

**ASSESSMENT OF COUNTRY IMPLEMENTATION OF THE
WHO GLOBAL HEALTH SECTOR
STRATEGY FOR SEXUALLY
TRANSMITTED INFECTIONS (2016–2021)**

RESULTS OF A NATIONAL SURVEY



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**World Health
Organization**

Assessment of country implementation of the WHO global health sector strategy for sexually transmitted infections (2016–2021): results of a national survey

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CONTENTS

Acronyms and abbreviations	vi
Acknowledgements	vii
Introduction	1
Methods	3
Analysis	4
Results	4
Global STI Strategy and national STI strategic plan	5
STI treatment guidelines	6
National STI priorities	7
Location of STI care services	8
STI surveillance system	9
Elimination of mother-to-child transmission of HIV and syphilis	11
STI screening, diagnosis and treatment	13
Surveillance for antimicrobial resistance in <i>Neisseria gonorrhoeae</i>	17
HPV vaccination, screening, diagnosis and treatment	18
Technical assistance	20
Summary	21
Status: the 2020 milestones among reporting countries	22
Considerations for data interpretation	23
Use of these data	23
References	23
Annex. Global AIDS Monitoring system indicators: data year 2019	24

LIST OF TABLES

Table 1: Country response rates by WHO region	4
Table 2: Knowledge and dissemination of WHO and national STI strategies	5
Table 3: National strategies and programming for priority STI areas by WHO region (percentage and number of responding countries)	5
Table 4: Proportion of countries familiar with the 2016 WHO STI treatment guidelines	6
Table 5: National STI treatment guidelines and sources of reference for development	6
Table 6: Priorities of countries for STI interventions (percentage and number of responding countries)	7
Table 7: Availability of STI services within clinical platforms	8
Table 8: Elements of national STI surveillance systems	9
Table 9: STIs and STI syndromes at various levels of STI services (percentage and number of responding countries)	9
Table 10: Countries completing the Global AIDS Monitoring indicator reporting for STIs	10
Table 11: Policy and programming for eliminating mother-to-child transmission at the national level	11
Table 12: Frequency of screening for HIV and syphilis among pregnant women	12
Table 13: Screening for STIs among pregnant women by WHO region (percentage and number of responding countries)	12
Table 14: Screening of men who have sex with men and sex workers for STIs (percentage and number of responding countries)	13
Table 15: Screening of men who have sex with men and sex workers for syphilis by WHO region (percentage and number of responding countries)	13
Table 16: STI diagnostic tests available to the general population	14

Table 17: Countries recommending frequently recommended medications for STI syndromes (percentage and number of responding countries)	15
Table 18: Countries including medications in the national formulary	15
Table 19: Countries reporting stock-outs of STI medications	16
Table 20: Countries reporting stock-outs of STI medications by WHO region, 2018–2019 (percentage and number of responding countries)	16
Table 21: Countries conducting surveillance for antimicrobial resistance in <i>Neisseria gonorrhoeae</i>	17
Table 22: Countries making cervical cancer screening available by WHO region, 2014 and 2020 (percentage of responding countries)	18
Table 23: Types of cervical cancer screening and treatment available at the national level	19
Table 24: Types of technical assistance requested by countries by WHO region (percentage and number of responding countries)	20
Annex A: Global AIDS Monitoring, percentage and number of countries performing antenatal care screening for syphilis, 194 WHO Member States, 2017–2019, analysis as of July 2020	24
Annex B: Global AIDS Monitoring, percentage and number of countries carrying out syphilis screening, positivity and treatment in antenatal care, 194 WHO Member States, 2019, analysis as of July 2020	24
Annex C: Global AIDS Monitoring, percentage and number of countries with syphilis positivity in antenatal care of >1%, reflecting eligibility for a path to elimination, 194 WHO Member States, 2019, analysis as of July 2020	25
Annex D: Global AIDS Monitoring, percentage and number of countries performing syphilis screening and treatment in antenatal care, 194 WHO Member States, 2019, analysis as of July 2020	25

ACRONYMS AND ABBREVIATIONS

HPV	human papillomavirus
Pap	Papanicolaou (smear)
STI	sexually transmitted infection
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund

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INTRODUCTION

The WHO global health sector strategy on sexually transmitted infections, 2016–2021 (1) includes country milestones for achievement by 2020 and global targets for achievement by 2030. In addition, countries were called to identify national sexually transmitted infection (STI) targets for 2020 and beyond. Reporting on these milestones, country targets and progress on implementation at the country level is due as a report to the World Health Assembly in 2021 (1).

In 2018, a short report on the global health sector strategies on HIV, viral hepatitis and sexual transmitted infections for the period 2016–2018 (2) was presented to the World Health Assembly. The report, in relation to STIs, included provisional estimates of global STI incidence, reporting on the use of the strategy, new guidelines as well as challenges in reaching the 2020 WHO STI milestones.

In 2019, an interim assessment of progress towards achieving the milestones for the three interlinked global strategies for HIV, hepatitis and STIs was published (3). This report concluded that STI control had seen little progress compared with HIV and hepatitis and identified several opportunities for strengthening STI control measures at the global, regional and national levels.

