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EXPERIENCE REPORT

Adolescent leadership in the In-Person Innovation Workshop for the Digital Health Booklet for Adolescents

O protagonismo de adolescentes na Oficina de Inovação Presencial da Caderneta Digital de Adolescentes

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DOI: 10.1590/2358-28982026E110947I

ABSTRACT This article presents an account of the development of the Digital Health Booklet for Adolescents (CDA), a mini-app within the Meu SUS Digital platform designed for adolescents aged 12 to 19. This initiative was carried out by the Ministry of Health in partnership with the Oswaldo Cruz Foundation, the United Nations Children's Fund, and the German Oswaldo Cruz Hospital. The report describes the main stages of the process, emphasizing the in-person Innovation Workshop, its challenges and potentials, and the leading role of adolescents as a strategy for strengthening comprehensive care and citizenship in public health. The participatory methodology involved nine virtual workshops and one in-person workshop to define the CDA's content, formats, and language. Contributions focused on health communication and education; accessibility and digital inclusion; protection and security; adolescent engagement; and comprehensive care and mental health. The experience revealed the critical and creative abilities of adolescents in the construction of public policies, challenging adult-centered practices and expanding the legitimacy of social listening within the Brazilian Unified Health System (SUS). Overall, the findings show that participatory methodologies improve the effectiveness of health actions and reaffirm the SUS as a democratic space for the collective production of the right to health.

KEYWORDS Social participation. Teenage protagonism. Digital health.

RESUMO *O artigo apresenta um relato de experiência do processo de construção da Caderneta Digital de Adolescentes (CDA), miniaplicativo no Meu SUS Digital destinado a adolescentes de 12 a 19 anos, iniciativa do Ministério da Saúde em parceria com a Fundação Oswaldo Cruz, o Fundo das Nações Unidas para a Infância e o Hospital Alemão Oswaldo Cruz. O relato descreve as principais etapas do processo, com ênfase na Oficina de Inovação Presencial, seus desafios e potencialidades, e destaca o protagonismo de adolescentes como estratégias de fortalecimento do cuidado integral e da cidadania no campo da saúde pública. A metodologia participativa envolveu nove oficinas virtuais e uma presencial, para definir conteúdos, formatos e linguagens da CDA. As contribuições foram sobre comunicação, linguagem e educação em saúde; acessibilidade e inclusão digital; proteção e segurança; engajamento de adolescentes; e cuidado integral e saúde mental. A experiência revelou a capacidade crítica e criativa de adolescentes na construção de políticas públicas, tensionando práticas adultocêntricas e ampliando a legitimidade da escuta social no Sistema Único de Saúde (SUS). Concluiu-se que metodologias participativas potencializam a efetividade das ações em saúde e reafirmam o SUS como espaço democrático de produção coletiva do direito à saúde.*

PALAVRAS-CHAVE *Participação social. Protagonismo adolescente. Saúde digital.*

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Introduction

Adolescents and young people face health needs that are often overlooked by traditional approaches. They are generally seen as a healthy group, and attention to their well-being is frequently limited to sexual and reproductive health issues[1]. However, they are rights-holders whose lives are shaped by inequalities of class, race, gender, and territory[2-4], and who often experience neglect when it comes to care that is tailored to their specific developmental needs. This gap can lead to both immediate and long-term health problems, linked to social vulnerabilities and exposure to violence, as reflected in high rates of mortality from external causes[5] and persistent historical inequalities that directly impact their rights and opportunities. Moreover, their habits and behaviors are increasingly shaped by digital media and social networks, underscoring the need for innovative and accessible strategies to support their health and well-being.

Considering these specificities, the Ministry of Health developed the printed version of the Adolescent Health Booklet (CSA) in 2008, aimed at young people aged 10 to 16. The CSA was the outcome of a 2007 pilot project conducted in eight Brazilian municipalities, which involved focus groups of adolescents and health professionals to ensure that its content reflected their experiences and perspectives. Its primary goal was to provide guidance on key aspects of puberty and health care, supporting the monitoring of growth and development.

The CSA covered key topics organized around the themes of health promotion, prevention, and care, using accessible language and available in both male and female versions—a format that, while reflecting the context of the time, conveys a binary understanding of gender. It was officially incorporated into the Unified Health System (SUS) in 2009, as part of the School Health Program (PSE), and was widely distributed until 2018. Studies on the CSA's implementation show that its use, integrated into the daily routines of Primary Health Care (PHC) professionals, served as a strategic tool to strengthen comprehensive adolescent health care, in line with the SUS's guidelines[1].

