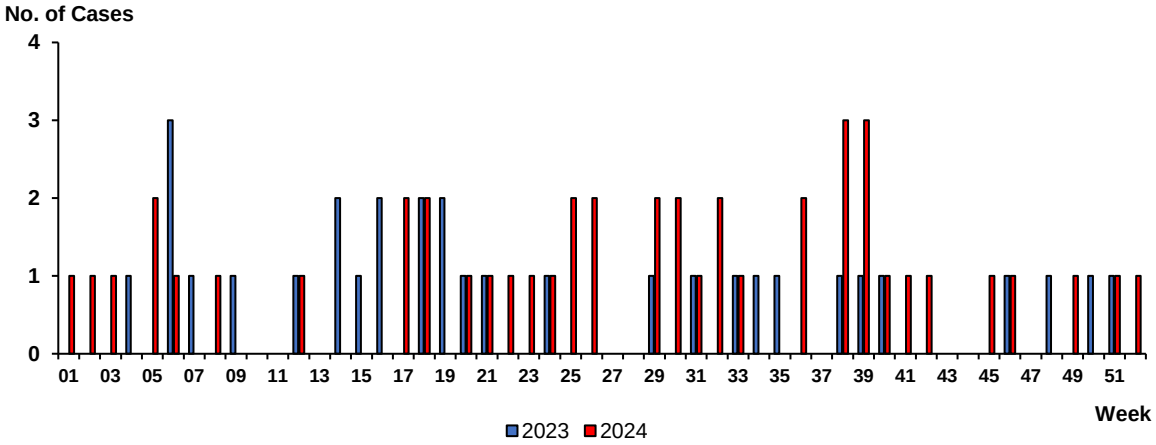
HEPATITIS B

Hepatitis B virus (HBV) is a small DNA virus that belongs to the *Hepadnaviridae* family. Infection with HBV may cause acute hepatitis which is characterised by jaundice and abdominal pain. Some patients develop chronic hepatitis which may lead to liver cirrhosis and liver cancer, while some have a persistent but asymptomatic carrier state. Patients with these chronic infection states can transmit the disease to susceptible persons, including vertical transmission from mother to child. Cure remains elusive currently.

A total of 47 cases of acute hepatitis B were reported in 2024, compared to 31 cases reported in 2023 (Figure 5.1). All 31 cases in 2023 were serologically confirmed with the presence of hepatitis B surface antigen (HBsAg) or nucleic acid, and anti-HBc IgM antibody which is associated with acute clinical presentation. Of the 47 cases in 2024, 41 were associated with acute clinical presentation and serologically confirmed with the presence of HBsAg or nucleic acid, and anti-HBc IgM antibody. There were six cases of test conversion, with a documented negative HBsAg result followed by a positive test within six months.

Figure 5.1
Weekly distribution of reported acute hepatitis B cases, 2023-2024



The resident incidence rate was highest in the 35-44 years age group and in the 45-54 years age group in 2023 and 2024, respectively. The male to female ratio among cases was 2.9:1 in 2023 and 3.5:1 in 2024 (Tables 5.1 and 5.2). Among the three major ethnic groups, Indian had the highest incidence rate in both 2023 and 2024 (Tables 5.3 and 5.4). Majority of the cases were local cases (96.8% in 2023 and 95.6% in 2024) (Table 5.5).

Table 5.1
Age-sex distribution and age-specific resident incidence rate of reported acute hepatitis B cases^, 2023

Age group	Number of notifications				Incidence rate per 100,000 resident population*
	Male	Female	Total	%	
0-4	0	0	0	0	0
5-14	0	0	0	0	0
15-24	1	0	1	3.2	0.2
25-34	4	3	7	22.6	1.2
35-44	5	5	10	32.3	1.6
45-54	7	0	7	22.6	1.2
55-64	6	0	6	19.4	1.0
65+	0	0	0	0	0
Total	**23**	**8**	**31**	**100⁺**	**-**

^There were no tourists or foreigners seeking medical treatment in Singapore.
*Rates are computed based on 2023 mid-year population obtained from the Singapore Department of Statistics.
⁺Figures may not add to 100% due to rounding.

Table 5.2
Age-sex distribution and age-specific resident incidence rate of reported acute hepatitis B cases^, 2024

Age group	Number of notifications				Incidence rate per 100,000 resident population*
	Male	Female	Total	%	
0-4	0	0	0	0	0
5-14	0	0	0	0	0
15-24	4	0	4	8.9	0.9
25-34	7	4	11	24.4	1.9
35-44	7	1	8	17.8	1.3
45-54	9	4	13	28.9	2.1
55-64	6	1	6	13.3	1.0
65+	3	0	3	6.7	0.4
Total	**35**	**10**	**45**	**100**	**-**

^Excluded two foreigners seeking medical treatment in Singapore.
*Rates are computed based on 2024 mid-year population obtained from the Singapore Department of Statistics.

Table 5.3
Ethnic-sex distribution and ethnic-specific incidence rate of reported acute hepatitis B cases^, 2023

Ethnic group	Male	Female	Total	%	Incidence rate per 100,000 population*
Singapore residents					
Chinese	9	0	9	29.0	0.3
Malay	0	0	0	0	0
Indian	3	1	4	12.9	1.1
Others	0	1	1	3.2	0.7
Non-residents	11	6	17	54.8	1.0
Total	**23**	**8**	**31**	**100⁺**	**0.5**

^There were no tourists or foreigners seeking medical treatment in Singapore.
*Rates are computed based on 2023 mid-year population obtained from the Singapore Department of Statistics.
⁺Figures may not add to 100% due to rounding.

Table 5.4
Ethnic-sex distribution and ethnic-specific incidence rate of reported acute hepatitis B cases^, 2024

Ethnic group	Male	Female	Total	%	Incidence rate per 100,000 population*
Singapore residents					
Chinese	19	3	22	48.9	0.7
Malay	0	2	2	4.4	0.4
Indian	3	1	4	8.9	1.1
Others	0	0	0	0	0
Non-residents	13	4	17	37.8	0.9
Total	**35**	**10**	**45**	**100**	**0.8**

^Excluded two foreigners seeking medical treatment in Singapore.
*Rates are computed based on 2024 mid-year population obtained from the Singapore Department of Statistics.

