

Letter

Public policies on sexually transmitted infections in Brazil

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INTRODUCTION

This article presents a brief history of public policies to address sexually transmitted infections (STI) in Brazil. It also discusses deficiencies and challenges to be considered by the country to formulate and implement future policies.

GLOBAL OVERVIEW, REGION OF THE AMERICAS AND BRAZIL

STI remains a global public health issue. In 2016, the World Health Organization (WHO) estimated a 376.4 million incidence of curable STI in people aged 15 to 49. There were 127.2 million cases of chlamydia, 86.9 million cases of gonorrhea, and 6.3 million cases of syphilis. In the Region of the Americas, an estimated 29.8 million cases of chlamydia, 13.8 million cases of gonorrhea, and 2 million cases of syphilis were reported¹.

These estimates indicate a high STI incidence and warrant the WHO global strategy and the establishment of priority measures to achieve STI elimination goals by 2030. This strategy focuses on (i) gonococcal antimicrobial resistance and chlamydial co-infection risk, (ii) congenital syphilis elimination, which requires increased testing and treatment of pregnant women and specific populations, and (iii) human papillomavirus (HPV) infection, with a focus on immunization to eliminate cervical cancer and anogenital warts².

The Pan American Health Organization's (PAHO) Plan of Action for the Prevention and Control of HIV/STI (2016-2021) aims at expediting the elimination of the human immunodeficiency virus (HIV) and STI epidemics as public health issues in the Region of the Americas by 2030³. This plan incorporates regional strategies for the elimination of HIV and congenital syphilis vertical transmission, with specific criteria and indicators.

In Brazil, acquired syphilis, syphilis in pregnant women, and congenital syphilis cases are compulsorily notifiable⁴. Brazilian epidemiological data highlight the increase in syphilis cases for the period 2010-2018, when the congenital syphilis incidence rate increased almost four times, from 2.4 to 9.0 cases per thousand live births, and the syphilis detection rate in pregnant women increased about six times, from 3.5 to 21.4 cases per thousand live births. The acquired syphilis detection rate increased from 34.1 cases per 100,000 population in 2015 to 75.8 cases per 100,000 population in 2018⁵.

Brazilian nationwide-covering STI prevalence studies reveal the scale of the problem. Parturients attended in public maternity hospitals had a 9.8% prevalence of chlamydia and 1.0% of gonorrhea in 2011⁶, and men who sought care in STI clinics in 2005, 13.1% of chlamydia and 18.4% of gonorrhea⁷. In 2015, women living with HIV had a 2.1% prevalence of chlamydia and 0.9% of gonorrhea⁸, and 28.4% of high-risk HPV⁹. In 2017, the prevalence of HPV infection was 25.4% in the cervix, 36.2% in the penile region, 25.7% in the anal area, and 11.9% in the oral region¹⁰. Another national study reported a 0.6% prevalence of syphilis in conscripts¹¹. In 2016, higher syphilis rates were observed in key population segments, such as men who have sex with men (9.9%)¹², female sex workers (8.5%)¹³ and prisoners (3.8%)¹⁴.

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Received 01 February 2021

Accepted 10 March 2021



HISTORY OF THE RESPONSE TO IST IN BRAZIL

Figure 1 outlines the historical milestones of major strategies and actions within the STI public policy scope in Brazil since creating the Brazilian National Program on Sexually Transmitted Diseases and AIDS (PN-DST/AIDS) in 1986.

The publishing of the first Clinical Protocol and Therapeutic Guidelines (PCDT) for Comprehensive Care for People with STI, approved by the National Committee for the Incorporation of Technologies in the Brazilian National Health System (Conitec), in 2015, is noteworthy¹⁵. The document establishes criteria for

