

Strategies for coping with COVID-19 in prisons: a scoping review

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ABSTRACT

Introduction: The poor health of prisoners in penitentiaries demonstrates a very favorable condition for the spread of the virus. **Objective:** To revise in the scientific literature the actions carried out by health professionals in prison units to face COVID-19. **Method:** Scoping review, guided by the recommendations of the Joanna Briggs Institute and structured from the acronym Population, Concept, and Context. The searches were carried out in 11 databases, with the inclusion criteria being studies in English, Portuguese, and Spanish; publications in 2019/2020 and available in full. For the selection of studies, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews flowchart was used. A total of 1,624 studies were found, of which 13 were eligible for the review. **Results:** From the analysis of the studies, two categories emerged: the first, diagnosis/control, which presented as proposed strategies isolation, screening, improvement of basic sanitation, education, social distancing, use of personal protective equipment, reinforcement of ventilation measures and the use of remote connection; and, the second, treatment that encompassed screening, support, and medicalization of the relevant symptoms of the pathology linked to emotional assistance. **Conclusion:** the analyses carried out indicate the need to develop a standard operating procedure that systematizes assistance, including prevention, diagnosis/control, and treatment of SARS-CoV-2 within the penitentiary system, briefly presenting priority actions to be carried out, emergencies needed and the flow in the services of the care network of the health systems.

Keywords: Covid-19; prisons; delivery of health care; health personnel; Forensic Nursing.

INTRODUCTION

The spaces where offenders are deprived of their liberty to serve sentences in closed regimes have three main purposes: firstly, to guarantee public safety by segregating and confining these individuals from society; secondly, to punish them by depriving them of their liberty for committing a criminal offense; and thirdly, to reintegrate them into society through educational activities, preparing them to live together in society¹.

However, prisons are institutions marked by management challenges, limited/no investment, and overcrowding. Although the guidelines ensure social and economic interventions, the improvement of public policies and the prioritization of resource

How to cite this article: Santos et al. Strategies for coping with COVID-19 in prisons: a scoping review. *ABCS Health Sci.* 2023;48:e023307 <https://doi.org/10.7322/abcshs.2022125.2193>

Received: Aug 16, 2022

Revised: Dec 22, 2022

Approved: Jan 20, 2023

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Declaration of interests: nothing to declare



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allocation are considered relevant in the prison sphere, making it clear that there is a gap between confinement, punishment, and rehabilitation¹⁻³.

Structural and environmental factors, combined with the aging of the incarcerated population (IP) and the denial of rights, end up creating an environment conducive to the proliferation and spread of diseases such as leprosy, tuberculosis and recently identified emerging diseases that have an impact on human beings due to their severity and whose incidence has increased dramatically, potentially increasing the mortality rate of this population^{2,4}.

The emergence of SARS-CoV-2 (COVID-19) has highlighted the situation of the prison complex, due to its overcrowding and the specificities of this pathology. Approximately 60% of countries have prison occupancy levels above their capacity, showing unsatisfactory results in terms of health, infrastructure, and administration⁵.

The literature describes that COVID-19 affects the human respiratory system, ranging from asymptomatic to the classic signs of a cold, headache, dyspnea, fever, cough, fatigue, and productive breathing, to cases of acute respiratory failure and viral pneumonia, which can progress to death⁶.

This pathology is transmitted from person to person through autoinoculation on mucous membranes or exposure to the virus on contaminated surfaces. Using mathematical models, researchers have shown that each infected person in the free population can contaminate two to three individuals, but in the context of incarceration, it is estimated that one infected person can transmit the disease to ten people^{7,8}.

It should be borne in mind that the prison system and the surrounding community can create potential transmission routes^{4,9} due to the movement of police officers, lawyers, health professionals, visiting family members, and IP in the prison environment; the movement of prisoners during transfers between facilities, admissions to the units, release certificates, medical visits to municipal health care services and hearings.

For the reasons described above, it is believed that SARS-CoV-2 morbidity in the prison setting has the potential to overload prison health units and, consequently, the service network. In an attempt to mitigate the spread, public security, justice, and health professionals recommended the adoption of interventions to prevent the virus from being introduced into the setting and early action for diagnosed cases, when notified¹⁰.