Table 5.5
Total number of notifications^ received for reported acute hepatitis B cases, 2020-2024

Age group	2020		2021		2022		2023		2024	
	Local	Imported	Local	Imported	Local	Imported	Local	Imported	Local	Imported
0-4	0	0	0	0	0	0	0	0	0	0
5-14	0	0	0	0	0	0	0	0	0	0
15-24	2	0	2	0	0	0	1	0	4	0
25-34	10	1	7	0	7	2	6	1	10	1
35-44	14	0	3	1	11	1	10	0	8	0
45-54	10	1	0	0	3	0	7	0	13	0
55-64	3	0	3	0	1	0	6	0	5	1
65+	2	1	1	0	3	0	0	0	3	0
Total	**41**	**3**	**16**	**1**	**25**	**3**	**30**	**1**	**43**	**2**

^Excluded tourists and foreigners seeking medical treatment in Singapore.

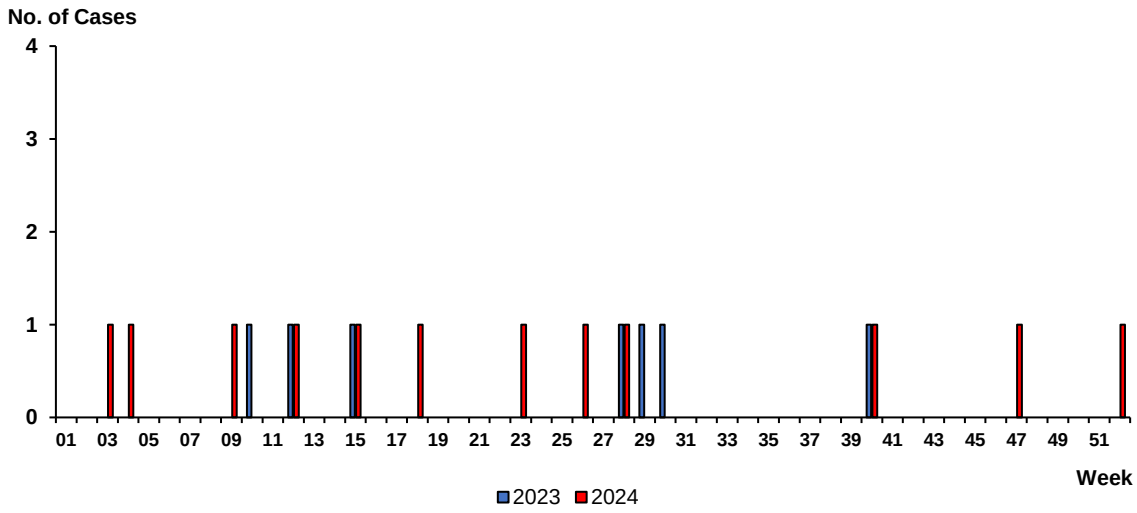
A total of 19,350 and 19,401 blood samples from obstetrics patients were screened at the KK Women's and Children's Hospital for HBsAg and HBeAg in 2023 and 2024, respectively. Of the 19,350 samples in 2023, 157 (0.8%) were HBsAg positive and 21 (0.1%) were HBeAg positive, while of the 19,401 samples in 2024, 128 (0.7%) were HBsAg positive and 22 (0.1%) were HBeAg positive.

HEPATITIS C

Hepatitis C virus (HCV) is an enveloped RNA virus in the *Flaviviridae* family. HCV infection may result in acute hepatitis but may also be asymptomatic. A significant proportion of patients develop chronic hepatitis which can result in chronic liver diseases such as cirrhosis and liver cancer. Patients with chronic hepatitis C are infectious, and HCV is most efficiently transmitted by direct percutaneous exposure to infected blood or intravenous drug use. Treatment using direct-acting antivirals (DAAs) is effective, with manageable cost for most patients through Singapore's healthcare subsidies.

A total of eight cases of acute hepatitis C were reported in 2023, compared to 14 cases reported in 2024 (Figure 5.2). Of the eight cases in 2023, six were associated with acute clinical presentation and serologically confirmed with the presence of HCV antibody and HCV RNA. There were two cases of test conversion in 2023, with a documented negative anti-HCV result followed by a positive test within one year. Of the 14 cases in 2024, nine were associated with acute clinical presentation and serologically confirmed with the presence of HCV antibody and HCV RNA. There were five cases of test conversion in 2024, with a documented negative anti-HCV result followed by a positive test within one year.

Figure 5.2
Weekly distribution of reported acute hepatitis C cases, 2023-2024



The resident incidence rate was similar in the 25-44 and 55-64 years age groups in 2023, and highest in the 55-64 years age group in 2024. An overall male to female ratio among cases was 6:1 in 2023 and 2:1 in 2024 (Tables 5.6 and 5.7). Among the three major ethnic groups, Indians and Malays had the highest incidence rate in 2023 and 2024 respectively (Tables 5.8 and 5.9). The majority of the cases were local cases (85.7% in 2023 and 91.7% in 2024) (Table 5.10).

Table 5.6
Age-sex distribution and age-specific resident incidence rate of reported acute hepatitis C cases^, 2023

Age group	Number of notifications				Incidence rate per 100,000 resident population*
	Male	Female	Total	%	
0-4	0	0	0	0	0
5-14	0	0	0	0	0
15-24	0	0	0	0	0
25-34	2	0	2	28.6	0.3
35-44	1	1	2	28.6	0.3
45-54	1	0	1	14.3	0.2
55-64	2	0	2	28.6	0.3
65+	0	0	0	0	0
Total	**6**	**1**	**7**	**100⁺**	**-**

^Excluded one foreigner seeking medical treatment in Singapore.
*Rates are computed based on 2023 mid-year population obtained from the Singapore Department of Statistics.
⁺Figures may not add to 100% due to rounding.

Table 5.7
Age-sex distribution and age-specific resident incidence rate of reported acute hepatitis C cases^, 2024

Age group	Number of notifications				Incidence rate per 100,000 resident population*
	Male	Female	Total	%	
0-4	0	0	0	0	0
5-14	0	0	0	0	0
15-24	0	0	0	0	0
25-34	1	1	2	16.7	0.3
35-44	1	2	3	25.0	0.5
45-54	0	0	0	0	0
55-64	5	1	6	50.0	1.0
65+	1	0	1	8.3	0.1
Total	**8**	**4**	**12**	**100**	**-**

^Excluded one tourist and one foreigner seeking medical treatment in Singapore.
*Rates are computed based on 2024 mid-year population obtained from the Singapore Department of Statistics.