2020	<p>Updating of the Clinical Protocol and Therapeutic Guidelines (PCDT) for Comprehensive Care of People with Sexually Transmitted Infections (STI) by the team of specialists in STI.</p> <p>Webinars on the IST PCDT, in partnership with the Pan American Health Organization (PAHO) and the Brazilian Society for Sexually Transmitted Diseases.</p> <p>Institution of the Male Urethral Discharge Syndrome Surveillance by Ordinance GM/MS No. 1.553, June 17, 2020.</p> <p>Launching of the complete genome sequencing results of 548 strains collected in the first issue of the gonococcus resistance surveillance project (SenGono) (2015/2016).</p>
2019	<p>Establishment of the General Coordination for STI Surveillance in the Department of Chronic Conditions and STI's regulatory framework, of the Health Surveillance Department (SVS), by Decree no. 9.795, of May 17, 2019.</p> <p>Conference with a group of specialists to discuss the IST PCDT that produced the document's present review.</p> <p>Agreement with partners to renew the 'Strategic Actions Agenda for Syphilis Reduction in Brazil'.</p> <p>Introduction of the Brazilian network of molecular tests for chlamydia and gonococcus in the states and Federal District.</p>
2018	<p>Updating of the 'How to prevent HIV and syphilis vertical transmission in your city' guide (partnership with the United Nations Children's Fund [UNICEF]).</p> <p>Partnership with the Federal Council of Medicine (CFM) for rapid testing in pregnant women, with the publication of CFM Recommendation no. 1/2018.</p> <p>Extension of the human papillomavirus (HPV) vaccine for boys aged 11 to 14, in the Brazilian National Health System (SUS).</p> <p>Inclusion of chlamydial and gonococcal detection by molecular biology in the Table of Procedures, Drugs, Orthoses, Prostheses, and Special Materials Management System.</p> <p>Start of the new SenGono Project issue.</p> <p>Start of phase II study on cefixime's clinical efficacy to treat active syphilis in non-pregnant women in Brazil.</p> <p>Issuance of SCTIC/MS Ordinance No. 42, October 5, 2018, on the IST PCDT second edition's approval.</p>
2017	<p>Establishment of the rapid response to syphilis project - '<i>Projeto Sífilis Não</i>' ['No Syphilis Project']</p> <p>Publishing of the 'PCDT for the Prevention of HIV, Syphilis and Viral Hepatitis Vertical Transmission' 2nd edition.</p> <p>Purchase and distribution of crystalline penicillin in centralized mode by the Ministry of Health.</p> <p>Inclusion of STI drugs in the National Essential Medicines List.</p> <p>Updating of non-complicated gonococcal anogenital infection (urethra, cervix, and rectum) treatment.</p> <p>Release of previously unpublished Brazilian data on gonococcal susceptibility to antimicrobials in the SenGono Project scope.</p> <p>Establishment of the third October Saturday as the 'National Day for Combating Syphilis and Congenital Syphilis', a Bill approved by the House of Representatives, made official by Act no. 13.430 of March 31, 2017, sanctioned by the President of the Republic.</p> <p>Initiation of SUS incorporation of HPV vaccine for boys aged 12 and 13.</p> <p>Extension in SUS of the HPV vaccine for boys and men living with HIV aged 9 to 26, people have undergone solid organ and bone marrow transplants and cancer patients.</p> <p>Presentation of the Epidemiological Study on the National Prevalence of HPV Infection (POP-Brazil Study) preliminary results.</p>
2016	<p>Release of the 'Strategic Actions Agenda for Syphilis Reduction in Brazil'.</p> <p>Publishing of the 'Technical Manual for Syphilis Diagnosis', approved by Ordinance GM/MS no. 2.012, October 19, 2016.</p> <p>Replacement/update of the term sexually transmitted disease (STD) by STI, under the definition of the then Department of Surveillance, Prevention and Control of STI, HIV/AIDS and Viral Hepatitis.</p> <p>Updating of the STI Serial Album for health professionals.</p> <p>Partnership with the Federal Nursing Council (Cofen) for rapid HIV, syphilis, and viral hepatitis testing, with the publication of Cofen Decision no. 244/2016.</p> <p>Release of the syphilis indicators and basic data panel (syphilis in pregnant women and congenital syphilis).</p> <p>Purchase and distribution of benzathine penicillin in centralized mode by the Ministry of Health.</p> <p>Inclusion of male urethral discharge syndrome in the national list of diseases and illnesses to be monitored through the surveillance strategy in sentinel units.</p> <p>Start of the POP-Brazil Study.</p>

FIGURE 1: Historical milestones of the response to sexually transmitted infections in Brazil, 1986-2020.

FIGURE 1: Continuation.

