Primary Prison Care Teams and tuberculosis notification in Rio Grande do Sul/Brazil

Renata Maria Dotta (https://orcid.org/0000-0002-1830-1624) 1
Karine Zennatti Ely (https://orcid.org/0000-0002-1692-5556) 2
Águida Luana Veriato Schultz (https://orcid.org/0000-0002-4716-6783) 3
Marden Marques Soares Filho (https://orcid.org/0000-0002-0353-7378) 4
Péricles Stehmann Nunes (https://orcid.org/0000-0001-8612-2006) 3
Caroline Busatto (https://orcid.org/0000-0002-8215-3515) 5
Lia Gonçalves Possuelo (https://orcid.org/0000-0002-6425-3678) 2

Abstract This paper aims to describe the implementation process of the Prison Primary Care Teams in Rio Grande do Sul, the frequency of tuberculosis notifications in people deprived of liberty, and their chronological relationship. This documentary research is nested in a descriptive cross-sectional study of historical series. We analyzed the decrees on the qualification of Prison Primary Care Teams, the number, and the year of notification of tuberculosis cases from the National System of Notifiable Diseases from 2014 to 2020. The state of Rio Grande do Sul pioneered prison health municipalization and shared financing, which resulted in the implementation of 45 teams, covering approximately 54.5% of people deprived of liberty in a closed regime. The teams notified 5,175 cases of tuberculosis from 2014 to 2020, with a progressive increase in the notification of cases and the implementation of new teams. The strategy of implementing Prison Primary Care Teams driven by the National Comprehensive Health Care Policy for People Deprived of Liberty in the Prison System was crucial for increasing TB diagnosis, notification, and control in Rio Grande do Sul.

Key words: Primary health care, Health management, Equity, Prisons, Tuberculosis
Introduction

A significant challenge for public health and achieving sustainable development goals is ending all forms of discrimination and reducing inequalities in access to health for vulnerable social groups, such as People Deprived of Liberty (PDL). The early detection of communicable infections, such as tuberculosis (TB), is crucial for controlling intra and extramural diseases. Thus, the time of custody can represent an opportunity to promote healthy lifestyles and the treatment of diagnosed diseases.

In Brazil, the largest country in South America, the National Comprehensive Health Care Policy for People Deprived of Liberty in the Prison System (PNAISP) provides for the inclusion of PDLs in the Unified Health System (SUS), ensuring the right to health and citizenship from the human rights' perspective. Brazil has the third largest number of PDLs globally, with an annual growth of approximately 7%. In 2020, it reached 811,707 people arrested, with an incarceration rate of 381 prisoners/100,000 inhabitants. These numbers are extremely troubling since, in the previous year, 714,889 people were arrested, with an incarceration rate of 334 prisoners/100,000 inhabitants.

Rio Grande do Sul (RS) is a state in the extreme south of Brazil, with 42,740 prisoners in its territory and an imprisonment rate of 319.4 prisoners/100,000 inhabitants, ranking fifth in the number of prisoners and thirteenth in terms of imprisonment in the national setting. The Brazilian penal system is in a severe crisis, aggravated by overcrowding, a high number of pre-trial prisoners, recidivism, and rivalry between criminal factions. Overcrowding has been a historical problem since the first prisons dating back to the Brazilian Empire. Pre-trial prisoners represent 28.9% of the Brazilian PDLs and share the same space with convicted prisoners.

The PNAISP provided health care for all prisoners, regardless of conviction or penalty regime. RS established a policy to encourage the implementation of primary health care services in prison, characterized by pioneering and municipalization of prison health care, with shared financing associated with municipalization. The Prison Primary Care Teams (eAPP) are multidisciplinary health professionals and make up the territory's Health Care Network (RAS), with the duty of strengthening and qualifying primary care.

In this context, TB control becomes even more challenging, as PDLs are represented by the disease's high vulnerability and high burden. Diagnosing and treating PDLs timely can be essential to controlling the disease. It is also defined in the agenda of sustainable development goals to eliminate it as a public health problem by 2050.

Thus, this study aims to describe the implementation of the eAPPs in RS, analyze the frequency of TB notifications in the PDLs, and their chronological relationship.

Methods

This documentary research is aligned with a descriptive cross-sectional study of historical series. The eAPP Qualification Ordinances were analyzed, considering the first teams deployed in the state, the number, and the year of notification of TB cases from the National System of Notifiable Diseases (SINAN) from 2014 to 2020.