Table 5.8
Ethnic-sex distribution and ethnic-specific incidence rate of reported acute hepatitis C cases^, 2023

Ethnic group	Male	Female	Total	%	Incidence rate per 100,000 population*
Singapore residents					
Chinese	1	0	1	14.3	0
Malay	2	0	2	28.6	0.4
Indian	2	0	2	28.6	0.5
Others	1	0	1	14.3	0.7
Non-residents	0	1	1	14.3	0.1
Total	**6**	**1**	**7**	**100⁺**	**0.1**

^Excluded one foreigner seeking medical treatment in Singapore.
*Rates are computed based on 2023 mid-year population obtained from the Singapore Department of Statistics.
⁺Figures may not add to 100% due to rounding.

Table 5.9
Ethnic-sex distribution and ethnic-specific incidence rate of reported acute hepatitis C cases^, 2024

Ethnic group	Male	Female	Total	%	Incidence rate per 100,000 population*
Singapore residents					
Chinese	5	0	5	41.7	0.2
Malay	2	1	3	25.0	0.5
Indian	0	0	0	0	0
Others	1	2	3	25.0	2.1
Non-residents	0	1	1	8.3	0.1
Total	**8**	**4**	**12**	**100**	**0.2**

^Excluded one tourist and one foreigner seeking medical treatment in Singapore.
*Rates are computed based on 2024 mid-year population obtained from the Singapore Department of Statistics.

Table 5.10
Total number of notifications^ received for reported acute hepatitis C cases, 2020-2024

Age group	2020		2021		2022		2023		2024	
	Local	Imported	Local	Imported	Local	Imported	Local	Imported	Local	Imported
0-4	0	0	0	0	0	0	0	0	0	0
5-14	0	0	0	0	0	0	0	0	0	0
15-24	1	0	2	0	1	0	0	0	0	0
25-34	7	0	3	0	3	0	2	0	2	0
35-44	6	0	1	0	4	0	2	0	2	1
45-54	1	0	1	0	5	0	1	0	0	0
55-64	2	0	1	0	4	0	1	1	6	0
65+	0	0	3	0	2	0	0	0	1	0
Total	**17**	**0**	**11**	**0**	**19**	**0**	**6**	**1**	**11**	**1**

^Excluded tourists and foreigners seeking medical treatment in Singapore.

HUMAN IMMUNODEFICIENCY VIRUS INFECTION

Human immunodeficiency virus (HIV) belongs to the lentivirus group of the retrovirus family. HIV, the cause of the Acquired Immunodeficiency Syndrome (AIDS), remains a global cause for concern. The UNAIDS global AIDS update for 2025 estimated 1.3 million new HIV infections and 40.8 million people living with HIV globally in 2024[1].

HIV can be transmitted from person to person through unprotected sexual intercourse, the use of contaminated needles including the sharing of needles among intravenous drug users, transfusion of infected blood or blood products, mucosal contact with infected body fluids, and the transplantation of HIV-infected tissues or organs. Mother-to-child or vertical transmission is the most common route of HIV infection in children.

AIDS is the advanced stage of HIV infection, where a person's immune system is severely damaged and vulnerable to opportunistic infections. Previously, individuals infected with HIV could progress to AIDS in eight to 10 years. However, since the introduction of anti-retroviral therapy in the mid-1990s, the life expectancy of a person living with HIV who is on treatment has greatly increased.

Singapore's National HIV Strategy adopts a multi-pronged approach including education of the general public and high-risk groups to raise awareness on preventive measures and reduce stigma, protection of the national blood supply through screening of blood and blood products, epidemiological surveillance and contact tracing to control transmission, ensuring access and affordability to/for HIV testing and treatment, and these are underpinned by enabling policies and legislation, including provisions under the Infectious Diseases Act. Complementing the strategy, the National HIV Programme ensures the provision of high quality, evidence-based and patient-centred care for people living with HIV in Singapore.

[1] UNAIDS Global HIV & AIDS statistics - Fact Sheet 2025 (https://www.unaids.org/en/resources/fact-sheet)

The National HIV/AIDS Policy Committee[2], which comprises representatives from seven ministries (Health; Defence; Home Affairs; Social and Family Development; Manpower; Education; Digital Development and Information), the Health Promotion Board, National Centre for Infectious Diseases (NCID), National Skin Centre, Action for AIDS, and the Singapore National Employers Federation, provides guidance on all policy matters related to HIV infection/AIDS, including public health, legal, ethical, social and economic issues, and coordinates a multi-sectoral approach to the prevention and control of HIV infection and AIDS in Singapore.

A total of 151 cases of new HIV infections were reported among Singapore residents in 2024, compared to 209 cases reported in 2023 (Table 5.11). This brings the cumulative number of HIV/AIDS infections among residents since the first diagnosed case in 1985 to 9691 in 2024. Of these cases, 2,554 were reported to have died. In 2023 and 2024, the percentage of newly reported patients who presented with late-stage[3] HIV infection was 51.2% and 51.7%, respectively.

The notification rate of HIV/AIDS in 2024 was 3.6 per 100,000 population, compared to 5.0 per 100,000 population in 2023 (Table 5.11). In 2023, there were 103 deaths in HIV/AIDS patients, giving a mortality rate of 2.5 per 100,000 population. In 2024, there were 58 deaths in HIV/AIDS patients, and the mortality rate was 1.4 per 100,000 population.

