network in which intelligence – as a social competence – can promote cooperation and strengthen the resilience of the most vulnerable.

The Cooperative Intelligence Platform for Primary Health Care (Picaps, in Portuguese) has supported the information sharing and knowledge development for communities and professionals, facilitating the decision-making process on how to act on the social determinants of health, as citizens, and as health managers, supporting empowering health surveillance and allowing greater precision in Public Health Policies design and implementation.

Under the mission of strengthen the integration of primary care and health surveillance in the territories in coping with health crises, their consequences, and impacts, through development, selection, prospection, application, and diffusion of technologies innovative solutions for health, territories, and education, since the Covid-19 pandemic stroke the Picaps has played an essential role on the creation of responses to the crisis, supporting people and the health unities.

Picaps innovation ecosystem aims to promote multidisciplinary integration by implementing activities among the following axes:

- i. **Digital transformation in health** - development, and research on digital technologies to contribute to the digital transformation of the Health Secretary and fasten the combat of Covid-19 and its consequences:

Currently, is being developed a digital process map (flow design) for supporting the Federal District Health Secretary (SES-DF, from the

Portuguese) in the monitoring of Covid-19, including the analysis and improvements on the primary care surveillance process and the monitoring of tests and vaccines of Covid-19 and Influenza Syndrome. Also, for the acceleration of digitalization and implementation of digital solutions that can support the public health system during periods of crisis, a very innovative governmental call for proposals is on the going, selecting technological solutions that, through cooperation strategy between Fiocruz, SES-DF, startups, and enterprises, after the incubation period will be implemented.

- ii. **Epidemiological intelligence** - that collects, processes, analyzes, and disseminates live information on the population's living conditions, especially during pandemic:

The Platform developed a set of tools and methods applied to understand a territory in its entirety, through the integration of information from different databases. Based on the demand of the Health Council of the Federal District (CS-DF, from the Portuguese), which needed support to develop strategies to promote dialogue and formulate actions in the fight against Covid-19, the Vaccination Radar was prepared to monitor vaccination coverage. The developed panel considered Population Data, Epidemiological Data, Vaccination Data, and also Socioeconomic Data, based on the perspective of working with indicators that contemplate territorial and epidemiological surveillance, and with factors that influence the spread of the new coronavirus and the main measures to prevent and protect contamination by the virus. Among the indicators used there were: access to basic sanitation; per capita household income of up to $1/2$ minimum wage; and excessive household density.

A Participatory Cartography was also carried out to support the Multiprofessional Residency in Primary Care, as a way of identifying and analyzing the indicators from the territories they worked and enhancing the qualification of these professionals and collaborate in actions and decision-making based on the conditions and social determinants in health. Class and practical activities were prepared under the theme.

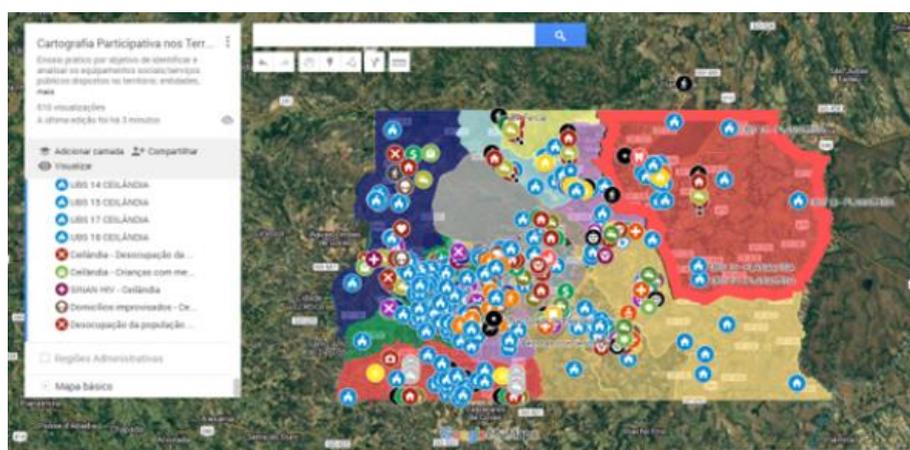


Figure 1. Participatory cartography designed during the Multiprofessional Residence on Primary Health Care.