From October 2019 through April 2020, a country survey was distributed to WHO Member States through WHO regional offices to measure progress towards achieving the following 2020 STI-specific milestones within the global strategy for STIs: (1) number of countries with an STI surveillance system in place; (2) number of countries with at least 95% of pregnant women screened for syphilis; and (3) number of countries with at least 95% of syphilis-positive pregnant women receiving effective treatment; (4) number of countries providing STI services or links to such services in all primary, HIV, reproductive health, family planning and pre- and postnatal care services; (5) number of countries reporting on antimicrobial resistance in *Neisseria gonorrhoeae*; (6) percentage of key populations with access to a full range of STI and HIV services, including condoms; and (7) number of countries delivering human papillomavirus (HPV) vaccination through national immunization programmes. National-level priority-setting for key areas of STI control will also be assessed. The data from this survey will be used to report to the World Health Assembly in 2021 and to inform the development of a new global STI strategy.

BOX 1: WHO GLOBAL STI STRATEGY MILESTONES FOR 2020 AND TARGETS FOR 2030

Milestones for 2020

- 70% of countries have sexually transmitted infection surveillance systems in place that are able to monitor progress towards the relevant targets.
- 70% of countries have screened at least 95% of pregnant women for syphilis; and 95% of syphilis-seropositive pregnant women have been treated with at least one dose of intramuscular benzathine penicillin.
- 70% of key populations for HIV have access to a full range of services relevant to sexually transmitted infections and HIV, including condoms.
- 70% of countries provide sexually transmitted infection services or links to such services in all primary, HIV, reproductive health, family planning and antenatal and postnatal care services.
- 70% of countries deliver human papillomavirus (HPV) vaccines through the national immunization programme.
- 70% of countries report on antimicrobial resistance in *Neisseria gonorrhoeae*.
- 90% national coverage is sustained and at least 80% vaccinated in every district (or equivalent administrative unit) in countries with the HPV vaccine in their national immunization programme.

Targets for 2030

- 90% reduction in the incidence of *Treponema pallidum* globally (2018 global baseline)
- 90% reduction in *Neisseria gonorrhoeae* incidence globally (2018 global baseline)
- 50 or fewer cases of congenital syphilis per 100 000 live births in 80% of countries
- 90% national coverage sustained and at least 80% vaccinated in every district (or equivalent administrative unit) in countries with the HPV vaccine in their national immunization programme

METHODS

WHO headquarters and WHO regional advisers jointly developed a survey instrument in the form of a questionnaire for self-completion to assess the STI interventions related to the global STI strategy at the country level. The questionnaire covered elements related to the strategy as well as programme service delivery to inform the WHO report to the World Health Assembly, regional offices and countries regarding prevention and STI control. The survey also captured technical assistance needs in STI programming and surveillance. The survey was translated into French, Portuguese, Russian and Spanish.

The questionnaire covered the following areas:

- STI strategy: knowledge of the global strategy and use of it to develop national guidelines and disseminate them at the country level;
- STI treatment guidelines: knowledge and use of the global STI strategy to develop national guidelines, the use of other guidelines and disseminate these at the country level;
- national STI priorities;
- location of STI care activities;

- surveillance systems;
- eliminating the mother-to-child transmission of HIV and syphilis;
- screening, diagnosing and treating people for STIs;
- surveillance for antimicrobial resistance in gonorrhoea and gonococcal isolates;
- HPV vaccination, screening, diagnosis, treatment and cervical cancer registries; and
- technical assistance.

From September 2019 to March 2020, country STI programme managers (focal points for the survey) received and completed the questionnaire. These STI focal points liaised with various programme managers such as for HIV, reproductive health, immunization and others to gather the information needed to complete the questionnaire. Three email reminders were sent to non-responding countries.

The completed questionnaires were returned through WHO regional offices to WHO headquarters. The data were compiled and entered in OpenClinica during February–May 2020 and analysed using SAS and Microsoft Excel.

ANALYSIS

The survey was distributed to the 194 WHO Member States. However, the frequency and percentage analysis for this report was calculated for each question using the number of completed responses as the denominator for each response. Countries not completing the survey and countries not responding to individual questions were not included in the denominator for percentage calculations.

RESULTS

The analysis was based on the responses received from 112 of the 194 (58%) WHO Member States. Table 1 shows the number of responding countries by region.

WHO region	Number of countries completing the survey	Number of countries in the region	Response rate (%)
African Region	26	47	45
Region of the Americas	25	35	71
South-East Asia Region	10	11	91
European Region	27	53	51
Eastern Mediterranean Region	6	21	29
Western Pacific Region	18	27	67
Total	112	194	58

GLOBAL STI STRATEGY AND NATIONAL STI STRATEGIC PLAN

Ninety-two per cent (103 of 112) of the countries were familiar with the WHO global STI strategy. The strategy had been internally disseminated in 34% (38 of 112) of the countries.

Sixty-four per cent of the countries (72 of 112) have an official national STI strategy, ranging from 77% (20 of 26) in the African Region to 37% (10 of 27) in the European Region. The proportion of national strategies updated after the global STI strategy was launched was 58% (42 of 72). The global STI strategy

was used as a reference in all 42 of these national strategy updates.

In 84% (62 of 74) of responding countries, the STI strategy or programme is integrated with the HIV national strategy.

Table 2 displays the reported familiarity and methods of distribution of the global STI strategy. Table 3 describes the availability of country strategies and programming for specific STI priority areas by WHO region.