Table 5.11
Distribution of Singapore residents with HIV/AIDS by sex, 1985-2024

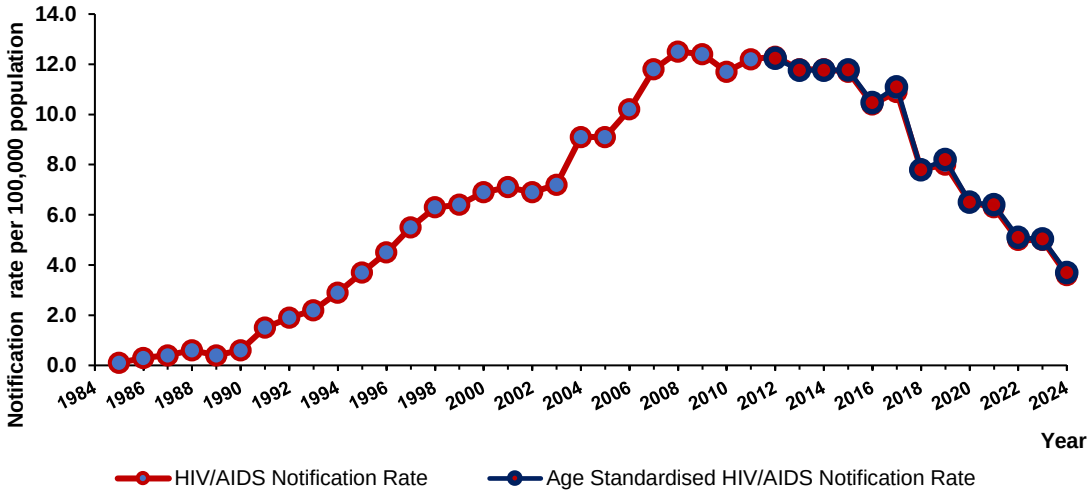
Year	Male	Female	Total	Rates*
1985	2	0	2	0.1
1986	6	1	7	0.3
1987	10	0	10	0.4
1988	15	0	15	0.6
1989	9	1	10	0.4
1990	17	0	17	0.6
1991	39	3	42	1.5
1992	49	6	55	1.9
1993	58	6	64	2.2
1994	76	10	86	2.9
1995	102	9	111	3.7
1996	123	16	139	4.5
1997	157	16	173	5.5
1998	167	32	199	6.3
1999	171	35	206	6.4
2000	193	33	226	6.9
2001	204	33	237	7.1
2002	206	28	234	6.9
2003	212	30	242	7.2
2004	290	21	311	9.1
2005	287	30	317	9.1
2006	327	32	359	10.2
2007	392	31	423	11.8
2008	426	30	456	12.5
2009	418	45	463	12.4
2010	403	38	441	11.7
2011	430	31	461	12.2
2012	437	32	469	12.3
2013	428	26	454	11.8
2014	422	34	456	11.8

[2] The NHPC was replaced with the National HIV Prevention and Control Committee in 2025, a multi-sectoral technical committee to strengthen strategic oversight of HIV prevention, testing, and treatment by guiding implementation, addressing emerging issues, enhancing community engagement, and monitoring progress of national HIV programme.
[3] Defined by CD4+ cell count of less than 200 cells per cubic mm of blood OR AIDS-defining opportunistic infections OR both.

Year	Male	Female	Total	Rates*
2015	423	32	455	11.7
2016	380	28	408	10.4
2017	408	26	434	10.9
2018	290	23	313	7.8
2019	308	15	323	8.0
2020	241	20	261	6.5
2021	238	12	250	6.3
2022	187	15	202	5.0
2023	199	10	209	5.0
2024	141	10	151	3.6
Total	**8891**	**800**	**9691**	-

*Notification rate per 100,000 population.

Figure 5.3
Notification rate of HIV/AIDS in Singapore residents, 1985-2024



Distribution by age and sex

As with previous years, newly diagnosed HIV/AIDS patients were predominantly male in 2023 and 2024. The male to female ratio was 19.9:1 in 2023 and 14.1:1 in 2024. In 2023, the highest notification rate was observed in the 50-59 year age group (Table 5.12), with a notification rate of 8.5 per 100,000 population. In 2024, the highest notification rate was observed in the 30-39 and 50-59 year age groups (Table 5.13), with a notification rate of 5.7 per 100,000 population.

Table 5.12
Age-sex distribution and age-specific notification rate of HIV/AIDS in Singapore residents, 2023

Age group	Male	Female	Total	%	Notification rate per 100,000 population*		
					Male	Female	Total
0 - 14	0	0	0	0	0	0	0
15 -19	1	0	1	0.5	0.9	0	0.5
20 - 29	26	0	26	12.4	10.2	0	5.1
30 - 39	50	2	52	24.9	16.8	0.6	8.3
40 - 49	44	2	46	22.0	15.1	0.6	7.5
50 - 59	46	5	51	24.4	15.6	1.6	8.5
60 & above	32	1	33	15.8	6.7	0.2	3.3
Total	**199**	**10**	**209**	**100**	**-**	**-**	**-**
Crude rate					**9.8**	**0.5**	**5.0**
Age-standardised rate					**10.1**	**0.5**	**5.2**

*Rates are based on 2023 estimated mid-year population and standardised population for age-standardised rate using 2020 mid-year population obtained from Singapore Department of Statistics.

Table 5.13
Age-sex distribution and age-specific notification rate of HIV/AIDS in Singapore residents, 2024

Age group	Male	Female	Total	%	Notification rate per 100,000 population*		
					Male	Female	Total
0 - 14	0	0	0	0	0	0	0
15 -19	5	1	6	4.0	4.7	1.0	2.8
20 - 29	22	1	23	15.2	8.8	0.4	4.7
30 - 39	34	2	36	23.8	11.2	0.6	5.7
40 - 49	30	2	32	21.2	10.3	0.6	5.2
50 - 59	32	2	34	22.5	10.9	0.6	5.7
60 & above	18	2	20	13.2	3.6	0.4	1.9
Total	**141**	**10**	**151**	**100**	**-**	**-**	**-**
Crude rate					**6.9**	**0.5**	**3.6**
Age-standardised rate					**7.1**	**0.5**	**3.7**

*Rates are based on 2024 estimated mid-year population and standardised population for age-standardised rate using 2020 mid-year population, obtained from the Singapore Department of Statistics.

Ethnic distribution

Among the three major ethnic groups in Singapore, Malays had the highest HIV notification rate in both 2023 and 2024 (Tables 5.14 and 5.15). The notification rate per 100,000 population for these ethnic groups were 9.9 in 2023 and 6.5 in 2024 respectively.