No similar ongoing studies were found in PROSPERO, Medline, the Cochrane Systematic Reviews database; and JBI Evidence Synthesis.

In this context, this scoping review aims to map, in the scientific literature, the actions conducted by health professionals in prison units to tackle COVID-19.

METHODS

The Scoping Review is based on the methodological guidelines structured by the Joanna Briggs Institute (JBI) and follows the norms of the PRISMA-ScR initiative¹¹. The scoping review or mapping review aims to systematically track down the main concepts that guide some area of science; examine the size or scope of the literature; as well as mapping out evidence to guide future research¹².

To develop the research question, the PCC strategy was used ("P" for Population - health professionals, "C" Concept - diagnosis/control and treatment of COVID-19, and "C" Context - prison system). Once the key topics had been identified, the following question was established: what measures (actions) are being implemented by health professionals within the prison system to diagnose/control and treat the prison population infected with COVID-19?

Papers published in scientific journals were considered and classified in numerous ways: the result of empirical research with various approaches; letters with critical commentary; essays; critical reviews of the literature, and critical analyses of economic issues of importance to health. The studies addressed diagnostic/control and/or treatment strategies recommended by health professionals for the population deprived of liberty, in all languages, available in full in 2020. The search for studies in the literature took place during the second half of 2020, by two researchers independently.

The following databases were included in this scoping review: Medline® (Medical Literature Analysis and Retrieval System Online/PubMed); EMBASE® (Elsevier); CINAHL® (Cumulative Index to Nursing and Allied Health Literature/ EBSCO); Central® (The Cochrane Central Register of Controlled Trials The Cochrane Library); Lilacs® (*Literatura científica e técnica da América Latina e Caribe/ BVS - Biblioteca Virtual em Saúde*); PsycINFO®, American Psychological Association; *Portal da Capes (Coordenação de Aperfeiçoamento de Pessoal de Nível Superior)*; Google Scholar®; ProQuest Dissertations; Theses Database; SCOPUS® (Elsevier).

Initially, 1,624 studies were identified. After reading the titles and excluding duplicate material, 148 articles were selected for reading in full, concluding the stage with the inclusion of 13. The description of the selection and inclusion process can be found in the adaptation of the PRISMA-ScR Flowchart (Figure 1).

Using an instrument prepared by the researchers, the data identified was extracted and organized into specific sections describing the measures recommended by health professionals to combat COVID-19 in prison units. The actions taken by the professionals were categorized as diagnosis, control, and treatment (diagnosis/control and treatment).