Table 2: Knowledge and dissemination of WHO and national STI strategies

Global and national STI strategic responses	Percentage of responding countries (number)
Countries familiar with the global STI strategy	92% (103/112)
Internal dissemination of the global STI strategy	34% (108/112)
Countries with a national STI strategy	64% (72/112)
National STI strategy is incorporated with the HIV strategy	84% (62/74)

Table 3: National strategies and programming for priority STI areas by WHO region (percentage and number of responding countries)

Region	National STI strategic plan	Strategy for eliminating mother-to-child transmission	STI treatment guidelines	Antimicrobial resistance surveillance for <i>Neisseria gonorrhoeae</i>	HPV vaccine in national immunization plan
African Region	77% (20/26)	73% (19/26)	92% (24/27)	58% (11/19)	31% (8/26)
Region of the Americas	64% (16/25)	88% (22/25)	88% (22/25)	58% (11/19)	80% (20/25)
South-East Asia Region	80% (8/10)	100% (10/10)	100% (10/10)	60% (6/10)	40% (4/10)
European Region	37% (10/27)	48% (13/27)	70% (19/27)	82% (18/22)	77% (20/26)
Eastern Mediterranean Region	67% (4/6)	83% (5/6)	67% (4/6)	50% (2/4)	20% (1/5)
Western Pacific Region	78% (14/18)	53% (9/17)	94% (17/18)	60% (9/15)	67% (12/18)
Total	64% (72/112)	70% (78/111)	86% (96/112)	64% (57/89)	59% (65/110)

STI TREATMENT GUIDELINES

Nearly all responding countries were familiar with the WHO 2016 STI treatment guidelines for gonorrhoea, chlamydia, genital herpes and syphilis (4–7) (Table 4).

Table 4: Proportion of countries familiar with the 2016 WHO STI treatment guidelines	
WHO STI treatment guidelines	Percentage of responding countries (number)
<i>Neisseria gonorrhoeae</i> (gonorrhoea) (4)	91% (102/112)
<i>Chlamydia trachomatis</i> (chlamydia) (5)	91% (102/112)
Herpes simplex virus (genital herpes) (6)	89% (100/112)
<i>Treponema pallidum</i> (syphilis) (7)	91% (102/112)

Table 5 describes the development of national guidelines for STIs, present in 96 of 112 (86%) of the responding countries. WHO STI guidelines were the most used references; however, other guidelines were also used.

Table 5: National STI treatment guidelines and sources of reference for development	
National STI treatment guidelines	Percentage of responding countries (number)
Have national STI guidelines	86% (96/112)
Use WHO guidelines as reference	84% (74/88)
Use other guidelines as reference	
United States Centers for Disease Control and Prevention	56% (50/89)
British Association for Sexual Health and HIV (BASHH) guidelines	22% (19/88)
International Union against Sexually Transmitted Infections	20% (18/88)

NATIONAL STI PRIORITIES

Table 6 presents the priority-level interventions for STI control and prevention in 111 countries. The intervention given the highest priority by the most countries (90%) is eliminating the mother-to-child transmission of HIV and syphilis.

High priority was also given to STI screening among people living with HIV (78%) and STI screening of men who have sex with men and sex workers (72%).

Condom distribution was reported as a high priority by 67% of countries followed by 56% for STI syndromic management and 50% for STI services for adolescents.

HPV vaccination for young women is a high priority in the European Region (82%) and Region for the Americas (76%) but is still not considered a high priority in the African Region (35%).

Syndromic management, as expected, remains a high priority in the African Region (77%), where STI diagnostic testing is rarely available, and lower in the European Region (22%), where STI diagnostic testing is routinely available.

Table 6: Priorities of countries for STI interventions (percentage and number of responding countries)				
Intervention	High	Medium	Low	Not a priority or not done
Eliminating the mother-to-child transmission of HIV and syphilis	90% (100/111)	6% (7/111)	4% (4/111)	0% (0/111)
STI screening conducted among people with HIV	77% (86/111)	18% (20/111)	3% (3/111)	2% (2/111)
STI screening among high-risk populations of men who have sex with men and sex workers	71% (79/111)	14% (16/111)	9% (10/111)	5% (6/111)
Condom distribution	67% (74/111)	25% (23/111)	8% (9/111)	3% (3/111)
HPV vaccine for young women	59% (65/111)	13% (14/111)	16% (18/111)	12% (13/111)
STI syndromic management	56% (62/111)	23% (26/111)	9% (10/111)	12 (13/111)
STI surveillance and monitoring	56% (62/111)	27% (30/111)	14% (15/111)	4% (4/111)
Providing STI services for adolescents	45% (50/111)	31% (34/111)	20% (22/111)	52% (58/111)
Monitoring antimicrobial resistance in gonococcal isolates	34% (38/111)	27% (30/111)	22 (24/111)	17% (19/111)

LOCATION OF STI CARE SERVICES

In the survey, STI care services were defined as a clinical setting with a health professional capable of STI management, including diagnosis (syndromic or etiological), treatment, counselling and partner management. Table 7 shows the number of countries reporting the availability of STI services in various clinical platforms.

Table 7: Availability of STI services within clinical platforms	
Location of STI services	Percentage of responding countries (number)
HIV services	92% (103/112)
Antenatal care	89% (100/112)
Primary health care clinics	88% (99/112)
Reproductive health clinics	85% (95/112)
Specialized STI clinics	85% (95/112)
Services for key populations	83% (93/112)

More than 70% of the surveyed countries reported the availability of STI services or links to STI services in primary health centres, HIV clinics, reproductive health settings, family planning and pre- and postnatal care services. This milestone of the global STI strategy for 2020 has been achieved among these responding countries (Box 1).

STI SURVEILLANCE SYSTEM

STI surveillance or STI monitoring is in place in 87% (97 of 110) of responding countries, thus reflecting that this group of responding countries has achieved the 2020 milestone in the global STI strategy: 70% of the countries have an STI surveillance system in place.

Table 8 describes the elements of national STI surveillance systems. Table 9 summarizes which STIs are reported at different levels of the health system.