The suspension of the printing and distribution of the CSA during the Bolsonaro administration (2019–2022), justified on the grounds of alleged inappropriate content, revealed a conservative shift in public health policy, marked by restrictions on addressing topics such as diversity and sexual and reproductive rights. This interruption reflected a move toward a moralizing approach to public policy, with negative implications for the promotion of comprehensive health and for adolescents' rights to information.

In 2023, following the presidential election, the Ministry of Health—recognizing the need to respond to the growing demand for digital content—introduced an innovation by establishing the Secretariat for Information and Digital Health (SEIDIGI) to expand access and promote comprehensive and continuous health care. As part of this initiative, the Coordination for Adolescent and Youth Health Care (COSAJ) proposed to SEIDIGI the development of the Digital Adolescent Health Booklet (CDA), designed to facilitate access to health information for adolescents aged 12 to 19 across Brazil. Featuring relevant and accessible content aimed at strengthening youth agency and promoting comprehensive care within the SUS, the CDA will be available as a mini-app within Meu SUS Digital.

The project received support from the Sergio Arouca National School of Public Health of the Oswaldo Cruz Foundation (ENSP/FIOCRUZ), the United Nations Children's Fund (UNICEF), and the Oswaldo Cruz German Hospital (HAOC). In a country home to 28 million adolescents[6] and marked by significant sociocultural diversity, the development of the CDA was guided by the principles of the Statute of the Child and Adolescent—particularly those of absolute priority, participation, and the right to

information[7]. It represented a concrete opportunity to incorporate adolescents' active participation in the formulation of public health policies. The process sought to move beyond individualistic and curative approaches, reaffirming the right to health as a collective good.

Public participation has tangible implications for the development of public policies that are aligned with people's lived realities. It requires creativity and a diversity of spaces that enable both the expression of dissent and society's active engagement with communication processes. Ultimately, it is an exercise in citizenship—one that strengthens democracy and helps reframe health as a collective good, in contrast to the still-dominant individualistic and curative approaches[8-10]. In this context, the social participation of adolescents—historically a silenced group—becomes even more significant. Ensuring their inclusion in the development of public policies is essential, particularly those related to health promotion, prevention, and comprehensive health care[11], while recognizing their capacity to reflect on and influence issues that directly affect their lives.

Thus, this article provides a reflective account of the process behind the development of the CDA, outlining its main stages with a focus on the In-Person Innovation Workshop—a central phase for listening, dialogue, and collaborative design. It also examines the challenges and opportunities encountered and discusses how adolescent participation and agency have emerged as key strategies for strengthening comprehensive care and enhancing citizenship within the field of public health.

By prioritizing adolescents' agency in shaping the content, the aim is to highlight how their active listening and meaningful engagement are essential for creating public policies that are more effective, inclusive, and responsive to the diverse realities of this age group. In this sense, the CDA experience becomes a concrete example of democratic innovation and comprehensive care, reaffirming the SUS as a legitimate space for the collective expression and construction of the right to health.

Material and methods

This is a reflective account of the institutional development of the CDA, led by the Ministry of Health in interinstitutional collaboration with ENSP/FIOCRUZ, UNICEF, and HAOC, from September 2024, with the active participation of adolescents between March and July 2025 in both virtual and in-person workshops. The aim was to develop a mini-app linked to Meu SUS Digital, designed to promote comprehensive care, expand access to health information, and strengthen adolescents' autonomy.

The methodology was guided by the principles of Popular Education in Health and social participation within the SUS, emphasizing horizontal and dialogic practices[9,12,13]. The process was organized into four main stages: 1) updating and adapting the CSA content; 2) virtual workshops; 3) the In-Person Innovation Workshop; and 4) the systematization of contributions and content validation.

The experience analyzed in this article refers specifically to the In-Person Innovation Workshop, Stage 3, held in Brasília (DF), which aimed to discuss the navigability, format, and language of the CDA.

For clarity, in this article, the term technical team refers to the COSAJ and ENSP teams, who were primarily responsible for developing the CDA content; the term institutional team refers to the COSAJ, SEIDIGI, ENSP, UNICEF, and HAOC teams, who oversaw the operational implementation of the CDA.