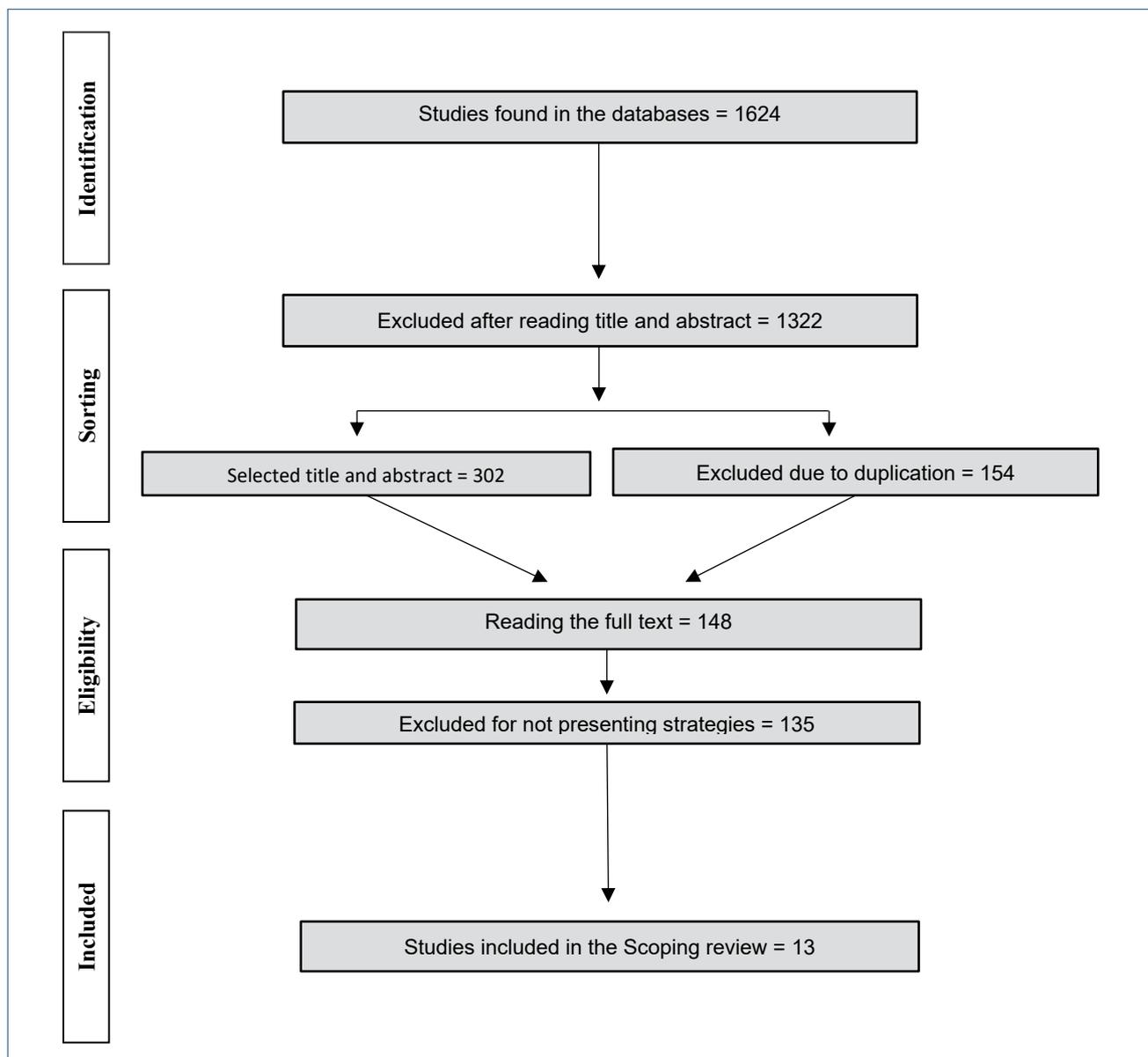


Figure 1: Flowchart for the process of selecting studies from the Scoping Review, adapted from PRISMA-ScR.

RESULTS

Table 1 shows the selected studies, organized by title, authors, publication date, country of origin, study objective, and journal name. All the articles selected were published between April and July 2020, and there was a predominance of studies from the United States of America (USA).

Table 2 shows the strategies implemented by health professionals within the prison system for the diagnosis, control, and treatment of inmates infected with COVID-19. Some actions were recommended for IP with suspected or confirmed COVID-19 infection with or without signs and symptoms. For this reason, to understand the recommendations, this study decided to analyze these actions together¹³⁻²².

The actions mentioned in the manuscripts encompass recommendations and guidelines drawn up by the World Health

Organization (WHO) as well as by the executive branch of the country where the study is conducted, although the similarity (standard procedure) in the intervention proposals is evident.

DISCUSSION

From the analysis of the studies included in the review, the country with the largest number of publications on the subject is the United States of America. This is certainly because it has the largest prison population in the world, followed by China and Brazil, respectively; according to World Prison Brief, an online database that collects information on the prison population worldwide. In addition, the United States continues to be the best-represented country among the “Highly Cited Researchers in 2021”, with 2,622 scientists on the list (39.7% of the total)²³.

Table 1: Reference, date of publication, country of origin, description of the work in terms of its objectives.