2015	<p>Publishing of the first PCDT for Comprehensive Care for People with STI.</p> <p>Publishing of the first PCDT for Prevention of HIV, Syphilis and Viral Hepatitis Vertical Transmission.</p> <p>Publishing of the 'Good Practices Booklet on Penicillin Use in Primary Health Care.</p> <p>Partnership with Cofen to expand penicillin provision in primary health care, by the nursing staff, with the publication of Cofen Decision no. 0094/2015.</p> <p>New edition and expansion of the SenGono Project.</p> <p>Extension of the HPV vaccine in SUS for girls and women aged 9 to 26 living with HIV.</p> <p>Decentralization of rapid syphilis tests for primary health care units and maternity hospitals.</p>
2014	<p>Publishing of the 'Vertical Transmission Research Protocol'.</p> <p>Updating of the syphilis diagnostic course in the permanent education program in STI diagnosis (Telelab).</p> <p>Inclusion of the HPV vaccine in the SUS for girls aged 9 to 13.</p> <p>Realization of the Brazilian National STI Public Consultation Forum</p>
2012	Implementation of syphilis and HIV rapid testing in the prenatal routine.
2011	Establishment of <i>Rede Cegonha</i> [Stork Network].
2010	Acquired syphilis became of compulsory notification.
2009	<p>Brazilian National STD/AIDS Programme becomes Department of Sexually Transmitted Diseases, AIDS and Viral Hepatitis, under the SVS/Ministry of Health</p> <p>Incorporação de teste diagnósticos de clamídia e gonorreia na tabela de procedimentos do SUS</p>
2008	<p>Publishing of the 'How to prevent HIV and syphilis vertical transmission in your city' guide, in partnership with UNICEF.</p> <p>Publishing of the 'STD prevalences and relative frequencies in selected populations of six Brazilian capitals, 2005' research.</p>
2007	<p>Publishing of the 'Operational Plan for HIV and Syphilis Vertical Transmission Reduction'.</p> <p>Publishing of the 'HIV and Syphilis Vertical Transmission Prevention Protocol'.</p> <p>SenGono Project first implementation initiatives.</p>
2006	<p>Publishing the 'STI Control Manual' (4th edition) and the 'Congenital Syphilis Control Pocket Manual'.</p> <p>Publishing of the 'STD Serial Album'.</p> <p>Publicação do 'Caderno de Atenção Básica 18: HIV/Aids, Hepatites e outras DST'.</p>
2005	<p>Syphilis in pregnant women became of compulsory notification.</p> <p>Creation of the Gonococcal Resistance Brazilian National Surveillance Network.</p>
2004	Inclusion of the venereal disease research laboratory (VDRL) data in the SUS Hospital Information System (SIH/SUS).
2003	Updating of the congenital syphilis case definition.
1999	Publishing of the 'STD Control Manual' 3 rd edition
1998	The first national initiative by the Brazilian Ministry of Health to determine gonococcal susceptibility to antimicrobials ³⁸ .
1997	<p>Publishing of the 'STD Control Manual' 2nd edition.</p> <p>Implantation of the Telelab system.</p>
1996	PAHO/WHO invitation to establish a gonococcus resistance surveillance laboratory network.
1993	<p>Publishing of the 'STD Control Manual' 1st edition.</p> <p>Publishing of the 'Congenital Syphilis Elimination Technical Bases'.</p>
1986	<p>Creation of the then Brazilian National Program on STD and AIDS (NP-DST/AIDS).</p> <p>Congenital syphilis became of compulsory notification.</p>

diagnosis, advocates treatment, sets clinical control mechanisms - to be followed by the Brazilian National Health System (SUS) managers - is grounded in scientific evidence, and assesses efficacy, safety, effectiveness, and cost-effectiveness parameters of the recommended technologies¹⁶. In that publication, the term sexually transmitted disease was replaced by STI, thereby matching the WHO designation³ and raising Brazil's awareness of asymptomatic infections and not just illness with signs and symptoms. The PCDT was re-examined and approved by Conitec in 2018¹⁷.

In the period 2015-2016, the Ministry of Health's partnership with the Federal University of Santa Catarina and sentinel sites

for the elaboration of a gonococcal resistance study (SenGono Project) made possible the first Brazilian gonococcal antimicrobial susceptibility surveillance program. The nationwide surveillance research analyzed gonococcal strains at seven sentinel sites (composed of STI services and local support laboratories) and found high tetracycline, penicillin, and ciprofloxacin resistance in the bacteria¹⁸.