As this is an institutional experience report, the study did not require submission to a Research Ethics Committee, in accordance with Resolution No. 510/2016 of the National Health Council[14]. Nonetheless, it adhered to ethical principles of meaningful listening, participant anonymity, and free informed consent.

Stage 1. Updating and adapting CSA content for the CDA

In the first stage, the technical team conducted a survey with the adolescent health technical teams from the states and capitals, as well as from State and Municipal Health Secretariats, with the aim of identifying content to be included in the CSA and assessing the relevance of a digital version. All consulted technical references supported the digital format and highlighted four new topics to be incorporated into both the CSA and the CDA: violence, mental health, gender issues, and the harmful use of alcohol and other drugs.

Next, the technical team updated the CSA content, aiming to align it with contemporary adolescent experiences and the language of digital communication. The new topics were incorporated, and the material was reorganized into nine thematic blocks to facilitate content validation with adolescents in the virtual workshops: 1) Me, an Adolescent with Rights; 2) Growing with Dignity; 3) Prevention and Harm Reduction; 4) Mental Health – Managing Emotions; 5) Well-Being; 6) Sexual and Gender Diversity and Masculinities; 7) Addressing Violence and Racism; 8) Diverse Conditions and Inclusion; and 9) Sexual Health and Prevention.

Stage 2. Virtual Workshops

To validate the content updated by the technical team, virtual workshops were conducted with adolescents. The first step involved forming an Adolescent Committee, composed of 15 participants (*table 1*), who were invited through recommendations from the technical team and UNICEF. Priority was given to adolescents already involved in health and social participation initiatives, such as the Nucleus of Adolescent Citizenship (NUCA/UNICEF), and to groups that had previously participated in Ministry of Health activities, such as the Garotas de Vermelho (Girls in Red) collective (Porto Alegre, RS). The Committee's role was to assist the technical team in defining invitation strategies and communication with workshop participants, as well as to facilitate discussions between adolescents and the institutional team, fostering a welcoming and safe environment.

Table 1. Adolescent Committee participating in the development of the CDA virtual workshops

	Variable	n (n = 15)	%
Age	15 years old	2	13.3
	17 years old	3	20.0
	18 years old	4	26.7
	19 years old	6	40.0
Region of origin	North (AM, PA)	2	13.3
	Northeast (CE, MA, PE)	9	60.0
	Center-West (DF)	1	6.7
	Southeast (ES, RJ)	2	13.3
	South (RS)	1	6.7
Ethnic-racial self-identification	White	5	33.3
	Brown (Parda)	6	40.0
	Black	1	6.7
	Indigenous	3	20.0
Gender identity	Cisgender girl	10	66.7
	Cisgender boy	4	26.7
	Transgender boy	1	6.7
Disability	No disability	13	86.7
	Physical disability	2	13.3

Source: Adolescent Committee Participant Form (2025).

The workshops were promoted through an electronic registration form, with a limit of 200 participants, targeting adolescents aged 13 to 16—the age range chosen as it corresponds to the midpoint of adolescence and helps ensure equity in online interactions. The public call was widely disseminated in partnership with state and municipal adolescent health reference centers, UNICEF-supported collectives, schools affiliated with the School Health Program (PSE), and the social media networks of institutional team professionals.

The registration form included questions on sociodemographic characteristics, health-related consumption and information habits, topics of interest according to the previously defined thematic blocks, and availability to attend the welcome meeting—a mandatory session that introduced the objectives of the CDA and the format of the virtual workshops. Duplicate responses, responses from individuals outside the target age range, or those who did not confirm attendance at the welcome meeting were excluded.

The call remained open until the maximum number of registrations was reached. In total, 195 valid responses were received, of which 165 fell within the defined age range; however, only 130 adolescents confirmed their interest, and 117 provided a valid phone number for contact. Thus, 117 adolescents from 15 states in the five Brazilian regions were invited to attend the welcome meeting (*table 2*). After that, participants were assigned to thematic blocks according to their topics of interest, with an average of ten adolescents per block.