Reference	Month and year	Country	Objective
Meyer et al. ¹³	April 2020	EUA	Mitigate the number of victims of the pandemic.
Montoya-Barthelemy et al. ⁴	April 2020	EUA	Analyze the risk of the high physical environment shared by correctional officers and prisoners in correctional institutions.
Souza ¹⁴	May 2020	Brazil	To guide the adoption of preventive measures for the spread of infection by the new coronavirus in the context of criminal and socio-educational justice.
Sánchez et al. ⁸	May 2020	Brazil	Reflect on coping and surveillance strategies that are scientifically based and like those recommended for the general population.
Unruh et al. ¹⁵	May 2020	EUA	Describe how tools helped reduce the introduction of SARS-CoV-2 in the juvenile detention center.
Marcum ¹⁶	June 2020	EUA	Explore federal and state corrections system responses to COVID-19 in early May 2020.
Barnert et al. ¹⁰	June 2020	EUA	Take urgent action to keep COVID-19 out of custodial environments and develop rigorous mitigation strategies for when this happens.
Sánchez et al. ¹⁷	June 2020	Brazil	To compile the information available to date on the COVID-19 pandemic in Brazil's prisons and its impact on the physical and mental health of people in prison and serving socio-educational measures, prison workers and professionals in the system of rights guarantees, as well as guidelines for prevention, care, and psychosocial attention.
Njuguna H et al. ¹⁸	June 2020	EUA	The objectives of this research included assessing COVID-19 symptoms and evaluating the effectiveness of serial testing.
Oladeru et al. ¹⁹	July 2020	EUA	Describe why outbreak planning in the community should consider outbreaks of infections in jails and prisons.
Akintunde e Elijah ²⁰	July 2020	Nigeria	Recommend actions to contain the spread of the virus in prisons.
Wang et al. ²¹	July 2020	China	It illustrates the logic of prevention and control measures in nursing homes, orphanages, and prisons and provides suggestions for general measures, health management, personal protection measures, and prevention measures in specific facilities.
Cingolani et al. ²²	July 2020	Italy	Establish strategies to limit the spread of COVID-19 in prisons.

Table 2: Diagnosis/control and treatment strategies for the prison population infected with COVID-19.

Strategies implemented	
Diagnosis / Control	Isolate, only for as long as clinically necessary, newly arrived, transferred, and released prisoners who evaluate positive for the new coronavirus and who show symptoms and signs relevant to the pathology ^{8,10,13-18,20,21,22} .
	Screening everyone who arrives at the correctional system, not allowing those who show signs of SARS-CoV-2 (airborne and interpersonal contact virus) to enter ^{4,10,13,14,18,21} .
	Improving sanitation in correctional facilities ^{4,10,14,17,18,21} .
	Educate staff and inmates (according to their level of education and native language) about the disease, individual and collective protection mechanisms, and the correct use and disposal of the materials used ^{4,10,14,15,17,21} .
	Adopt distancing actions during recreational activities, in bathrooms, cafeterias, dormitories, and clinical spaces (including waiting areas) ^{4,10,17} .
	Providing personal protective equipment, medicines, cleaning materials, and personal hygiene products for staff and prisoners ^{4,10,14,17,19,20,21} .
	Strictly separate the health areas for other diseases from the case area, isolation, and isolation observation area, to avoid cross-contamination ²¹ .
	Reinforce ventilation measures ²¹ .
	Encourage prisoners to report signs and symptoms of the disease ¹⁰ .
	Suspend treatment (involving or requiring contact with the outside community), transfers, court appearances, visits, and group activities (religious meetings, classes, sports) ^{4,8,16,17,22} .
Treatment	Determine areas for isolation and quarantine (these should not be the same as solitary confinement) ⁴ .
	Frequently provide clear reports on the situation in the units, so that more resources can be allocated to prevent and treat patients ^{4,17} .
	Improve the health sector of the correctional system to meet the demands and needs of respiratory support for infected inmates ¹⁹ .
	Ensuring an uninterrupted water supply ^{14,19} .
	Use remote connection (videoconferencing) for hearings and meetings with family and friends ^{16,22} .
	Ensure that inmates are offered tests and health care of the same standard as that received by the outside community ^{4,10,13,17-19} .
	Examine (using computerized tomography) and record inmates and staff who show symptoms and signs of the virus ²¹ .
	Regularize medical care and suspend co-payments for prisoners ^{4,8,19} .
	Drawing up a careful oxygen and basic supplies plan for the treatment of advanced respiratory pathologies ¹⁹ .
	Provide emotional support to detainees with limited access to outside family and friends ¹⁹ .
Separate the most vulnerable inmates into independent wings, with cells containing a reduced number of individuals ^{8,17} .	
All inmates who show symptoms, whether mild or severe, consistent with COVID-19, should be evaluated with RT-PCR ⁸ .	
Track and treat symptoms in inmates at any transfer between lodgings or facilities and at all health encounters, by measuring signs (fever, cough, shortness of breath) and verbally reporting ^{4,10,14,16} .	