RS has an estimated 11,322,895 inhabitants distributed in 497 municipalities, a population density of 37.96 inhabitants/Km², and an HDI of 0.746. Its capital, Porto Alegre, considered the most populous city, has 1,484,941 inhabitants, a population density of 2.837.53 inhabitants/Km², and an HDI of 0.805. RS prison map includes 85 penitentiaries and prisons classified as an exclusively closed regime. Other establishments, including penal colonies and penal institutes that host the PDLs in open and semi-open regimes, total 16 institutions.

The following data were collected in the qualification ordinances: municipality, qualification year, the absolute number and types of eAPPs. This survey was carried out in November 2021 in files and legislation of the State Health Secretariat of RS.

In SINAN, TB notifications referring to PDLs were identified throughout the state of Rio Grande do Sul and those referring specifically to municipalities that adhered to the PNAISP, with eAPPs in their territory. The 2014-2020 period was chosen because 2014 was PNAISP's implementation year. Before then, only convicted prisoners in a closed regime had access to health, leaving many PDLs unassisted in their right to health. PDL data were collected in the Superintendence of Penitentiary Services (SUSEPE) database in October 2021, considering the closed, semi-open, and open regimes from 2007 to 2017.

Although this research is based on data extracted from secondary sources, the prerogatives of data and information confidentiality and anonymity were maintained in compliance with the ethical precepts established in Resolution Nº 466/12.
of the National Health Council. The research was approved by the opinions 3.048.121, 3.047.876, 4.251.658, and 4.498.390 of the Ethics Committees of the Federal University of Rio Grande, the University of Santa Cruz do Sul, and the School of Public Health of Rio Grande do Sul.

Results and discussion

History of implementation of Prison Primary Care Teams in Rio Grande do Sul

The enactment of the 1988 Brazilian Constitution, also known as the “Citizen Constitution”, included direct and participatory democracy mechanisms in its historical, legal, and ethical-political frameworks. It enabled expanding social mobilization and in-depth debates around social and political gains and guaranteed governmental and non-governmental institutions the adoption of measures to value diversity and exercise human rights. As of 1984, the Penal Execution Law (LEP) provides for health care for PDLs in Brazil, ensuring medical, pharmaceutical, and dental care. In its art. 1, Law nº 7.210/1984, the LEP determines that “criminal enforcement aims to realize the provisions of a criminal sentence or decision and provide the conditions for the harmonious social integration of the convict and the interned”.

In the national setting, the prisoner’s right to health within the SUS was implemented in 2003, especially after the Interministerial Ordinance MS/MJ nº 1.777, which established the National Health Plan in the Penitentiary System (PNSSP). Over a decade later, the PNAISP was approved in 2014, with regulation and organization of PDLs’ access to health in the SUS, including prison health in the RAS. In its first implementation phase, PNAISP regulated funding in the SUS for the prison system and established the functioning of EABp, per the PDLs of each institution. This nomenclature was later replaced by eAPP.

The PNAISP established the number of PDLs per prison establishment, which could be type I, II, or III. Type I EABp (EABp-I) serves up to 100 prisoners with a 6-hour weekly workload; type II (EABp-II), 101-500 prisoners with a 20-hour weekly workload; and type III (EABp-III), 501-1,200 prisoners with a 30-hour weekly workload. The number of professionals varies in each type of team, and mental health professionals can be added.

In 2005, RS was one of the first states of the federation to join the extinct PNSSP. However, besides this Plan following a faulty logic of state responsibility for PHC, the federal financial incentive of funding from the Ministry of Health and the Ministry of Justice to enable these teams was insufficient to address the massive challenge of state managers and municipalities, reflecting little progress in prison health in Brazilian territories.

In 2006, a complementary state financial incentive was established to operationalize the PNSSP, increasing funding to cover the cost of
these teams\textsuperscript{25}, and an Intersectoral Commitment Term with the municipalities that adhered to the incentive, jointly with the State Health Secretariat and the Justice and Security Secretariat\textsuperscript{26}. Since then, and through specific regulations\textsuperscript{11,12,25-27}, RS has been promoting and inducing the municipalization of prison health services, with shared financing as an additional incentive for enabling eAPPs. Eight eAPPs were implemented from 2007 to 2010, primarily type II and concentrated in the metropolitan region of Porto Alegre, a city where the largest penal institutions in the state.