In addition, a situation room was created, which supported more than 75 Brazilian municipalities, through incidence maps and data monitoring panels, which aimed to transform data into reports and information panels in a personalized way. The panels are designed so that in the future the municipal team itself can update and manage it in its communication and dissemination networks. Beyond delivering dashboards, Picaps offers training through video classes, with the purpose of replicating the methodology used among managers and employees of the municipal surveillance teams.

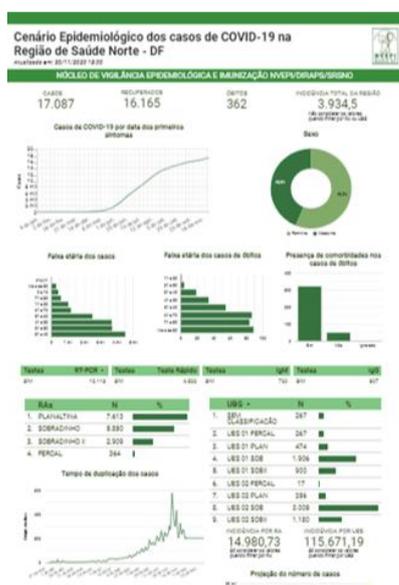


Figure 2: Epidemiological scenario¹.

- iii. **Teleorientation** - permanent and continuing education activities, both professional and popular.

In partnership with the Public Policy Management Residency Program and the Preventive Medicine Program, both delivered by the Healthy Sciences Graduation School (ESCS, from the Portuguese), Picaps has implemented the "Discipline Management of Primary Care". 180 residents, from 7 professional categories (nursing, social assistance, nutrition, psychology, physical education, pharmacy, and physiotherapy) were trained in the development of territorialization and mapping of territories, using digital tools as instruments.

There were implemented other activities related to this ax such as the Specialization in Popular Health Education in the Promotion of Healthy and Sustainable Territories; support to the Popular Health Forum in the Face of the Pandemic; publication of the Notebook of the Popular Health Agent; and the expansion of Picaps to the Rio Grande do Sul, another Brazilian State.

- iv. **The COVID-19 Territories Radar** – that activates the social-technical networks and empowers communities by creating local committees to face pandemic.

¹ Fiocruz. Picaps 2 Years report.

Picaps has promoted seminars and workshops, about health, sustainability, and prospective dialogues, increasing social participation in the decision-making, and collecting evidence-based data about the community's real needs, vulnerabilities, and strengths. As one of the main results of this education for development activities, we can mention the Post-graduation Course on Territorial Governance for Healthy and Sustainable Development (GTDSS, from the Portuguese). Among the 17 local sociotechnical networks that were activated by Picaps for the creation of Committees for the fight against Covid-19, one of the most important is the Healthy and Sustainable Committee created by the students of the GTDSS course.

Since 2017, the Oswaldo Cruz Foundation (Fiocruz), the most prominent institution of science and technology in health in Latin America, has been using these platforms as innovation tools to produce digital transformations in health and for the territorialization of the 2030 Agenda Sustainable Development Goals in vulnerable communities, such as the Estrutural City – the most vulnerable community of Brasilia, situated only 20 kilometers of the Ministries Esplanade, the Brazilian center of political power.