Table 2. Adolescents invited to the virtual workshops based on the participation criteria

	Variable	n (n = 117)	%
Age	13 years old	46	39.3
	14 years old	33	28.2
	15 years old	25	21.7
	16 years old	13	11.1
Region of origin	North (AC, AM, PA)	6	5.1
	Northeast (AL, MA, PB, SE)	84	71.8
	Center-West (DF, MT)	2	1.7
	Southeast (MG, RJ, SP)	11	9.4
	South (PR, RS, SC)	14	12.0
Ethnic-racial self-identification	White	29	24.8
	Brown (Parda)	68	58.1
	Black	11	9.4
	Indigenous	6	5.1
	Asian	3	5.6
Gender identity	Cisgender girl	66	56.4
	Cisgender boy	47	40.2
	Other / Don't know / No response	4	3.4
Disability	Without disability	109	93.2
	With disability (intellectual, multiple, psychosocial, visual)	8	6.8

Source: Participant Form of the CDA virtual workshop (2025).

To validate the methodology of the upcoming workshops, a virtual pilot workshop was conducted with the Adolescent Committee. During this session, both the methodological format and the content of Block 1 were validated. In collaboration with the adolescents,

an internal form was then used to select the mediators for the remaining thematic blocks, who would work alongside the technical team.

Following this selection, the technical team held alignment meetings with pairs of adolescent mediators, encouraging them to read the texts in advance and to engage the other participants. During the virtual workshops, the groups critically analyzed the content of each block, suggesting adjustments to the language and approach to make the topics closer to young people's lived experiences. Information was also collected on habits, needs, and suggested functionalities for the mini-app, which would be addressed in the in-person stage. Despite the high number of registrations, the average effective participation was six adolescents per block.

Stage 3. In-Person Innovation Workshop

The In-Person Innovation Workshop was held in Brasília (DF) to further advance the co-creation of the CDA mini-app, building on contributions collected during the virtual workshops. Twenty-five invitation letters were sent to adolescents aged 12 to 19 who had participated in the virtual workshops of the Adolescent Committee and the National Council for the Rights of Children and Adolescents (CONANDA). Selection prioritized diversity in region, ethnicity, gender, sexual orientation, disability, and membership in traditional communities, including rural, riverine, forest, and urban populations. All participants provided, when required, a signed authorization form from their legal guardians.

While the virtual workshops focused on content validation, the in-person workshop aimed to test the functionalities, formats, and visual language of the Meu SUS Digital mini-app. Participatory methodologies[15] were employed, including focus group dynamics—'life moments', 'persona development', and user journey'—as well as usability testing and Design Sprint[16], all conducted by the institutional team. These methods ensured meaningful feedback on the appropriateness of the content and the user experience in relation to adolescents' needs and preferences.

To address the asymmetry between adults and adolescents, the facilitation of activities in the In-Person Innovation Workshop was grounded in the recognition of adolescents as rights-holders, endowed with their own desires, narratives, and critical capacity to reflect on their experiences. This approach went beyond responding to pre-structured questions; instead, it created space for participants to formulate their own ideas, going beyond the scripted activities and aligning with Severino's perspective on the importance of formative processes rooted in critical reflection, intellectual autonomy, and valuing experience as a foundation for knowledge construction[17].

The In-Person Innovation Workshop brought together 24 adolescents from 11 Brazilian states and the Federal District, representing all regions of the country (*table 3*). The predominant age range was 15 to 16 years old. In terms of race/ethnicity, participants included White, Brown (Pardo), Black, and Indigenous adolescents, reflecting the country's ethnoracial diversity. The workshop also included diverse gender identities—such as cisgender, transgender, and non-binary—and a range of sexual orientations, including heterosexual, bisexual, homosexual, and pansexual. Additionally, adolescents with physical and visual disabilities, as well as those on the Autism Spectrum (ASD), were present, highlighting the commitment to accessibility and inclusive engagement.

Table 3. Adolescents participating in the CDA In-Person Innovation Workshop

Variable		n (n = 24)	%
Age	12 years old	2	8.3
	13 years old	3	12.5
	14 years old	3	12.5
	15 years old	4	16.7
	16 years old	5	20.8
	17 years old	1	4.2
	18 years old	3	12.5
	19 years old	3	12.5
Region of origin	North (AC)	2	8.3
	Northeast (BA, MA, PB, PE)	8	33.3
	Center-West (DF, GO)	6	25.0
	Southeast (ES, RJ, SP)	4	16.7
	South (PR, RS)	4	16.7
Ethnic-racial self-declaration	White	10	41.7
	Brown (Parda)	10	41.7
	Black	3	12.5
	Indigenous	1	4.2
Gender Identity	Cisgender girl	12	50.0
	Cisgender boy	7	29.2
	Transgender boy	3	12.5
	Transgender girl	1	4.2
	Non-binary	1	4.2
Sexual Orientation	Heterosexual	16	66.7
	Bisexual	4	16.7
	Homosexual	2	8.3
	Pansexual	1	4.2
	None	1	4.2
Disability	No disability	19	79.2
	Physical	2	8.3
	ASD	2	8.3
	Visual	1	4.2

Source: Participant Form of the CDA In-Person Innovation Workshop (2025).