Table 5.14
Ethnic-sex distribution and ethnic-specific notification rate of HIV/AIDS in Singapore residents, 2023

Ethnic group	Male	Female	Total	%	Notification rate per 100,000 population*		
					Male	Female	Total
Chinese	130	5	135	64.6	8.7	0.3	4.4
Malay	43	4	47	22.5	15.4	1.4	8.4
Indian	12	1	13	6.2	6.3	0.5	3.5
Others	14	0	14	6.7	22.2	0	9.9
Total	**199**	**10**	**209**	**100**	**9.8**	**0.5**	**3.5**

*Rates are based on 2023 estimated mid-year population obtained from the Singapore Department of Statistics.

Table 5.15
Ethnic-sex distribution and ethnic-specific notification rate of HIV/AIDS in Singapore residents, 2024

Ethnic group	Male	Female	Total	%	Notification rate per 100,000 population*		
					Male	Female	Total
Chinese	81	5	86	57.0	5.4	0.3	2.8
Malay	33	4	37	24.5	11.8	1.4	6.5
Indian	19	0	19	12.6	9.9	0	5.0
Others	8	1	9	6.0	12.5	1.2	6.2
Total	**141**	**10**	**151**	**100**[+]	**6.9**	**0.5**	**2.5**

*Rates are based on 2024 estimated mid-year population obtained from the Singapore Department of Statistics.
[+]Figures may not add to 100% due to rounding.

Mode of HIV/AIDS transmission

In both 2023 and 2024, HIV transmission occurred predominantly through sexual intercourse (Table 5.16). The percentage of heterosexual transmission among new cases was 31.6% in 2023 and 38.4% in 2024. The percentage of cases that occurred in men who have sex with men, including men who engage in bisexual activity was 62.6% in 2023 and 57.6% in 2024.

Table 5.16
Distribution of Singapore residents with HIV/AIDS by mode of transmission, 2023 and 2024

Mode of transmission	2023		2024	
	No. of cases	%	No. of cases	%
Sexual Transmission				
Heterosexual	66	31.6	58	38.4
Men who have sex with men	119	56.9	76	50.3
Bisexual	12	5.7	11	7.3
Intravenous drug use	1	0.5	1	0.7
Blood Transfusion	0	0	1^	0.7
Renal Transplant overseas	0	0	0	0
Perinatal (mother to child)	0	0	0	0
Uncertain/Others	11	5.3	4	2.6
Total	**209**	**100**	**151**	**100**

^Transmission occurred overseas

Mode of detection

The percentage of newly reported cases detected through the course of medical care increased slightly from 58.4% in 2023 to 61.6% in 2024. The percentage of newly reported cases detected through routine programmatic HIV screening was 11.5% in 2023 and 17.9% in 2024, while 14.8% and 15.9% were detected through self-initiated HIV screening in 2023 and 2024 respectively (Table 5.17).

Table 5.17
Distribution of Singapore residents with HIV/AIDS by mode of detection, 2023 and 2024

Mode of detection	2023		2024	
	No. of cases	%	No. of cases	%
Medical care*	122	58.4	93	61.6
Routine programmatic HIV screening^	24	11.5	27	17.9
Voluntary	31	14.8	24	15.9
Others/Uncertain	32	15.3	7	4.6
Total	**209**	**100**	**151**	**100**

*Included cases that presented with HIV-specific symptoms and cases with non-HIV related medical conditions.
^Included antenatal screening, screening programmes for individuals with sexually transmitted infections, hospital inpatients and those identified through contact tracing.

Contact tracing and notification

2023

Of the 209 newly reported HIV cases in 2023, 204 cases (excluding five who had died) were identified for contact tracing, of whom 203 cases (99.5%) were interviewed. The remaining one case was medically unfit for interview.

Of the 44 spouses identified from marriage records and contact tracing interviews, 37 spouses (excluding six who had died, and one left the country) were eligible for notification under the spousal notification programme. 36 (97.2%) of them were successfully notified. The remaining one case was not notified after in-depth case assessments determined there was no ongoing risk of transmission.

There were also 24 divorced ex-spouses, of whom three (12.5%) were successfully notified. The remaining 21 cases were either not notified as it was assessed that there was no ongoing risk of transmission, not traceable, or had passed away.

A total of 120 non-spousal sexual contacts (excluding spouses and ex-spouses) were identified through contact tracing interviews. Of these, 42 contacts (35.0%) were successfully contacted, notified of their exposure to HIV, and advised to undergo HIV testing. 34 of the notified contacts reported that they had undergone testing for HIV, with ten of them tested positive for HIV.

2024

Of the 151 newly reported HIV cases in 2024, 147 cases (excluding four who had died) were identified for contact tracing, of whom all 147 cases (100%) were interviewed.

Of the 32 spouses identified from marriage records and contact tracing interviews, 30 spouses (excluding two who had died and left the country) were eligible for notification under the spousal notification programme. 27 (90.0%) were successfully notified. The remaining three cases were not notified after in-depth case assessments determined there were no ongoing risk of transmission.

There were also 14 divorced ex-spouses, of whom one (7.1%) were successfully notified. The remaining 13 cases were either not notified as it was assessed that there was no ongoing risk of transmission, not traceable, or had passed away.

A total of 60 non-spousal sexual contacts (excluding spouses and ex-spouses) were identified through contact tracing interviews. Of these, 27 contacts (45%) were successfully contacted, notified of their exposure to HIV, and advised to undergo HIV testing. 22 of the notified contacts reported that they had undergone testing for HIV, with four of them tested positive for HIV.

HIV surveillance programmes

Table 5.18 shows the results for three HIV surveillance programmes in Singapore. For the Anonymous Test Sites, the proportion testing positive was 0.41% in 2023 and 0.24% in 2024. For inpatient voluntary opt-out testing, the proportion of those tested who were confirmed to have HIV was 0.22% in 2023 and 0.27% in 2024. For antenatal screening, the proportion of women detected to be HIV positive was 0.02% in 2023 and 0.01% in 2024.