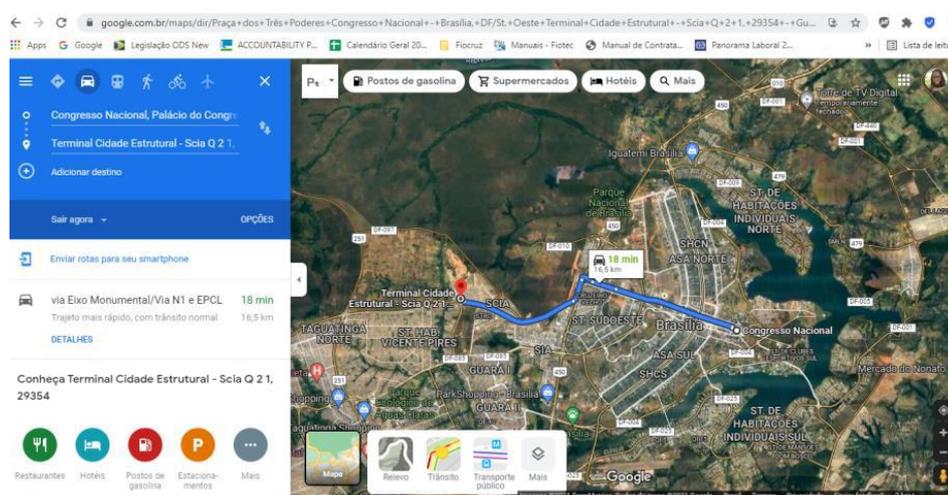


Figure 3: Distance between Estrutural City and Brazilian National Congress. Google Maps (2021).

The Structural City, which began its history in the late 1980s, when the first residents occupied the region around the largest garbage dump in Latin America - operated until 2018 - until today it is the Federal District region with the highest vulnerability rates².

One of the projects implemented by Fiocruz in this territory was the first Post-graduate Course on Territorial Governance for a Healthy and Sustainable Development, a course in Health and Social Welfare, which proposed the use of active, innovative, and challenging methodologies, to strengthen student learning, through a curriculum based on data collection, analysis, and intervention activities in vulnerable territories. The offer also proposed social empowerment with the development of Cooperative Intelligence (CI) devices, defined by Martins as

² PDAD, 2018. <http://www.codeplan.df.gov.br/wp-content/uploads/2020/06/SCIA-Estrutural.pdf>.

“The production of information systematization to guide the action of those who are part of a sociotechnical network, who want to achieve a common goal and need to be guided in the decision-making process³”.

After the declaration of an international public health emergency due to the COVID-19 pandemic a group of 6 women GTDSS post-graduation students, concerned about the effects of the pandemic in a territory marked by vulnerability, decided to apply the open science methodology learned in the classroom, to implement a project that could promote the development of capacities and social empowerment for protecting the Estrutural Community during the crisis⁴.



Photo 1: Students leaders of the CESS project distributing individual protection equipments for the Estrutural City community (2021).

The students, in partnership with the NGO Estrutural City Movement of Education and Culture (MECE, from Portuguese), registered the project “Building Social Capacities to Confront COVID-19 and its consequences” in the “National Public Call for Support to Emergency Actions Together with Vulnerable Populations”, launched by Fiocruz shortly after the beginning of the Pandemic⁵.

³ MARTINS, Wagner. O que é inteligência cooperativa? FIOCRUZ. Brasília, 2016. Disponível em: https://www.youtube.com/watch?v=W5t49tBjT_8.

⁴ Martins, W. et al. Students Final Essay. O curso de Governança Territorial Saudável e Sustentável e as ações de inteligência cooperativa, por meio da economia solidária e do uso de tecnologias sociais: análise do projeto “A Construção de Capacidades Sociais para o Enfrentamento da COVID-19 e suas Consequências nos Territórios”. 2021.

⁵ FIOCRUZ. COVID-19: Proposta voltada à cidade Estrutural é selecionada em chamada pública para ações junto a populações vulneráveis. <https://www.fiocruzbrasil.fiocruz.br/covid-19-proposta-voltada-a-cidade-estrutural-e-selecionada-em-chamada-publica-para-aco-es-junto-a-populacoes-vulneraveis/#:~:text=voltada%20C3%A0%20cidade%203E-,Covid%2D19%3A%20Proposta%20voltada%20C3%A0%20cidade%20Estrutural%20C3%A9%20seleci>

The project was approved, and the managers received a financial contribution of R\$50,000.00 (around 10 thousand dollars), valid for 6 months, from July to December 2020, to implement it. With the support of Picaps, they implemented a model of a Community Committee to combat COVID-19 in the Structural City that could be suitable for other territories.

The project's actions focused on the following axes:

1. Strengthening Solidarity Productive Arrangements: manufacture and distribution of personal protection and hygiene products.
2. Communication and community mobilization: production of information and campaigns for digital and material media.
3. Digital Interaction: teleorientation - sharing technical, scientific, and social information about the pandemic.
4. Community construction of post-quarantine strategies with a view to protecting the population.