On the following two days—the third and fourth—the activities were conducted exclusively by the institutional team, focusing on systematizing the contributions received and analyzing the feasibility of the proposals using the Design Sprint methodology. On the fifth and final day, the prototype was tested in five public schools and health services in the Federal District with adolescents aged 12 to 18, representing diverse gender identities, sexual orientations, races/ethnicities, and places of residence. This stage aimed to evaluate the functionality, usability, and suitability of the application for the actual needs of its users.

All costs for travel, accommodation, meals, and participation were fully covered by the Ministry of Health, HAOC, UNICEF, and ENSP/FIOCRUZ.

Stage 4. Systematization of Contributions and Content Validation

In this stage, the technical team adapted the content based on the requests made by adolescents during the virtual and in-person workshops. SEIDIGI presented the final report, which resulted from the In-Person Innovation Workshop, and, in partnership with the technical team and UNICEF, conducted a mini-workshop focused

on conceptualizing functionalities, identifying needs, and prioritizing content inclusion in the mini-app. Considering that the first version of the mini-app is scheduled to be released on Meu SUS Digital in 2026, publication was planned in two stages: the initial version (V1), including primary functionalities, and a subsequent version (V2), incorporating improvements to V1 and the additional functionalities, whose development requires greater complexity and time.

In addition to the functionalities, the workflow for inserting content that had been previously indexed and validated was defined as a single batch to be officially released. As part of this stage, a Service Order (SO) was prepared—a document that organizes the production request for the mini-app and its official layout, to be delivered to the company responsible for its development.

Adolescent participation in the CDA In-Person Innovation Workshop: between listening and authorship

The In-Person Innovation Workshop, designed as a space for meaningful listening and co-authorship, generated significant developments in the construction of the CDA—successfully achieving the intended objectives of expanding thematic content, enhancing accessibility, and refining the format. Moreover, it demonstrated that the participation of adolescents with diverse trajectories and social markers—such as age, federal region, race/ethnicity, gender identity, sexuality, and corporealities—creates tensions between technical knowledge and situated, lived knowledge. According to Rodó-de-Zárate, intersectionality requires more than simply naming social markers; it calls for confronting the conflicts, silences, and asymmetries that arise from differences among these individuals[18]—a principle that guided the methodological approach of the process.

Overall, the adolescents' contributions primarily impacted five dimensions of participation (*box 1*), identified from their main demands and issues and discussed through proposed ideas and suggested solutions: communication, language, and health education; accessibility and digital inclusion; protection and safety; youth representation and agency; and comprehensive care and mental health.

Box 1. Contributions of adolescents in the CDA In-Person Innovation Workshop

Dimension of participation	Main demands and issues	Proposals and suggested solutions
Communication, language, and health education	Lack of access to reliable information on sexuality, menstruation, harassment, and gender and racial diversity; institutional language disconnected from adolescents' lived realities; lack of opportunities for dialogue and digital literacy.	Use of welcoming language close to spoken language; artificial intelligence chatbot adapted to youth language; interactive media (videos, comics, podcasts).
Accessibility and digital inclusion	Exclusion of adolescents without internet access or a Gov.br account; lack of accessibility resources for persons with disabilities or neurodivergent individuals; limited inclusion of transgender and Indigenous adolescents in health services.	Simplified login, offline and free access to the app; inclusive interface; clear language without slang; audio description; Libras interpreter; discussion forums; public internet access spaces; learning pathways and useful links; content customization according to the user's location and profile.