Table 5.18
HIV testing volume and positivity by surveillance programme, 2019-2024

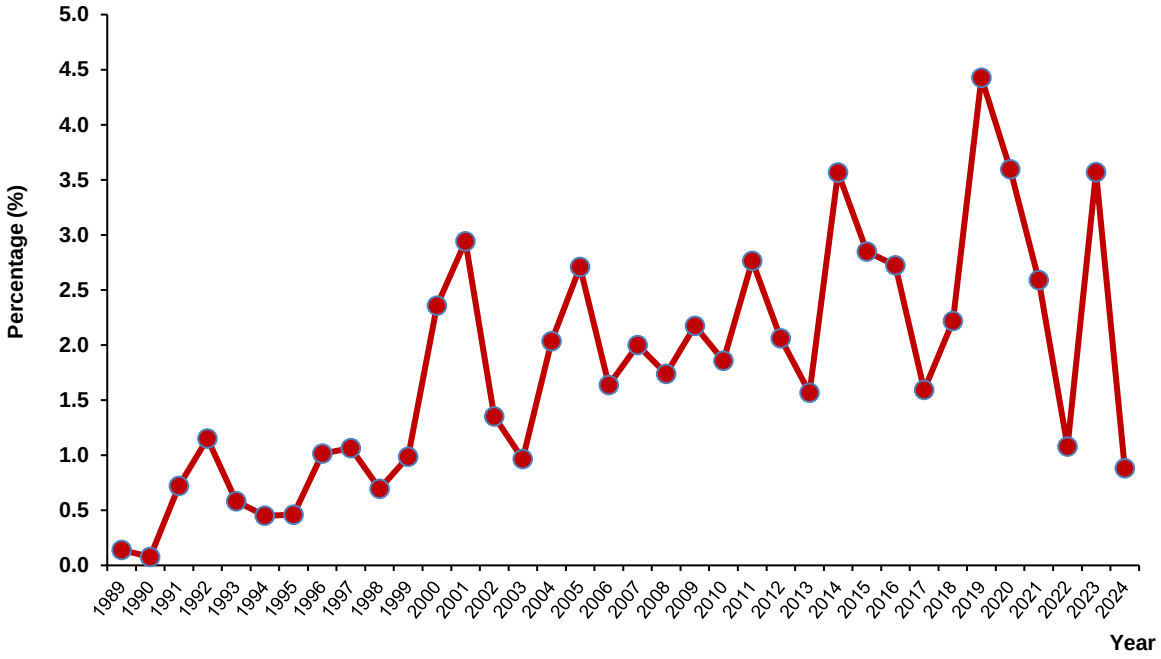
Programme		2019	2020	2021	2022	2023	2024
Anonymous Test Sites	Total number of tests done	16,906	8,791	9,809	10,272	12,777	11,855
	Number tested positive[1]	109	45	56	48	52	28
	Proportion positive (%)	0.64	0.51	0.57	0.47	0.41	0.24
Inpatient Voluntary Opt-out Testing*	Total number of tests done	13,325	13,162	11,659	10,765	5987	2939
	Number tested positive[2]	30	38	39	46	13	8
	Proportion positive (%)	0.23	0.29	0.33	0.43	0.22	0.27
Antenatal Screening*	Total number of tests done	36,318	34,736	35,169	31,420	30,599	31,368
	Number tested positive[3]	9	11	10	6	5	4
	Proportion positive (%)	0.02	0.03	0.03	0.02	0.02	0.01

[1] Based only on screening test results at the Anonymous Test Sites only.
[2] Upon screening followed by confirmatory assays for HIV positive status.
[3] Number of HIV-positive includes women reported to be HIV-positive prior to pregnancy and those confirmed to be HIV-positive during that pregnancy.
*Figures revised after a data review by the National Public Health and Epidemiology Unit of National Centre for Infectious Diseases in 2021 and 2022.

HIV seroprevalence of unlinked anonymous testing in Department of STI Control

HIV seroprevalence in patients with sexually transmitted infections (STIs) who were seen at the Department of STI Control (DSC) clinic is monitored by a combination of unlinked anonymous testing (UAT) and voluntary confidential testing for HIV. The HIV seroprevalence of unlinked anonymous testing among STI attendees at DSC were fluctuating, with seroprevalence of 3.57% in 2023 and 0.88% in 2024 (Figure 5.4). In 2023, the inclusion and exclusion criteria were reviewed. The inclusion criteria were narrowed to Singapore citizens and permanent residents only. Known HIV cases were removed from the exclusion criteria and included in the prevalence of HIV in STI clinic attendees.

Figure 5.4
HIV seroprevalence Amongst STI Attendees, 1989-2024



HIV molecular surveillance

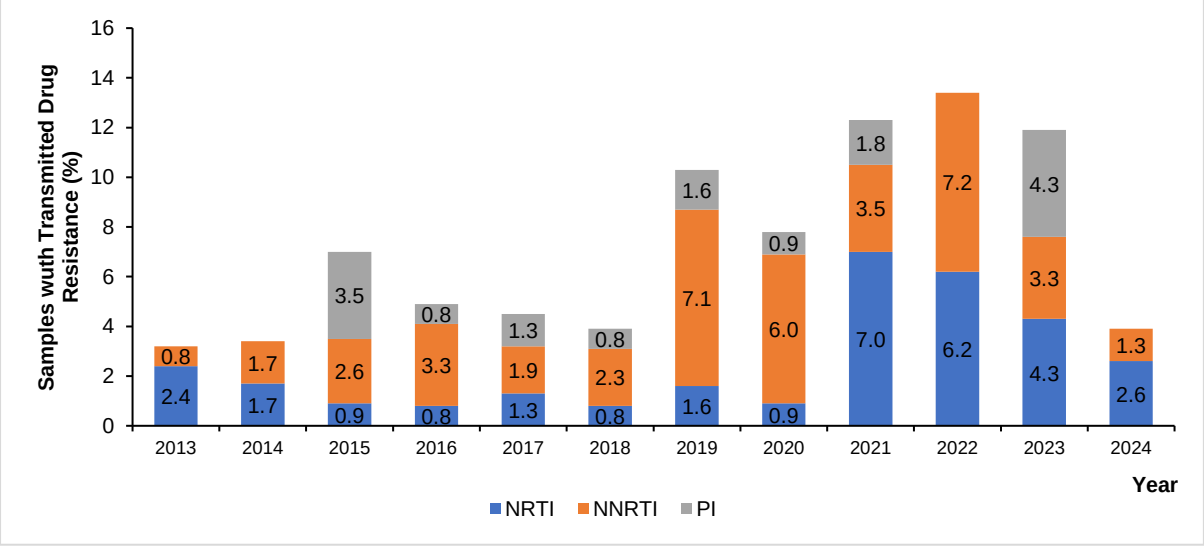
Virological surveillance of HIV strains in newly diagnosed treatment-naïve HIV-positive individuals is performed on plasma specimens obtained from public hospitals throughout the year. In 2024, 20.9% of 91 samples tested were classified as recent infections using the limiting antigen avidity enzyme immunoassay carried out by National Public Health Laboratory (NPHL). This is slightly higher than the mean annual rate of 19.5% between 2013 and 2024 (Table 5.19). The predominant circulating HIV subtypes observed in 2024 remains as CRF01_AE (74.4%), followed by subtype B (17.9%).