These axes were guiding for the following objectives:

- Connection of people, social movements and institutions that carry out solidarity actions, in vulnerable territories, to face COVID-19 and to prepare responses in the post-outbreak period.
- Promotion and strengthening of the solidarity economy, based on the production and distribution of products for individual protection, personal and collective hygiene, and community preparation for the post-outbreak period.
- Carrying out social communication to raise awareness of the importance of social distancing, individual protection, and personal and collective hygiene to reduce the spread of COVID-19.
- Promotion of the use of cooperative intelligence, through the systematic exchange of socio-technical knowledge regarding threats, vulnerabilities, and local resilience capacities.
- Promotion of fundraising campaigns for the sustainability of solidarity actions and for the expansion of these actions, during and after the outbreak
- Stimulation of the integration of teaching, research, and extension among partner institutions.

The expectation was that the actions would reach vulnerable families from all sectors of Structural and, for that, the project managers decided to focus on 350 families living in extreme vulnerability situations and risk groups for COVID-19, of which most had not received other types of aid for individual protection in the pandemic period.

To allow the project to effectively contribute to the promotion of a solidarity network and the strengthening of the local economy, all the people hired as service providers were residents of the community. Which included the producers of masks, soap, and communication materials.

A Strategic Communication Plan was created. One of the first communication actions was the formalization of the project model in a committee format, called Healthy and Sustainable Structural Committee (CESS, from the Portuguese). In addition to facilitating interaction with beneficiaries and partners, the more friendly name facilitated the

integration between all the stakeholders: the management committee, territorial agents, NGO representatives, and the local community.

To mobilize the community and increase the dissemination of evidence-based information about the pandemic and the necessary prevention measures to face the virus, campaigns were carried out on local radios, podcasts, cultural contests, knowledge workshops and pages were created on social networks such as Facebook and Instagram⁶.

On these pages were published content about the CESS, information about the Sustainable Development Goals (SDGs) and their connection with the rights of the population determined by the Federal Constitution, and data on the evolution of the disease in the territory extracted from the Panel COVID-19 from the Government of the Federal District and information to fight against fake news. All the material was prepared in partnership with Picaps and the Epidemiology Center of Fiocruz Brasília, and the project managers adapted the scientific language to the local one.

An amount of 708 liters of soap, 708 bars of soap, and 2,000 masks were distributed among the 354 families. Aiming to keep promoting sustainability and empowering the chain of solidarity, even after the end of the project, a Resilience Fund was created to expand actions in the post-outbreak, with support from the community bank of Estrutural City.



Figure 4: CESS Resilience Fund campaign based on the SDGs. (2021).

The project was refinanced by Fiocruz, with R\$50.000,00 reais, and the second phase was implemented between April and September 2021. With the objective focused on promoting education activities and building resilience, the managers created teaching materials, face-to-face training courses, and tutorials - online and free, about important

⁶ <https://www.instagram.com/comiteestrutural/>

topics for the pandemic and post-pandemic period: nutrition⁷, community gardens, production of soap and masks for sale.

The students, who graduated in 2021 as Territorial Agents, ready to promote the implementation of the 2030 Agenda in their communities, have to date, reached more than twelve thousand people directly, with the support of Picaps, disseminating information about how to face Covid-19 and distributing personal protective equipment for the city residents.

Currently, one of the results of these student's initiative is the recognition of their project at the governmental and international levels, which influenced the current implementation in the city of the Project Immunize Estrutural, a partnership between the Pan-American Health Organization (PAHO) and Fiocruz Brasilia, coordinated by Picaps and locally supported by former CESS managers, today hired as Territorial Agents by the two organizations.

The Immunize Estrutural has as its main goal the improvement of vaccination rates and better monitoring of the local health situation, through community mobilization and the use of digital cartographies and epidemiological dashboards.

Considering that education is the way to social freedom, the enhancement of the capacities of transforming reality, and reinforcing the idea that development projects are only effective when diversity and inclusion are considered, Fiocruz, through Picaps, aims to continue implementing activities that are designed and implemented together with the community representatives, leaving no one behind. A new post-graduate course was approved and will soon be implemented using the methodology in other vulnerability communities.

⁷ Booklet. Economia Doméstica. Dicas saudáveis e sustentáveis.
<https://www.linkedin.com/feed/update/urn:li:activity:6857445550632005632>