Box 1. Contributions of adolescents in the CDA In-Person Innovation Workshop

Dimension of participation	Main demands and issues	Proposals and suggested solutions
Protection and safety	Exposure to violence and discrimination (racism, transphobia, and sexual violence), limited access to reporting channels, and the need to ensure safe environments for adolescents.	Ombudsman channel and 24-hour chat for guidance and filing police reports; inclusion of social name without adult mediation; content on rights and protection against violence.
Youth representation and leadership	Invisibility of diverse groups and territories; bureaucratic barriers to social participation; lack of spaces for adolescents to speak and be heard; and a growing disconnection between adolescents and the Ministry of Health.	Games and interactive spaces on health; youth councils and groups; ombudsman for adolescents; geolocation of services; national network of adolescents in the Unified Health System SUS; influencers and adolescents as content mediators.
Comprehensive care and mental health	Unequal access to the public health system (SUS), insufficient mental health support and welcoming care, lack of strategies for self-care and harm reduction, overload from balancing school and work, and the negative impact of social media.	Content on harm reduction, sexuality, and self-care; alerts for excessive screen time; integrative practices (music, yoga, dance); content in drawings and animation; tips on nutrition and leisure; age-based personalization

Source: Institutional Report of the CDA In-Person Innovation Workshop (2025).

In the domain of 'Communication, language, and health education', adolescents advocated for the use of terms closer to everyday speech, non-prescriptive, and aligned with their cultural repertoires, as well as more playful formats such as videos, comics, and interactive media, challenging traditional formats of institutional communication. They also highlighted the potential of new technologies, including artificial intelligence and content customization according to different user profiles, as strategies for inclusion and engagement. The tensions around language went beyond mere communicative adequacy, revealing epistemological debates about how to make health knowledge produced by and for adolescents both accessible and engaging. In this sense, the demand for accessible language also reflects a claim for the recognition of adolescents' knowledge about their own bodies, health, and daily lives.

In the dimension of 'Accessibility and digital inclusion', participants raised concerns about barriers to accessing Gov.br and called for features such as audio description, Brazilian Sign Language (Libras), offline mode, and low-data usage—not as optional suggestions, but as requirements for full accessibility. They were also emphatic in requesting the incorporation of social markers, including gender, race/ethnicity, sexuality, disability, territory, and educational background, as well as narratives representing diverse realities. These proposals reflect an expanded understanding of accessibility, integrating technological infrastructure with recognition of identity.

Everyday exposure to violence and discrimination, combined with the lack of accessible reporting channels, strongly shaped discussions around 'Protection and safety'. In response, adolescents proposed 24-hour ombudsman services or chat support with real professionals, as well as the ability to file police reports. Furthermore, advocating for access to the mini-app without adult mediation reflects the desire for a safe space to affirm identities and exercise autonomy—a central dimension of digital citizenship.

'Youth representation and agency' emerged as central themes of the experience. Adolescents highlighted the lack of spaces for meaningful listening and the distance between youth and the Ministry of Health, calling for permanent channels for dialogue

and participation. Their proposals for new exchange mechanisms—such as educational games, positive influencers, and interactive spaces integrating health knowledge with their everyday experiences—point to the need to reorganize health and education practices around dialogical and affective forms of communication[19]. Understood as a horizontal pedagogical practice, dialogue assumes that everyone has something to teach and to learn; it is a means of raising awareness, fostering humanization, and promoting autonomy. The creation of spaces for dialogue thus becomes a practice of citizenship, a way to reconstruct social relationships, and a strategy for promoting mental health[20].

'Comprehensive care' was challenged by adolescents' perceptions of unequal access to the SUS, a lack of support in mental health, and the absence of harm reduction[21] strategies related to drug use and social media. These gaps highlight the historical distance between the Ministry of Health and youth, which was widened during the years of conservative policies. In contrast, adolescents' proposals reaffirm the right to comprehensive, engaging, and personalized information that values the diversity of adolescent experiences.

These contributions not only enhanced the content but also repositioned adolescents as curators of language and form, expanding the boundaries of what is understood as health information and constituting an exercise of epistemic agency[22]. Their proposals revealed a sophisticated understanding of accessibility and communication as rights and ethical benchmarks for digital public policies.

The workshop experience allowed for the questioning of hegemonic, narrowly defined participation practices and adult-centered logics of information production, through dialogues among participants and the collectivization of knowledge, rather than being limited solely to the specialist's perspective[23]. This approach guided the listening process during the workshop, enabling adolescents to formulate proposals—unlike the pattern identified by Táparo et al., in which adolescents are generally involved only in data collection[24]. In the workshop, they participated in the analysis, formulation, and prioritization of digital content and formats, thereby repositioning their role in policy-making.