In 2018, a new phase of the SenGono Project started with installing more collection sites and the inclusion of two new antimicrobials (spectinomycin and gentamicin) in the analyses. Within the SenGono Project, the following are undergoing research:

Neisseria gonorrhoeae, *Chlamydia trachomatis*, *Mycoplasma genitalium*, and *Trichomonas vaginalis*, in urethral discharge samples; and herpes simplex virus types 1 and 2, *Treponema pallidum* and *Haemophilus ducreyi*, in genital ulcer samples¹⁹.

The SenGono Project results led to the publication, on June 17, 2020, of Ordinance GM/MS no. 1.553/2020, by which the Ministry of Health instituted the sentinel surveillance of male urethral discharge syndrome to monitor data in qualified health units²⁰.

Considering the global and national penicillin supply shortage and the difficulties for its acquisition by states and municipalities in the period 2014-2016, the publication of the 'Strategic Actions Agenda for Syphilis Reduction in Brazil' in 2016²¹, as a response to the epidemic declared by the Ministry of Health, played a critical role in the decision for the centralized acquisition of these drugs, reserved to the same Ministry of Health. Benzathine and crystalline penicillin for syphilis treatment became part of the pharmaceutical assistance strategic component in Brazil. Doxycycline was also expanded for the treatment of syphilis, donovanosis, and pelvic inflammatory disease²². The penicillin mentioned above global shortage led to the search for effective alternatives for syphilis treatment. For example, in 2018, phase II of a clinical trial was initiated to evaluate the efficacy of cefixime in the treatment of active syphilis in non-pregnant women, establish safe alternative therapeutic options, and support efforts to end congenital syphilis²³.

Following the HPV vaccination inclusion in SUS, the need for monitoring the impact of such immunization on the specific population was perceived. Research on HPV prevalence in Brazil was scarce until then¹⁰. In 2016, an HPV infection prevalence national study was started (POP-Brazil Study), a Ministry of Health partnership, amongst other institutions, with the Moinhos de Vento Hospital Association of Porto Alegre, RS, Brazil. The research sought to determine the HPV prevalence in sexually active people, aged 16 to 25, in all Brazilian capitals, and to investigate regional differences in prevalence and viral types; its final results will fill the epidemiological information gap, and contribute to establish a baseline and assess the HPV vaccination impact. The research's preliminary results presented publicly already in 2016, estimated a high HPV prevalence (54.6%), of which 38.4% were high-risk HPV for cancer risk²⁴.

CHALLENGES AND DEFICIENCIES FOR STI CONTROL

The fast antimicrobial resistance growth of *Neisseria gonorrhoeae* to several antibiotics threatens the efforts for controlling this infection. 66% of the 67 countries participating in the Gonococcal Antimicrobial Surveillance Programme have already shown increased clinical and in vitro resistance to broad-spectrum cephalosporins in 2009-2014, and it is the only remaining first-line monotherapy for gonorrhea control²⁵. Research developments must have priority, including the development of new antimicrobials for treatment, of a gonococcal vaccine, and new rapid tests, with simultaneous detection of both the gonococcus and antimicrobial resistance, for diagnosis and surveillance²⁶.

Some challenging goals in syphilis control include eliminating vertical transmission, improving case surveillance, developing

more accurate tests to diagnose active syphilis, neurosyphilis, and congenital syphilis, increasing access for the most vulnerable populations, and developing alternative oral drugs and vaccines against *Treponema pallidum*²⁷.

Lack of knowledge and fake news on immunization are examples of contributing factors to low vaccination coverage for HPV. Health care integration with schools and communities is central to achieve better indicators since well-informed adolescents are potential communicators of such information to their parents^{28,29}. It is also relevant to promote health information, education, and communication aimed at professionals in the field to expand vaccination coverage^{28,30}.

FINAL CONSIDERATIONS

Challenges and deficiencies persist in the formulation and implementation of public policies in IST in Brazil. In such a scenario, there is a permanent need for (i) strengthening the role of primary health care in comprehensive care to people with STI and their sex partners, (ii) ensuring adequate vaccination coverage against HPV and viral hepatitis A and B, (iii) promoting health information, education, and communication, (iv) expand access to STI testing and treatment, with emphasis on the most vulnerable populations, (v) notify sex partners, and (vi) qualify health professionals' approach to sexual health matters, in addition to screening for asymptomatic, prevention, clinical-laboratory management, and surveillance of sexually transmitted infection cases.

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