Table 8: Elements of national STI surveillance systems	
Elements of STI surveillance systems	Percentage and number of reporting countries
STI surveillance or monitoring	87% (97/110)
STI case reporting	91% (96/98)
Etiological assessment of STI syndromes	48% (48/98)
Periodic STI prevalence surveys among general and high-risk populations	49% (49/97)

Table 9: STIs and STI syndromes at various levels of STI services (percentage and number of responding countries)					
STI reported	Universal	STI clinic	Sentinel sites	Private sector	Laboratories
Syndrome: urethral discharge	51% (48/94)	47% (44/94)	31% (29/93)	26% (24/93)	–
Syndrome: genital ulcer disease	47% (45/95)	48% (46/95)	30% (28/93)	28% (26/93)	–
Syndrome: vaginal discharge	46% (44/95)	45% (43/95)	31% (29/93)	26% (24/93)	–
Causes: syphilis	74% (71/96)	67% (64/95)	45% (41/92)	46% (43/94)	60% (56/93)
Causes: gonorrhoea	61% (58/95)	55% (52/95)	39% (36/92)	39% (37/94)	56% (53/94)
Causes: chlamydia	44% (42/96)	46% (44/95)	30% (28/92)	31% (29/94)	50% (47/94)
Causes: trichomoniasis	31% (30/96)	35% (34/95)	24% (23/94)	21% (20/94)	39% (36/93)
Causes: syphilis among pregnant women	78% (75/96)	65% (62/95)	38% (35/91)	47% (44/94)	58% (54/93)

STI surveillance or monitoring is integrated within the national health information system in 81% (82 of 101) of countries. The data are disaggregated in most countries. The disaggregation is reported by age (97%), sex (97%), location (91%) and population (69%).

Most countries (95%) enter data for HIV and STI indicators into the Global AIDS Monitoring reporting tool maintained by UNAIDS, WHO and UNICEF (8).

Table 10 shows the frequencies of the various Global AIDS Monitoring indicators reporting for STIs. The reporting reflects the priority given to eliminating the mother-to-child transmission of HIV and syphilis.

Table 10: Countries completing the Global AIDS Monitoring indicator reporting for STIs	
Global AIDS Monitoring indicator	Percentage (number)
Syphilis screening coverage among pregnant women in antenatal care clinics	84% (77/91)
Syphilis positivity among pregnant women in antenatal care clinics	78% (71/91)
Syphilis treatment coverage among pregnant women testing positive in antenatal care clinics	67% (61/91)
Congenital syphilis case rate	64% (58/91)
Syphilis screening and positivity among men who have sex with men	48% (44/91)
Syphilis screening and positivity among sex workers	41% (37/91)
Urethral discharge case rate among men	45% (41/91)

ELIMINATION OF MOTHER-TO-CHILD TRANSMISSION OF HIV AND SYPHILIS

Table 11 describes programming for eliminating the mother-to-child transmission of HIV and syphilis.

Table 11: Policy and programming for eliminating mother-to-child transmission at the national level	
Programming for eliminating mother-to-child transmission	Percentage (number)
National strategy for eliminating the mother-to-child transmission of HIV and syphilis	70% (78/112)
National strategy only for HIV	10% (11/110)
Plan to apply for validation of the elimination of mother-to-child transmission or the path to elimination for both HIV and syphilis	74% (58/79) (16 between 2020 and 2023)
National policy for screening pregnant women for HIV	93% (104/108)
National policy for screening pregnant women for syphilis	93% (103/111)
Test for HIV at delivery	60% (59/99)
Test for syphilis at delivery	46% (44/95)

A total of 93% (104 of 108) countries have a national policy for screening pregnant women for HIV and 93% (103 of 111) for syphilis. There has been some progress since 2014, when 86% of the countries had screening programmes for syphilis among pregnant women. Testing for HIV at delivery was reported by 60% (59 of 99) and for syphilis by 46% (44 of 95) of countries.

The global STI strategy milestone for 2020 is to have at least 95% of pregnant women screened for syphilis and 90% tested for HIV, and 95% of syphilis-positive pregnant women receiving effective treatment. Global AIDS Monitoring gathers these data (Annex 1). Country-reported data from Global AIDS Monitoring for 2019 show that these milestones for syphilis were not achieved.

For 2019, among 74 countries reporting antenatal care syphilis screening coverage, only 26% achieved 95% or higher coverage; among 66 countries reporting antenatal care syphilis treatment coverage for women with syphilis, only 48% achieved 95% or higher coverage.

Using national policy as a surrogate, there is an indication that this milestone for HIV and syphilis screening can be achieved if the policies are in fact implemented in antenatal care settings. This can be cross-referenced using Global AIDS Monitoring data. The survey did not include a question on policy for treatment coverage of pregnant women found to be positive for syphilis in antenatal care.

Table 12 summarizes the national policies for HIV and syphilis screening among pregnant women.

Table 12: Frequency of screening for HIV and syphilis among pregnant women				
Frequency of screening during antenatal care in 101 responding countries (percentage)	Once	Twice	Three times	Four times or more
HIV	49%	36%	15%	1%
Syphilis^a	58%	28%	13%	2%

^aStock-out of test kits was frequently reported – 57% (30 of 53).

Dual HIV and syphilis tests used in antenatal care clinics – 15% (16 of 110).

The price of dual HIV and syphilis test kits was reported as mean US\$ 6.10 and median US\$ 3.75 (range US\$ 0.96–19.00).

Besides HIV and syphilis, 74% (81 of 110) of countries test for other STIs, mainly hepatitis B (Table 13).