Among the objectives proposed in the selected studies, we have a set of actions that aim for common results and follow protocols established by the WHO, however, it should be noted that the diversity of realities ends up justifying different actions to be recommended based on standards and criteria peculiar to each country. Therefore, although there have been standard procedures described for prison units, about diagnosis/control and treatment, there are specificities, and it is essential to highlight epidemiology in tackling local health problems, as well as in supporting health planning and management.

Tackling the pandemic is not only about the efficiency of surveillance systems but also about epidemiological research, with the graphic description of notifications (mapping) according to space and population, especially at the local level^{24,25}. In addition, the literature already recognizes the success of disease surveillance. In this sense, the importance of informing and guiding the population deprived of their liberty, as well as employees of correctional facilities, considering their level of education, about the basic concepts of the disease, forms of transmission, ways to avoid exposure, and the importance of using personal protective equipment is emphasized, to guarantee the correct execution of the necessary preventive care practices¹⁹.

About the diagnosis/control category, measures such as: isolating inmates who test positive for the new coronavirus, screening all those who arrive in the prison system, and providing protective equipment, medication, cleaning materials, and personal hygiene for everyone in the prison unit, suspending activities outside the unit, visits and group activities, and educating professionals and inmates about the disease and its means of prevention were highlighted.

As we can see, social isolation among inmates, mentioned in 84.62% of the works chosen, stands out as a prevention strategy that is justified by the fact that the spread of SARS-CoV-2 occurs through droplets suspended in the air, which contributes to the speed of person-to-person transmission, making it highly epidemic, especially in crowded places. When we turn our attention to prison systems, we see that many experience overcrowding in their accommodation, which favors the circulation of the virus and hinders the effectiveness of this prevention mechanism^{5,26}.

Screening, at the reception of prisons, is another action that stands out in the studies analyzed, being characterized as an initial intervention to identify possible cases when the individual shows signs and symptoms characteristic of COVID-19 or reports of recent contact with an infected person, who is not allowed to enter the facilities, which provides mitigation in the transmission of the pathology²⁷. It is important to note that around 60% of infected people in society in general are asymptomatic or have mild symptoms, so it is important to evaluate and know their history²¹. However, screening should not be used in isolation, but as one of the stages of infection control, carried out in conjunction with prevention, isolation, testing, and case tracking²⁸.

The need to provide personal protective equipment for inmates and prison staff is pointed out in seven different studies, as it qualifies as a means of controlling the spread of the virus, and is reinforced when implemented in conjunction with the use of medication, and proper cleaning and personal hygiene, phenomena that contribute to minimizing transmission as well as reducing the viral load within the prison space^{4,10,14,20,21}.

Despite knowing about the unhealthy and poor conditions inside prisons, given the pandemic scenario, any actions aimed at prevention must be considered. Thus, a necessary alternative was the suspension of face-to-face visits²⁹ to minimize emotional discomfort, remote contact was maintained with family and friends, religious assistance, social workers, and/or psychologists. The use of technology, such as the internet and video calls, were fundamental tools in favor of this action^{16,22}.

In several countries, video conferences for legal hearings in the prison system have been allowed. This legal recommendation, in Brazil, was based on the publication of technical guidelines by the Brazilian National Justice Council based on the experiences of Canada, the United States, and Colombia, accompanied by multi-disciplinary teams from the Electronic Monitoring Centers³⁰.

Health education was a factor that emerged in numerous studies, which highlight the need to educate professionals and inmates, expanding knowledge about the disease, individualized and collective protection mechanisms, as well as the correct way to dispose of materials that have been used¹⁷⁻²¹. The scholars of the study³¹ discuss that health education activities are crucial to collaborate with the prevention of COVID-19, which were relevant to meet the practical and theoretical needs that arose because of the pandemic scenario.

In Brazil, the national health policy for incarcerated populations (*Política Nacional de Atenção Integral à Saúde das Pessoas Privadas de Liberdade no Sistema Prisional - PNAISP*), based on principles from the Brazilian Unified Health System SUS, allows for the implementation of primary health care services in institutions, as well as ensuring regulated access to Healthcare networks RAS expanding access. In addition, it is essential that during the pandemic medical consultations within prison units are not charged for, as is the case in some foreign health systems such as the USA, as this restricts inmates from showing signs and symptoms, which favors the transmission of the disease¹⁹.