The overall prevalence of transmitted drug resistance (TDR) to any antiretroviral class in 2024 decreased significantly to 3.8% compared to the last five years (2019 to 2023). TDR to nucleoside reverse transcriptase inhibitors (NRTIs) decreased substantially from 4.3% in 2023 to 2.6% in 2024, with M184V as the most frequent mutation conferring resistance. TDR to non-nucleoside reverse transcriptase inhibitors (NNRTIs) decreased to the lowest rate of 1.3% since 2014 and none was observed for protease inhibitors (PIs) in 2024 (Figure 5.5). The surveillance of transmitted drug resistance to integrase inhibitors was added in 2023 and one case was detected with Q148K mutation in 2024.

Table 5.19
Recency of HIV infection, circulating HIV subtype and transmitted drug resistance, 2013-2024

HIV molecular surveillance	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Total number of samples tested	123	118	116	245	160	130	126	116	114	99	98	91
Recent infections (%)	17.1	17.8	22.4	20.4	23.8	16.9	20.6	19.8	12.3	24.2	17.3	20.9
Circulating subtypes (%)												
CRF01_AE	47.6	60.0	61.5	64.0	52.6	63.6	76.9	69.6	66.7	62.9	66.3	74.4
Subtype B	42.9	40.0	34.6	24.0	34.2	27.3	11.5	21.7	21.1	24.7	26.1	17.9
Transmitted drug resistance (%)												
Any drug class	3.3	3.4	7.0	3.7	3.1	3.8	7.1	6.0	7.9	13.4	12.0	3.8
NRTI	2.4	1.7	0.9	0.8	1.3	0.8	1.6	0.9	7.0	6.2	4.3	2.6
NNRTI	0.8	1.7	2.6	3.3	1.9	2.3	7.1	6.0	3.5	7.2	3.3	1.3
PI	0	0	3.5	0.8	1.3	0.8	1.6	0.9	1.8	0	4.3	0

Figure 5.5
Transmitted HIV drug resistance by antiretroviral drug class, 2013-2024



SEXUALLY TRANSMITTED INFECTIONS

Sexually transmitted infections (STIs) are infections caused by different pathogens (e.g. bacteria, viruses, parasites, and fungi) which are spread from person to person primarily through sexual contact. The common and important STIs are caused by *Treponema pallidum* (syphilis), *Neisseria gonorrhoeae*, *Chlamydia trachomatis* (infection of the urethra, cervix, pharynx, and rectum), Herpes Simplex Virus – types 1 and 2 (anogenital herpes), human papilloma virus (anogenital warts and cancers), *Trichomonas vaginalis* (infection of the urethra and vagina), and Human Immunodeficiency Virus (HIV).

STIs are also surrogate markers for unprotected sexual activity. Patients presenting with one STI are at increased risk of harbouring another STI. The presence of STIs can increase the risk of contracting, as well as transmitting HIV infection. Sexually transmissible pathogens are also implicated in other reproductive system problems such as pelvic inflammatory disease (PID), infertility, and ectopic pregnancy.

The Department of STI Control (DSC) Clinic of the National Skin Centre (NSC) is a specialist outpatient clinic for the diagnosis, treatment, and control of STIs in Singapore. The DSC runs the National STI Control Programme in Singapore, and its activities include health and public education on STI/HIV, clinic services, disease detection, patient management.

Disease trend

STIs which are currently legally notifiable under the Infectious Diseases Act (IDA) are gonorrhoea, syphilis, and chlamydia. The incidence for legally notifiable STIs decreased from 226.7 per 100,000 population in 2023 to 207.1 per 100,000 population in 2024. The incidence rate of each of the legally notifiable STIs are shown in Table 5.25. Among the three legally notifiable STIs, the highest incidence rate was in syphilis and chlamydia in 2023 and 2024, respectively. No gonococcal ophthalmia neonatorum cases were reported in 2023 and 2024.

Among the notified syphilis cases, the incidence rate of infectious syphilis decreased from 6.3 per 100,000 population in 2023 to 3.3 per 100,000 in 2024; and there were no cases of congenital syphilis in 2023 and in 2024. The incidence rates of non-infectious syphilis have decreased from 93.6 per 100,000 population in 2023 to 40.8 per 100,000 in 2024.