Table 13: Screening for STIs among pregnant women by WHO region (percentage and number of responding countries)							
Region	HIV	Syphilis	Chlamydia	Gonorrhoea	Trichomoniasis	Hepatitis B	HPV
African Region	100% (26/26)	100% (26/26)	23% (6/26)	35% (9/26)	23% (6/26)	58% (15/26)	15% (4/26)
Region of the Americas	100% (25/25)	100% (25/25)	12% (3/25)	16% (4/25)	12% (3/25)	72% (18/25)	24% (6/25)
South-East Asia Region	100% (10/10)	100% (10/10)	10% (1/10)	20% (2/10)	20% (2/10)	90% (9/10)	20% (2/10)
European Region	81% (22/27)	93% (25/27)	30% (8/27)	41% (11/27)	22% (6/27)	89% (24/27)	22% (6/27)
Eastern Mediterranean Region	60% (3/5)	80% (4/5)	0% (0/5)	0% (0/5)	0% (0/5)	40% (2/5)	0% (0/5)
Western Pacific Region	100% (17/17)	94% (17/18)	24% (4/17)	24% (4/17)	18% (3/17)	76% (13/17)	6% (1/17)
Total	94% (103/110)	96% (107/110)	24% (22/110)	27% (30/110)	18% (20/110)	74% (81/110)	17% (19/110)

Thirty of 53 responding countries had frequent stock-outs of syphilis test kits.

STI SCREENING, DIAGNOSIS AND TREATMENT

Among key populations, screening for HIV and syphilis was the most commonly reported followed by that for hepatitis B (Table 14). Table 15 shows the countries performing syphilis screening among men who have sex with men and sex workers by WHO region.

Table 14: Screening of men who have sex with men and sex workers for STIs (percentage and number of responding countries)

STI screened	Men who have sex with men	Sex workers
HIV	83% (93/112)	81% (90/111)
Syphilis	74% (83/112)	73% (81/111)
Gonorrhoea	50% (56/112)	49% (54/110)
Chlamydia	41% (46/111)	44% (48/110)
Trichomoniasis	29% (32/111)	39% (43/110)
HPV	23% (26/111)	30% (33/110)
Genital herpes	32% (36/111)	33% (36/110)
Hepatitis B	54% (60/111)	49% (54/110)
Hepatitis C	41% (46/111)	36% (40/109)
Other	13% (14/109)	13% (14/109)

Table 15: Screening of men who have sex with men and sex workers for syphilis by WHO region (percentage and number of responding countries)

Region	African Region	Region of the Americas	South-East Asia Region	European Region	Eastern Mediterranean Region	Western Pacific Region
Men who have sex with men	62% (16/26)	96 (24/25)%	9/10 (90% (9/10))	63% (17/27)	50% (3/6)	78% (14/18)
Sex workers	68% (17/25)	92% (23/25)	9/10 (90% (9/10))	50% (3/6)	56% (15/27)	78% (14/18)

Table 16 demonstrates the diagnostic tests available for STI diagnosis for the general population. The availability of HIV and syphilis testing was the highest (>95%) versus 60% for chlamydia, 56% for HPV and 54% for herpes.

Studies or surveys conducted to identify the common causes of STI syndromes (urethral discharge, vaginal discharge and genital ulcer disease) were conducted in 31% (35/112) of the responding countries (14 in the past four years, 14 without the date being mentioned and seven before 2014).

Table 16: STI diagnostic tests available to the general population	
Diagnostic test	Percentage of responding countries (number)
HIV	97% (109/112)
Syphilis	96% (107/112)
Gonorrhoea	74% (83/112)
Chlamydia	59% (66/111)
Trichomoniasis	72% (79/110)
HPV	56% (62/111)
Genital herpes	54% (60/111)
Hepatitis B	86% (96/112)
Hepatitis C	79% (88/112)
Other	9% (10/108)

Table 17 shows the most frequently recommended medications for the syndromes.

Table 17: Countries recommending frequently recommended medications for STI syndromes (percentage and number of responding countries)			
	Urethral discharge	Vaginal discharge	Genital ulcer disease syndrome
Azithromycin	85% (91/107)	76% (80/106)	
Ceftriaxone	83% (89/107)	73% (77/105)	
Doxycycline	75% (79/106)	70% (74/106)	51% (52/103)
Cefixime	55% (59/106)	52% (55/105)	
Metronidazole		84% (89/106)	
Others, including candidiasis medications		52% (54/103)	
Acyclovir			78% (82/105)
Benzathine penicillin			89% (93/105)

Table 18 shows the frequency of STI medications included in the national formulary or procurement list for STI treatment among the responding countries.

Table 18: Countries including medications in the national formulary	
Medication	Percentage of responding countries (number)
Acyclovir	84% (90/107)
Azithromycin	89% (96/108)
Benzathine penicillin	92% (99/108)
Ceftriaxone	89% (96/108)
Cefixime	65% (70/108)
Doxycycline	90% (96/111)
Metronidazole	91% (97/107)

STI medication stock-outs occurred in at least 11% (11–34%) of countries during 2018–2019. The most frequent specific stock-out was benzathine penicillin, reported by 34% of countries (37 of 110), mainly between 2018 and 2019. The first stock-outs of benzathine penicillin were

in 2009 but increased in 2016 to 2019 (eight countries). Recent stock-outs were mainly identified in 2018 (10 countries) and 2019 (seven countries). Tables 19 and 20 summarize the findings.