A higher volume of state financial resource transfers through the approval of CIB Resolution n° 257/2011\textsuperscript{27} and the consequent increase in the SUS/RS budget for prison health allowed increasing eAPPs from 8 in 2010 to 24 in 2013. Besides a readjusted composition of the cost of teams within the SUS/RS was the approval of a reoriented care model and the decentralization of prison primary care management and administration to the municipal context of the SUS\textsuperscript{11,12,27}.

These initiatives were implemented by coordinating the Technical Area of Prison Primary Health Care of the State Health Secretariat. PNAISP’s assumptions in RS are that the greater proximity between professionals, health services, and the user population is closely related to public health treatment effectiveness in prisons\textsuperscript{28}, per the constitutional principles of equity in the SUS.

Its main objective with the municipalization was to offer primary health care services, equivalent to the health services offered to the general population, from eAPP in prison spaces in the state of RS\textsuperscript{11,12}. Fifteen eAPPs expanded from 2010 to 2013 in the state's capital and metropolitan region and the inland region. In this period, we underscore a municipality on the coast of Rio Grande do Sul, which increased coverage from 1,000 to 4,547 PDLs.

The results achieved in RS with the publication of CIB Resolution n° 257/2011 encouraged the redesign of the PNSSP into a new policy by the Ministry of Health, along with the review of the financial incentive values for costing through the enactment of the PNAISP and its operationalization through Ordinance GM/MS n° 482/2014\textsuperscript{21}. The PNAISP ordinances and their operationalization aim to ensure the effective and systematic access of the population under State custody to health actions and services, with the mobilization of more significant financial resources and the allocation of human resources, management strategies, and local capacity building\textsuperscript{21}. This new policy dictates that every prison unit becomes a point of care for the RAS, whose responsibility for offering Primary Care actions and services in the prison system is promoted by the SUS, based on the eAPPs and a Primary Prison Health Unit (UBSp) organizing care\textsuperscript{12}. The health care to be provided in the prison primary care services authorized by the Ministry of Health will now include all PDLs under custody, from pre-trial detainees in police stations and pre-trial detention centers to prisoners sentenced in prisons, penitentiaries, agricultural colonies, and federal penitentiaries.

We observe the need to increase the budgetary agenda of the Executive in a tripartite fashion for the establishment of eAPPs and to ensure adequate financial incentives for structuring and costing, emphasizing the provision of more favorable conditions (environmental, salary, instrumental, strategic, and operational) so that the local and regional RAS strengthen their capacities. The SUS views the population under custody in a universal, comprehensive, resolute, and continuous way.

The SUS, through the RAS, must ensure the management of the entire care network of the states, Federal District, and municipalities, and the offer of the most complex service to all the PDLs, depending on the levels of qualification of the services to the SUS and the defined contractualization forms. The publication of the PNAISP triggers a trend toward a more significant care coverage of the population under State custody, enabling the matrix support of several SUS strategies and the focus of actions geared to the problems that most affect PDLs\textsuperscript{29}. Thirteen new eAPPs teams were established from 2014 to 2017, totaling 36 eAPPs (types I, II, and III). During this period, the territorial distribution was more diffuse, and the increase occurred mainly regarding the number of type I (four) and type II (nine) eAPPs.

In general, slight variation was observed in RS geographic distribution of PDLs. However, the concentration of this population in the capital, the metropolitan region, the center, and the mountainous region has increased significantly in the same period. On the other hand, eAPPs showed a visible movement of territorial deconcentration, concomitantly with an increase in these teams in municipalities that already had them.

Few changes were observed as of 2017, emphasizing the qualification of the third team in the Porto Alegre Public Prison and the first team of the Regional Prison of Santo Ângelo in 2019. Both are type II teams and were enabled after the
Consolidation Ordinance n° 2 of September 28, 2017, which renames the PHC teams to eAPP in its regulations, making the number of PDLs served by each team and professional staff more flexible. In this context, team expansion does not necessarily mean increased coverage since the annual increase of PDLs varies a lot and has a growing trend. We observe a new increase in services from January 2020 to November 2021, primarily driven by the pandemic moment, reaching a total of 45 eAPPs with PNAISP incentives or state shared financing, updated by SES Ordinance n° 635/2021. The 45 eAPPs in closed regime prisons in RS represent the coverage of 54.5% of assisted PDLs, corresponding to 17,384 under custody, out of a total of 31,933 PDLs in closed regime (Oct. 2021).