This process generated institutional learning, fostering closer alignment with adolescents' lived experiences and challenging the institutional team to acknowledge the tensions between the discourse of comprehensive care and the actual practice of attentive listening. By asserting the centrality of issues such as mental health and rights, adolescents exposed the divide between technical expertise and the situated knowledge of young people. Thus, knowledge was produced not for adolescents, but with them—as subjects who mobilize their own repertoires, experiences, and interests and challenge the very scope of public health policies. In line with international experiences[25], the CDA highlights conflict as a democratic driver of participation, strengthening active citizenship and repositioning adolescents as legitimate interlocutors within the SUS.

The analysis presented here takes the In-Person Innovation Workshop as a synthesis of the CDA development process, as it brings together key challenges and possibilities of adolescent social participation in the formulation of digital public health policies. In this context, meaningful social participation requires recognizing adolescents not merely as informants, but as actors capable of influencing decisions, defining priorities, and shaping the meanings of health, care, and digital citizenship. Such an approach also requires challenging traditional institutional modes of policy-making.

Challenges and limitations of the experience

Although the CDA In-Person Innovation Workshop represented an innovative strategy for incorporating adolescent social participation into public policy formulation, it also

revealed the structural and institutional limits inherent to such initiatives. The country's extensive territory, budgetary constraints, and the impossibility of interstate travel for unaccompanied adolescents acted as selective factors, limiting national representativeness and the diversity of experiences.

Despite the diversity of participants, adolescents aged 15 to 16 were overrepresented, mostly from the Federal District, Maranhão, and Rio Grande do Sul, and were predominantly white or brown, cisgender, heterosexual, and without disabilities. Thus, although the discussions were rich and meaningful, the composition did not achieve an ideal level of representativeness capable of reflecting the full diversity of Brazilian adolescents, including variations in geography, race/ethnicity, corporealities, cultures, sexualities, and gender identities.

The difficulty in recruiting adolescents from all states and age groups for the virtual workshops was partly due to time constraints and the need for rapid mini-app development, which limited broad dissemination through the Ministry of Health's official platforms. Mobilization efforts, coordinated with UNICEF and adolescent health focal points in state and municipal health departments, produced a diverse yet still limited sample, constraining the transformative potential of the participatory process.

The cap of 25 adolescents for the in-person workshop was another important limitation, given that the project aimed to deliver a nationwide reach product. Although the technical team sought to ensure equal representation between adolescents and adults, adults accounted for the majority of participants. This was largely due to the need for technical and institutional support, families' reluctance to allow adolescents to travel unaccompanied, and specific requests from adolescents with ASD, who are entitled to attend the workshop with companions. As a result, imbalances emerged in the participatory dynamics. While the CDA methodology created space for attentive listening and for participants to propose meaningful content, institutional asymmetries remain, hindering adolescents' full transition from being merely 'consulted' to true 'co-authors' throughout the public policy cycle[22].

Beyond these challenges related to representation and equity, some of the adolescents' proposals—such as a 24-hour chat with real professionals, discussion forums, and reporting channels—proved unfeasible in the current context, as they would require technical, financial, and human resources that are not currently available. Similarly, although widely questioned by the adolescents, the requirement that the mini-app be linked to Gov.br must remain in place. While this requirement creates an additional barrier to access, it is necessary to ensure security and proper integration in interactions between citizens and government services.

Finally, structural barriers related to connectivity, digital accessibility, and territorial inequality continue to pose significant challenges. These must be addressed if adolescents' participation in digital policies is to move beyond a merely consultative role and become genuinely deliberative and transformative. These constraints underscore that institutionalizing youth participation in digital policymaking requires confronting the structural inequalities that permeate the Brazilian state and limit its capacity to ensure the effective exercise of the right to social participation.

Lessons learned and implications for public policy and future initiatives

Adolescent leadership—central to the development of the CDA—represented an innovation in the process of designing digital public policies for adolescents by incorporating their voices directly into the development

of content and decision-making. For the participants, this experience meant recognition of their lived experiences, knowledge, and capacity for agency, reinforcing the legitimacy of social participation in the field of public policy. However, replicating this model in other initiatives will depend on the institutional capacity to address persistent structural challenges, particularly those related to representation, diversity, and the effective and sustained engagement of adolescents.