Table 19: Countries reporting stock-outs of STI medications

Medication	Percentage of responding countries (number)
Acyclovir	16/111 (14%)
Azithromycin	15/110 (14%)
Benzathine penicillin	37/110 (34%)
Ceftriaxone	17/111 (15%)
Cefixime	15/110 (14%)
Doxycycline	14/111 (13%)
Metronidazole	13/111 (12%)
Crystalline penicillin	8/109 (7%)

Table 20: Countries reporting stock-outs of STI medications by WHO region, 2018–2019 (percentage and number of responding countries)

Region	Benzathinepenicillin	Azithromycin	Cefixime	Ceftriaxone	Acyclovir
African Region	42% (11/26)	28% (7/25)	23% (6/26)	27% (7/26)	34% (9/26)
Region of the Americas	36% (9/25)	8% (2/25)	12% (3/25)	16% (4/25)	12% (3/25)
South-East Asia Region	40% (4/10)	10% (1/10)	10% (1/10)	10% (1/10)	10% (1/10)
European Region	20% (7/27)	7% (2/27)	4% (1/27)	7% (2/27)	0% (0/27)
Eastern Mediterranean Region	20% (1/5)	0% (0/5)	20% (1/5)	20% (1/5)	0% (0/5)
Western Pacific Region	29% (5/17)	17% (3/18)	18% (3/17)	11% (2/18)	17% (3/18)
Total	34% (37/110)	14% (15/110)	14% (15/110)	15% (17/111)	14% (16/111)

SURVEILLANCE FOR ANTIMICROBIAL RESISTANCE IN *NEISSERIA GONORRHOEAE*

Eighty per cent (86 of 108) of the responding countries' national reference laboratories perform antimicrobial susceptibility testing for antimicrobial resistance. Table 21 describes other programming activities related to monitoring antimicrobial resistance.

Surveillance of gonococcal antimicrobial susceptibility is conducted in 64% (57 of 89) of the responding countries, with 33 countries performing studies during the past four years (Table 20).

Surveillance for antimicrobial resistance of gonococcal isolates is a 2020 milestone. The milestone (70%) was almost achieved among the responding countries.

Compared with the 2014 situation, when 55 countries reported antimicrobial resistance studies in previous years, the situation is unchanged, since 57 countries responded to the survey.

Table 21: Countries conducting surveillance for antimicrobial resistance in *Neisseria gonorrhoeae*

Laboratory antimicrobial resistance surveillance	Percentage of responding countries (number)
General antimicrobial susceptibility testing	80% (86/108)
Perform antimicrobial resistance for <i>Neisseria gonorrhoeae</i> at national reference laboratory	89% (80/90)
Use results to inform <i>Neisseria gonorrhoeae</i> treatment schemes	79% (66/84)
Surveillance of gonococcal antimicrobial susceptibility ^a	64% (57/89)
Performed in the past four years ^a	37% (33/89)
Use minimum inhibitory concentration or E-test among countries performing testing for <i>Neisseria gonorrhoeae</i> antimicrobial resistance	39% (22/57)

^aCompared with the 2014 situation, when 55 countries reported antimicrobial resistance studies in previous years, the situation is unchanged, since 57 countries responded to the survey.

HPV VACCINATION, SCREENING, DIAGNOSIS AND TREATMENT

Of the responding countries, 59% (65 of 110) include the HPV vaccine in the national immunization schedule.

This is a measure of the first 2020 milestone. The milestone of 70% of countries including HPV vaccine in the national immunization schedule was not achieved among the responding countries.

Of the countries that include the HPV vaccine in the national immunization schedule, 94% (63 of 65) provide the vaccine to adolescent girls and 31% (20 of 65) to adolescent girls and boys.

The HPV vaccine for people living with HIV is included in the national immunization schedule in 27% (18 of 68) of countries and, for men who have sex with men, in 18% (12 of 68) of countries.

Cervical cancer is included in the national cancer registry in 84% (89 of 106) of responding countries. It is population based in 48% (43 of 90), hospital based in 66% (57 of 87), national in 75% (66 of 88) and subnational in 42% (37 of 89).

Screening for cervical cancer is available for the general populations of women 35–55 years old in 94% (102 of

109) of responding countries. All (100%) responding countries in the Region of the Americas, South-East Asia Region and European Region report that cervical cancer screening is available for general populations of women; 95% of countries in the Western Pacific Region reported that screening is available. In the African Region, 85% of responding countries had cervical cancer screening availability. Few countries in the Eastern Mediterranean Region reported on this variable, and 60% (3/5) of these reported availability of screening for cervical cancer (Table 22).

The availability of cervical cancer screening in this 2019–2020 survey reflects progress compared with the 2014 survey, when coverage was 64% in the African Region, 87% in the Region of the Americas, 80% in the South-East Asian Region, 93% in the European Region and 100% in the Western Pacific Region.

Few countries completed the survey from the Eastern Mediterranean Region in 2019–2020. In 2014, 31% of countries in this Region reported the availability of cervical cancer screening, 13 of 22 (59%) as compared to the current survey where only 3 of 5 countries reported having this service.

Table 22: Countries making cervical cancer screening available by WHO region, 2014 and 2020 (percentage of responding countries)

WHO region	2014	2020
African Region	64%	85%
Region of the Americas	87%	100%
South-East Asia Region	80%	100%
European Region	93%	100%
Eastern Mediterranean Region	31% (n = 13)	60% (n = 6)
Western Pacific Region	100%	94%

The countries in which cervical cancer screening is available most commonly reported the Papanicolaou (Pap) smear test: 91% (95 of 104). The HPV test is in use in 48% of countries (49 of 102). Other tests in use include acetic acid testing (53%, 53 of 100) and visual inspection only (32%, 32 of 99). Other tests reported represent 13% (12/95) (Table 23).