Figure 5.6
Incidence rate of legally notifiable STIs, 2015 – 2024

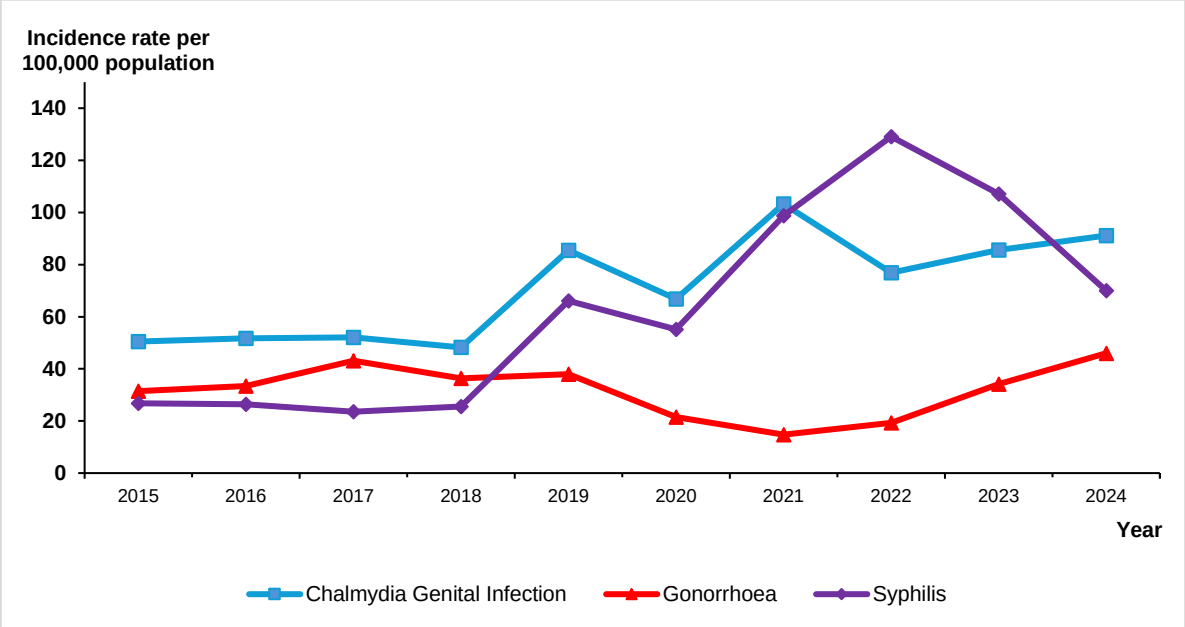


Table 5.20
Incidence rate of legally notifiable STIs, 2019-2024

Legally notifiable STIs	Incidence rate per 100,000 population*					
	2019	2020	2021	2022	2023	2024
Chlamydia	85.5	66.8	103.2	76.8	85.6	91.1
Gonorrhoea	37.9	21.5	14.8	19.4	34.1	46.0
Syphilis	66.1	55.1	98.8	129.1	107.1	70.0
Total	**189.5**	**143.5**	**216.8**	**225.3**	**226.7**	**207.1**

*Rates are based on 2023 and 2024 estimated mid-year population obtained from Singapore Department of Statistics.

Distribution by sex and ethnicity

The incidence of legally notifiable STIs was higher among males than females (Table 5.26). Among the three major ethnic groups, Indians and Malays had the highest incidence rates in 2023 and 2024, respectively (Tables 5.27 and 5.28).

Table 5.21
Distribution of incidence rate by STIs and sex, 2023 and 2024
Incidence rate per 100,000 population*

Legally notifiable STIs	2023			2024		
	Male	Female	Total	Male	Female	Total
Chlamydia	94.0	73.6	84.1	103.6	77.9	91.1
Gonorrhoea	55.4	9.4	33.1	76.7	13.4	46.0
Syphilis	136.0	68.7	103.4	97.0	41.4	70.0
Total	**285.4**	**151.7**	**220.7**	**277.4**	**132.8**	**207.1**

*Rates are based on 2023 and 2024 estimated mid-year population obtained from Singapore Department of Statistics.

Table 5.22
Ethnic-sex distribution and ethnic-specific incidence rate of STIs among Singapore residents, 2023

Ethnic group	Male	Female	Total	%	Incidence rate per 100,000 resident population*		
					Male	Female	Total
Chinese	3,614	1147	4,761	55.8	242.7	72.4	155.0
Malay	568	129	697	8.2	203.6	45.7	124.2
Indian	800	380	1,180	13.8	419.0	206.6	314.8
Others	1317	570	1,887	22.1	2092.4	732.6	1340.7
Total	**6,299**	**2,226**	**8,525**	**100**[+]	**311.5**	**104.6**	**205.5**

*Rates are based on 2023 estimated mid-year resident population obtained from Singapore Department of Statistics.
[+]Figures may not add to 100% due to rounding.

Table 5.23
Ethnic-sex distribution and ethnic-specific incidence rate of STIs among Singapore residents, 2024

Ethnic group	Male	Female	Total	%	Incidence rate per 100,000 resident population*		
					Male	Female	Total
Chinese	4,330	1754	6,084	48.7	289.1	109.9	196.7
Malay	1062	591	1,653	13.2	378.2	207.7	292.4
Indian	831	188	1,019	8.2	431.8	101.3	269.6
Others	2386	1361	3,747	30.0	3726.9	1700.0	2600.7
Total	**8,609**	**3,894**	**12,503**	**100**[+]	**423.1**	**181.5**	**299.1**

*Rates are based on 2024 estimated mid-year resident population obtained from Singapore Department of Statistics.
[+]Figures may not add to 100% due to rounding.

Antimicrobial susceptibility of gonococcal cultures

The percentage of gonorrhoea cultures with decreased susceptibility to ceftriaxone increased from 2.2% in 2023 to 2.7% in 2024 (Table 5.29). The percentage of gonorrhoea cultures with ceftriaxone resistance decreased from 1.1% in 2023 to 0.7% in 2024. The percentage of gonorrhoea cultures resistant to ciprofloxacin decreased from 87.2% in 2023 to 81.2% in 2024 (Table 5.30).

Table 5.24
Susceptibility of gonorrhoea cultures to ceftriaxone, 2011-2024*

Year	No. of gonorrhoea cultures	Decreased susceptibility (%)	Susceptible (%)	Resistant (%)
2011	160	6.9	93.1	0
2012	148	14.2	85.8	0
2013	160	14.4	85.6	0
2014	160	9.4	90.6	0
2015	160	7.5	92.5	0
2016	160	6.2	93.8	0
2017	239	5.4	94.6	0
2018	294	4.8	94.9	0.3
2019	381	9.2	90.3	0.5
2020	232	7.3	92.7	0
2021	137	5.1	94.9	0
2022	186	1.6	98.4	0
2023	275	2.2	97.8	1.1
2024	293	2.7	97.3	0.7

* Prior to 2017, the percentage of penicillinase-producing *Neisseria gonorrhoeae* (PPNG) detected among gonorrhoea positive cultures screened was reported. As penicillin is no longer used in the treatment of gonorrhoea with effect from 2017, susceptibility of gonorrhoea to ceftriaxone is reported instead.

Table 5.25
Gonorrhoea cultures screened for resistance to ciprofloxacin, 2011-2024

Year	No. of cultures	Ciprofloxacin resistant cases	
		No. of cases	(%)
2011	160	131	81.9
2012	158	117	74.1
2013	160	133	83.1
2014	160	143	89.4
2015	160	138	86.3
2016	160	131	81.9
2017	239	209	87.5
2018	294	246	83.7
2019	381	309	81.1
2020	232	190	81.9
2021	137	112	81.8
2022	186	137	73.7
2023	275	240	87.2
2024	293	238	81.2