It is therefore suggested that future initiatives—including future updates of the CDA—adopt a longer timeline, allowing more time for social mobilization and coordination with state and municipal adolescent health focal points. This would help broaden the selection pool and strengthen the diversity and representativeness of participants. Additionally, territorial micro-workshops could be organized, or territorial adolescent committees could be supported, enabling adolescents selected by their peers to represent them at the national level. In this role, they could act as spokespersons for local discussions and priorities, ensuring greater reach and plurality in the participatory process. Finally, striving for parity between the technical team and adolescent participants should remain an ethical and methodological objective, helping to balance power relations and foster more horizontal dialogue within the collective decision-making space.

The experience of the CDA and the in-person Innovation Workshop offers valuable insights for improving participatory methods and enhancing adolescents' digital citizenship in public health policies. Moreover, the development of a mini-app to make health knowledge more accessible—particularly in the absence of other digital tools co-created with adolescents in the SUS that respond to their interests and needs—demonstrates the initiative's significance and its potential impact.

Final considerations

The experience described, focused on the active participation of adolescents in the in-person Innovation Workshop for the development of the CDA, confirms that incorporating participatory methods allows not only the improvement of technical products but also the questioning of institutional and epistemological practices. The process enabled the expansion of content, the enhancement of accessibility features, and the testing of communication formats more closely aligned with the diverse repertoires of adolescents, while also broadening the proposing teams' understanding of both the reach and the limits of social participation within institutional contexts.

By placing adolescents at the center from the very beginning, the experience demonstrated the value of active listening and meaningful participation. In this context, the CDA will structure its content to bring professional expertise together with adolescents' own experiences. This approach is expected to support wider use of the CDA by adolescents nationwide, offering a concrete example of democratic innovation and comprehensive care, and reinforcing social participation in the SUS through authentic spaces for expression and collective shaping of the right to health.

The intersectional approach adopted in the process allowed for the recognition of historical inequalities and exclusions tied to social markers such as gender, race, sexuality, disability, and territory. Yet structural challenges continue to limit adolescents' full participation, including barriers posed by the country's vast size, unequal access to mobility and connectivity, and institutional, adult-centered frameworks that still shape participatory mechanisms. These obstacles underscore the need to strengthen strategies for mobilization, inclusion, and representation, supported by longer timelines and additional resources to ensure greater equity and diversity throughout the process.

The practical use of participatory methods with adolescents in developing the CDA repositioned them as both knowledge holders and political actors, contributing to institutional learning. The experience reaffirmed the SUS as a legitimate space for listening, citizenship, dialogue, and the collective construction of the right to health. By recognizing adolescents as informed interlocutors, the process helped shape a public policy that is more plural, inclusive, and responsive to the complex and diverse realities of adolescence in Brazil.

As Santos and Vianna[26] note, listening to the diverse realities of adolescents directly shapes the relevance and quality of public policies, prompting meaningful institutional change. In this sense, the CDA goes beyond introducing a digital health tool: it reinforces a political practice of developing policies *with* adolescents rather than merely *for* them, reaffirming the SUS's ethical commitment to comprehensive care, democratic principles, and social justice.

Authorship contributions

Carvalho MB (0000-0001-6860-5194)* made substantial contributions to the study's conception and design, data collection and analysis, and manuscript drafting. Nunes IC (0000-0002-2771-3604)* and Tenório MMCA (0009-0003-4403-5563)* participated in data collection and critical review of the manuscript. Ferreira LV (0000-0001-8998-2642)* contributed to data analysis and interpretation, as well as manuscript writing. Franco Netto TL (0000-0001-6186-8311)* contributed to the study's conception and design, critically reviewed the intellectual content, and approved the final version for publication, taking public responsibility for the work. ■

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Received on 08/11/2025
Approved on 11/24/2025
Conflict of interest: Non-existent
Data availability: The research data is contained within the manuscript itself
Financial support: Ministry of Health; Oswaldo Cruz Foundation, Sergio Arouca National School of Public Health

Editor in charge: Nilson do Rosário Costa, Fundação Oswaldo Cruz (Fiocruz), Centro de Estudos Estratégicos Antônio Ivo de Carvalho (CEE) and Escola Nacional de Saúde Pública Sergio Arouca (Ensp) – Rio de Janeiro (RJ), Brasil. Lattes: http://lattes.cnpq.br/8824778325312068, Orcid: https://orcid.org/0000-0002-8360-4832, e-mail: nilsondorosario@gmail.com