As far as treatment strategies are concerned, the ones that emerged most in the studies found were: ensuring that inmates are provided with testing and health care in the same way as the outside community, tracking and treating symptoms in inmates who change accommodation, and measuring vital signs, and regularizing health care within the prison unit.

The rapid serological and RT-PCR tests available for diagnosing COVID-19 make it possible to detect positive cases within the transmission period. As the disease has progressed, laboratories have

improved their testing methods, and the test for detecting the virus's genetic material, such as RNA, by PCR (RT-qPCR) is currently considered the gold standard²⁸. Understanding how the tests work, carrying them out at the right time and with the right sampling, and applying them widely, guarantees greater and better screening for viral circulation. When we turn to prison systems, mass testing becomes even more important, as it allows for the organization of spaces, isolating contaminated inmates for observation and treatment, and ensuring better prevention of negative cases.

In addition to testing, it is crucial to evaluate and treat the symptoms of people deprived of their liberty, especially fever, cough, and shortness of breath, as these are commonly present in people who have COVID-19, also taking into account the health complaints presented by prisoners, in addition to implementing health care that is adequate and within the parameters of that made available to the outside population^{4,8,10,14,16}.

In this scenario, it is understood that the aspects related to the categories: diagnosis/control and treatment, verified in the selected studies, make up the coping and surveillance strategies, scientifically based and like those recommended for other populations outside the prison environment. The aim is to minimize the spread of COVID-19 in prisons. However, given the intrinsic configurations of the prison system and the government, one of the main actions recommended by the World Health Organization (WHO), which is social distancing, has not been fully implemented. The bi-directional nature of care for the "free" population and the IP provides a scenario that: on the one hand, intensifies the implementation of health recommendations to safeguard the physical and mental health of a "free" society. On the other hand, it looked at incarcerated individuals, in whom the formulation and implementation of care policies have been scarce throughout humanity's history^{32,33}.

Emotional support for this specific population emerges as an ally, to help with self-esteem and also comfort the IP, with access to their family and friends who are outside the prison environment, considering that the suspension of visits occurred in Brazil as of March 16, 2020, generates an intensified feeling of isolation and insecurity about family and friends, thus requiring maintenance of communication with their family³⁴.

Finally, we would like to point out that some of the limitations of this review must be considered when observing the results, given

that the pathology discussed is an emerging disease. Despite this, the analyses carried out in this scoping review contribute to the systematization and development of standard operating procedures aimed at the prevention, diagnosis/control, and treatment of SARS-CoV-2 within the prison system, summarizing the priority actions to be carried out, the necessary emergencies and the flow of services in the care network of each health system.

Conclusion

To deal with Covid in the prison system, the 13 studies reviewed highlighted diagnostic/control and treatment strategies, namely: screening with tests; symptom screening and checking vital signs; isolation of newly admitted prisoners with flu-like symptoms and/or a positive test; provision of PPE, medicines and cleaning materials and personal hygiene products; suspension of external activities (consultations with the health care network, visits, hearings and/or transfers) in addition to health promotion actions and observance of the health of the environment.

However, the challenge of complying with the recommendation of isolation and distancing must be considered, given that in several countries the overcrowding of prisons is a public health problem, as is the case in Brazil. In this sense, the pandemic has ended up placing the prison system at the center of attention due to its structural characteristics and the undeniable vulnerability of IP.

For this reason, the description of standard operating procedures for the activities and routines of health services in prisons will be essential for the health care policy for people deprived of their liberty under state guardianship, to ensure quality, standardization, and predictability of processes and results. The summary presentation of priority actions to be conducted, the description of emergency clinical situations, and the flow of services in the health system's care network will certainly be useful in tackling COVID-19 in the prison system.

Finally, it is possible to conclude that in addition to a monitoring panel for prison systems, it is sine qua non to frequently review strategies by recent recommendations from the World Health Organization (WHO) and the Ministry of Health or equivalent institution, depending on the country. New guidelines and (inter)national evidence can lead to updated content.

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