Methods of treating people with cervical precancerous and cancerous lesions reported by countries included: loop electrosurgical excision procedure (79%, 81 of 102), cryotherapy (72%, 73 of 102), surgical removal (75%, 77 of 102) and thermal ablation (47%, 47 of 101) (Table 23).

Table 23: Types of cervical cancer screening and treatment available at the national level

Cervical cancer screening tests	Percentage of responding countries (number)
PAP smear	91% (95/104)
HPV test	48% (49/102)
Acetic acid testing	53% (53/100)
Visual inspection only	32% (32/99)
Cervical cancer treatment methods	Percentage of responding countries (number)
Thermal ablation	47% (47/101)
Cryotherapy	72% (73/102)
Loop electrosurgical excision procedure or conization	79% (81/102)
Surgical removal	75% (77/102)
Others	13% (13/97)

TECHNICAL ASSISTANCE

Seventy-five per cent (82 of 109) of the countries requested technical assistance. Table 24 describes the type of technical assistance requested.

Region	National	STI treatment	STI surveillance	Eliminating mother-to-child transmission	Antimicrobial resistance	HPV
African Region	77% (20/26)	54% (14/26)	85% (22/26)	69% (18/26)	81% (21/26)	77% (20/26)
Region of the Americas	62% (13/21)	62% (13/21)	76% (16/21)	76% (16/21)	81% (17/21)	68% (15/22)
South-East Asia Region	100% (8/8)	75% (6/8)	88% (7/8)	75% (6/8)	88% (7/8)	62% (5/8)
European Region	91% (10/11)	63% (7/11)	54% (6/11)	27% (3/11)	45% (5/11)	63% (7/11)
Eastern Mediterranean Region	50% (3/6)	40% (2/5)	80% (4/5)	67% (4/6)	80% (4/5)	60% (3/5)
Western Pacific Region	100% (8/10)	60% (6/10)	80% (8/10)	72% (8/11)	90% (9/10)	60% (6/10)
Total	76% (62/82)	59% (48/81)	78% (63/81)	66% (55/83)	78% (63/81)	68% (56/82)

The main technical partners or agencies that support STI prevention and control services reported by countries include the United States Centers for Disease Prevention and Control, European Centre for Disease Prevention and Control, Global Fund to Fight AIDS, Tuberculosis and Malaria, WHO, UNAIDS, UNFPA, UNICEF and UNDP).

The main source of funding for implementing STI-related prevention and control programmes are national governments and the Global Fund.

SUMMARY

- The response rate was 58% in 2020 versus 51% 2014. There was no difference in the World Bank income level classification among countries reporting in the two time periods.
- Knowledge and use of the global STI strategy and WHO STI treatment guidelines was high.
- A large proportion of countries had formal national STI treatment guidelines (86%) that were well disseminated (81%) and used the WHO guidelines as a reference (84%).
- Country priorities aligned closely with the WHO priorities included in the global STI strategy.
- STI surveillance or monitoring are in place in 87% of the responding countries.
- Seventy per cent of the responding countries had a strategy for eliminating mother-to-child transmission, with 74% reporting plans to validate the elimination of mother-to-child transmission.
- National policies on HIV and syphilis screening among pregnant women were in place for 90% of the responding countries.
- There was widespread availability of HIV and syphilis screening for men who have sex with men, sex workers and the general population among the responding countries.
- Most countries reported that STI medications were adequate for use in treating people with STI syndromes, widely available and included in the national essential drugs list.
- Stock-outs of benzathine penicillin (34%) and other STI drugs (13–15%) occurred mainly between 2016 and 2019 in responding countries.
- Low- and middle-income countries still use syndromic management of STI diagnosis and treatment because of the limited availability and high cost of STI diagnostics.
- Antimicrobial susceptibility testing for antimicrobial resistance in *N. gonorrhoeae* is performed in national reference laboratories in 80% of the responding countries. Of these, 89% perform antimicrobial resistance in monitoring *N. gonorrhoeae* and 79% used the results to inform treatment schemes.
- Surveillance for gonococcal antimicrobial susceptibility is conducted in 64% of the responding countries.
- HPV vaccine is included in the national immunization schedule of 59% of responding countries.
- The HPV vaccine is provided to adolescent girls in 94% of countries and to adolescent girls and boys in 31% of countries.
- The HPV vaccine is provided to people living with HIV in 26% of countries and to men who have sex with men in 18% of countries.
- The most frequent cervical cancer screening tests reported are Pap smear in 91% and HPV test in 48% of responding countries.
- The most frequent cervical cancer treatments reported were cryotherapy (72%), loop electrosurgical excision procedure or conization (79%) and surgical removal with other procedure (75%).
- 76% of the responding countries reported the need for technical assistance for STI programming.

STATUS: THE 2020 MILESTONES AMONG REPORTING COUNTRIES

- Milestone: to have 70% of countries with a STI surveillance system in place.
 - STI surveillance or monitoring is in place in 87% of countries.
This milestone has been achieved among the responding countries.
- Milestone: to have at least 95% of pregnant women screened for syphilis and 90% tested for HIV, and 95% of positive pregnant women receive effective treatment.
 - Most countries have national policies for screening pregnant women for HIV (93%) and for syphilis (93%). As a proxy, the availability of syphilis and HIV screening policies for pregnant women demonstrates national support for this service delivery milestone of 95% screening coverage by these responding countries. The numeric indicators of syphilis screening and treatment coverage for pregnant women are measured and reported using Global AIDS Monitoring (Annex 1).
- Milestone: 70% of countries providing STI services or links to such services in all primary, HIV, reproductive health, family planning and pre- and postnatal care services.