Implementation of Prison Primary Care Teams and their effects on the increase in tuberculosis notifications in the PDLs of RS

Effective and timely epidemiological surveillance for controlling infectious diseases such as tuberculosis is one of the main tasks of the eAPPs. Table 1 shows the increase in tuberculosis notifications by the eAPPs over time. Although the number of cases reported in the general population and the PDLs decreased in 2020, the percentage of notifications in the PDLs increased by 4.2%. This data represents the work and qualification of the prison health teams, which start to actively search and screen PDLs at the gateway to the prison system.

We should underscore that TB notifications in the SINAN are made only after the disease has been confirmed so that suspected cases are not notified. The increase in notifications reproduces the increase in diagnoses. Likewise, the pandemic showed a sharp drop in TB incidence across the country, with a 16% drop in new case notifications against 2019.

Table 2 shows TB notifications by municipality with eAPPs in penal institutions. Notifications increased by 52.9%, from 592 in 2014 to 905 in 2020. Furthermore, we observed higher increases than the previous year in the years in which teams were implemented, with 15.2% in 2015 and 34.3% in 2019, compared to former years. The municipality of Porto Alegre, which implemented the fifth eAPP in 2019, went from 294 notifications in 2018 to 426 notifications in 2019, an 44.9% increase.

This study presents unpublished data without comparison criteria in the national and international literature. More studies that compare the effects of qualifying eAPPs in penal institutions with the increase in tuberculosis notifications and reflect on access to the treatment recommended for PDLs should be published. A specific analysis was chosen, which presents possible quantitative data for analysis. This analysis could be performed with other health care data recorded in official information systems. Qualitatively, eAPPs have expanded access to and timely treatment of TB in an almost invisible portion of the population of RS.

The first step for the effective TB control is the diagnosis and then the notification and treatment. This study contributes to the importance of implementing a national public policy to sensitize municipal public managers about TB control in the PDLs and, consequently, in the general population. The study’s limitations include the fluctuation of PDLs, which change every time the SUSEPE system is consulted, and the variation of professionals in the eAPPs.

Conclusions

The planning for the implementation of the PNAISP and the qualification of teams and services in RS was progressive, both in terms of the number and type of eAPPs, with teams being implemented in municipalities with the highest concentration of PDLs. Municipalization and state shared financing contributed to the construction and implementation of the PNAISP, and RS played an essential role in driving this policy.

Table 1. Tuberculosis notifications in the general population and the PDLs, Rio Grande do Sul, Brazil, 2014 to 2020.

<table>
<thead>
<tr>
<th>Notification year</th>
<th>Tuberculosis in the general population</th>
<th>Tuberculosis in the PDLs (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>4,926</td>
<td>733 (14.8)</td>
</tr>
<tr>
<td>2015</td>
<td>4,971</td>
<td>817 (16.4)</td>
</tr>
<tr>
<td>2016</td>
<td>4,770</td>
<td>817 (17.1)</td>
</tr>
<tr>
<td>2017</td>
<td>5,139</td>
<td>922 (18.3)</td>
</tr>
<tr>
<td>2018</td>
<td>5,267</td>
<td>1,009 (19.2)</td>
</tr>
<tr>
<td>2019</td>
<td>5,553</td>
<td>1,299 (23.4)</td>
</tr>
<tr>
<td>2020</td>
<td>4,440</td>
<td>1,224 (27.6)</td>
</tr>
<tr>
<td>Total</td>
<td>35,066</td>
<td>6,821 (19.5)</td>
</tr>
</tbody>
</table>

Source: Authors
TB notifications focusing on PDLs identified in SINAN show that the increase in notifications occurs more intensely when new eAPPs are qualified, especially in larger institutions, which becomes relevant in TB control as PDLs are highly vulnerable to the disease's infection and transmission. TB does not remain restricted to the walls of penal institutions and is an essential focus for community transmission of the disease.
Collaborations

RM Dotta, KZ Ely, and LG Possuelo contributed substantially to the design and planning of the project. RM Dotta, KZ Ely, ALV Shultz, and C Busatto contributed to data acquisition, and RM Dotta, KZ Ely, MM Soares Filho, PS Nunes, and L PG Possuelo participated in the analysis and interpretation of data. All authors participated in elaborating the paper, critical review, and final approval of the text to be published.

References