– Primary health-care services	88%
– HIV services	91%
– Reproductive health services	84%
– Family planning services	77%
– Pre- and postnatal services	89%

This milestone has been achieved.
- Milestone: 70% of countries delivering HPV vaccination through the national immunization programme.
 - Only 5% of the countries responding include HPV vaccine in the national immunization schedule.
The milestone has not been achieved.
- Milestone: 70% of countries responding on antimicrobial resistance of *Neisseria gonorrhoeae*.
 - Surveillance of gonococcal antimicrobial susceptibility is conducted in 64% of the countries.
The milestone was almost achieved.
- Milestone: 70% of key populations having access to a full range of STI and HIV services, including condoms.
This survey did not assess this milestone.

CONSIDERATIONS FOR DATA INTERPRETATION

The results of this survey demonstrate that STI services are available within the responding countries. The response rate of 58% of the WHO Member States should be considered when interpreting these data. Percentage analysis of the same responses using a denominator of all surveyed countries (including nonrespondents) would yield results demonstrating that STIs and the accompanying service delivery have much lower priority.

Reporting bias towards the survey being completed by countries with better developed STI programming should be considered. Only one of the nine Portuguese-speaking countries completed the survey even though a Portuguese-speaking WHO staff member translated the survey and reached out to the countries.

USE OF THESE DATA

These data will be used to inform the need for technical assistance to countries related to the STI programme, surveillance and service delivery. The results of this survey

will also be used to inform the development of the next WHO global STI strategy, considering the challenges and opportunities that exist within current health-care systems.

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ANNEX. GLOBAL AIDS MONITORING SYSTEM INDICATORS: DATA YEAR 2019

Annex A: Global AIDS Monitoring, percentage and number of countries performing antenatal care screening for syphilis, 194 WHO Member States, 2017–2019, analysis as of July 2020			
WHO region	2019	2018	2017
African Region	66% (31/47)	64% (30/47)	62% (29/47)
Region of the Americas	54% (19/35)	80% (21/35)	69% (24/35)
South-East Asia Region	55% (6/11)	64% (7/11)	64% (7/11)
European Region	13% (7/53)	13% (7/53)	11% (6/53)
Eastern Mediterranean Region	33% (7/21)	27% (6/21)	27% (6/21)
Western Pacific Region	30% (8/27)	30% (8/27)	44% (12/27)
Total	40% (78/194)	41% (79/194)	43% (84/194)

Annex B: Global AIDS Monitoring, percentage and number of countries carrying out syphilis screening, positivity and treatment in antenatal care, 194 WHO Member States, 2019, analysis as of July 2020			
WHO region	Reported antenatal care syphilis screening	Reporting antenatal care syphilis positivity	Reporting antenatal care syphilis treatment
African Region	66% (31/47)	68% (32/47)	60% (28/47)
Region of the Americas	54% (19/35)	60% (21/35)	54% (19/35)
South-East Asia Region	55% (6/11)	45% (5/11)	45% (5/11)
European Region	13% (7/53)	13% (7/53)	13% (7/53)
Eastern Mediterranean Region	33% (7/21)	27% (6/21)	24% (5/21)
Western Pacific Region	31% (8/27)	33% (9/27)	22% (6/27)
Total	40% (78/194)	41% (80/194)	36% (70/194)

Annex C: Global AIDS Monitoring, percentage and number of countries with syphilis positivity in antenatal care of >1%, reflecting eligibility for a path to elimination, 194 WHO Member States, 2019, analysis as of July 2020		
WHO region	Reporting antenatal care syphilis positivity	Reporting antenatal care syphilis positivity >1% (the denominator is the number of countries reporting)
African Region (47 countries)	68% (32/47)	72% (23/32)
Region of the Americas (35 countries)	60% (21/35)	48% (10/21)
South-East Asia Region (11 countries)	45% (5/11)	20% (1/5)
European Region (53 countries)	13% (7/53)	0% (0/2)
Eastern Mediterranean Region (21 countries)	27% (6/21)	5% (1/21)
Western Pacific Region (27 countries)	33% (9/27)	33% (3/9)
Total (194 countries)	41% (80/194)	48% (38/70)

Annex D: Global AIDS Monitoring, percentage and number of countries performing syphilis screening and treatment in antenatal care, 194 WHO Member States, 2019, analysis as of July 2020				
WHO region	Test >95%	Test <50%	Treat >95%	Treat <50%
African Region (47 countries)	10% (3/31)	39% (12/31)	57% (16/28)	14% (4/28)
Region of the Americas (35 countries)	37% (7/19)	0% (0/19)	26% (5/19)	16% (3/19)
South-East Asia Region (11 countries)	50% (3/6)	33% (2/6)	40% (2/5)	0% (0/5)
European Region (53 countries)	71% (5/7)	0% (0/7)	86% (6/7)	14% (1/7)
Eastern Mediterranean Region (21 countries)	14% (1/7)	71% (5/7)	40% (2/5)	20% (1/5)
Western Pacific Region (27 countries)	50% (4/8)	50% (2/4)	67% (4/6)	0% (0/6)
Totals (194 countries)	29% (23/78)	27% (21/78)	50% (35/70)	13% (9/70)

For more information, contact:

World Health Organization
**Department of Global HIV,
Hepatitis and STI programme**
20, avenue Appia
1211 Geneva 27
Switzerland

E-mail: hiv-aids@who.int
www.who.int/teams/global-hiv-hepatitis-and-stis-programmes/sti

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