

1.1. HIV and AIDS: Morbidity in Catalonia

The object of this epidemiologic surveillance of HIV and AIDS is to identify the characteristics, evolution and geographical distribution of these diseases in Catalonia. It is coordinated through the Centre for Epidemiological Studies on Sexually Transmitted Infections and HIV/AIDS of Catalonia (CEEISCAT, according to the Catalan acronym) with the participation of diverse institutions: the Barcelona Public Health Agency (ASPB, according to the Catalan acronym), the Regional Epidemiological Surveillance Units (UVE, according to the Catalan acronym) of the Health Department (DS, according to the Catalan acronym), the Office for Penitentiary Services, and the Department of Rehabilitation and Juvenile Justice. Welfare centres collected information confidentially using a standardised form [1-2]. In 1996, with the introduction of highly active antiretroviral therapy (HAART), both the time period between infection and the onset of AIDS, and patient survival increased. This situation brought about a decline in the number of new cases in the AIDS registries and, also determined the traits of old infections. Following the recommendations of the World Health Organisation (WHO) and the Centers for Disease Control and Prevention (CDC), Catalonia introduced the epidemiologic surveillance of HIV in 2001 with the New HIV Diagnoses Information System [3-4]. Since 2001 notification of HIV infection in Catalonia has been voluntary. The HIV infection definition criteria of the European Centre for Disease

Prevention and Control (ECDC) are applied [5]. AIDS in Catalonia has been a mandatory declaration disease (MDD) on an individual basis since 1987. The case definition criteria and diagnostic methods applied are in compliance with the definitions given by the CDC in 1982, 1985 and 1987 [6-8], and with the European definition of 1993 [9]. The codification of routes of transmission of HIV is carried out using a hierarchical criterion which prioritises the injecting drug route over the sexual route. This criterion is applied if a patient has two or more possible routes of transmission [1]. The case definition criteria used for the heterosexual transmission group was modified in 2001. Thus, from this year onward, whenever the form indicates heterosexual conduct and no other risk factor, the subject is classified as heterosexual. In the cases diagnosed before this date, the definition of the heterosexual transmission group was more restrictive, as it only included subjects with heterosexual conduct who had maintained sexual relations with infected individuals or those with a high risk of being infected with HIV [10].

This report includes the new HIV diagnoses reported since 2001 until 31st December 2008. As regards AIDS cases, those reported to the AIDS Register since 1981 (the year in which the first case was reported) until 31st December 2008 are included, with an AIDS diagnosis date of up until 31st December 2008. The data presented is not adjusted according to the delay in reporting. The four different time periods with the presented data grouped into calendar

years, refer to the changes introduced in the diagnostic criteria (1981-1987, 1988-1993, and 1994-1996) and after the introduction of HAART (1997-2008). Health status is updated by means of the information provided by the declaring doctors (data on the cause of death is not collected) and is completed with the cross match carried out with the data reported to the Mortality Register of Catalonia, which answers to the DS's Information and Study Service.

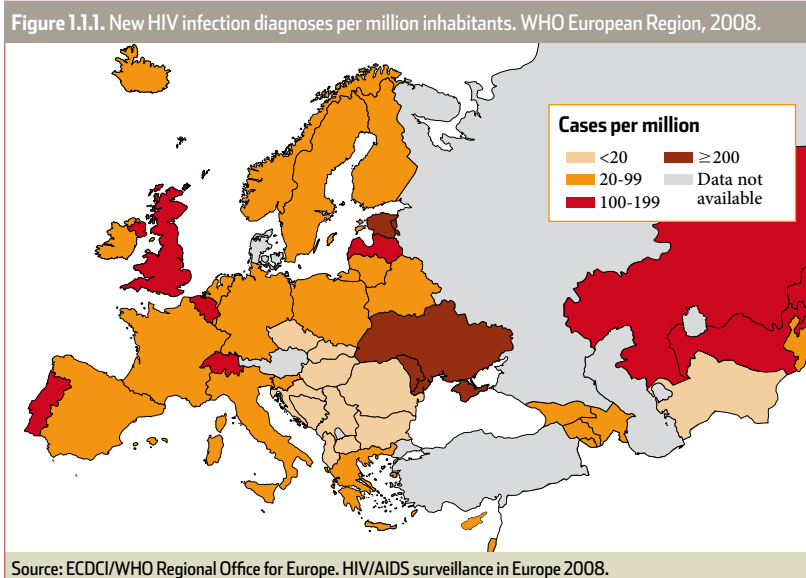
1.1.1. Epidemiology of new HIV diagnoses

1.1.1.1. Extent and distribution

During 2008, 51,600 new HIV diagnoses were reported in Europe, 49% of which were in European Union (EU) countries. This number underestimates the total of HIV infections, as not all the countries have a notification system of new HIV diagnoses and some countries only have data on certain regions as is the case with Italy and Spain [11]. Of the new diagnoses declared in Europe during 2008, 37% were infected via heterosexual sexual relations, 27% were infected through injecting drug use and 19% were men who had sex with men (MSM) [11].

In **figure 1.1.1** the rates (per million inhabitants) of new HIV diagnoses can be seen in the European countries of the WHO.

Spain has no national system of new HIV infection diagnoses notification. Currently, there are 12 autonomous regions which collect data: Aragón, Asturias, the Balearic



Islands, The Canary Islands, Catalonia, Extremadura, Galicia, Navarra, the Basque Country, La Rioja and the autonomous cities Ceuta and Melilla. During 2008, 1,583 new HIV diagnoses were reported in these AR, predominantly from heterosexual relations (41.8%), and followed by MSM (38.8%) and injecting drug users (IDUs) (9.2%) [12].

In Catalonia, the number of new HIV diagnoses since 2001 until 31st December 2008 was 5,506. The annual global rate of new diagnoses for this period was 12 cases per 100,000 inhabitants. In figure 1.1.2 the annual evolution of new HIV diagnoses by gender since 2001 can be seen. During 2008, 636 new HIV diagnoses, 3.8% less than in 2007, were reported.

1.1.1.2. New HIV diagnosis characteristics in Catalonia

Of the total of new HIV diagnoses, 77.8% were men and the rest (22.2%) were women. The majority of new

diagnoses were reported in subjects aged between 25 and 39 years (58%). The global median age was 37 years, 37.6 years for men and 34.9 years for women. The most probable route of transmission was heterosexual sexual relations accounting for 43.3% of the cases (32.2% for men and 81.9% for women), followed at 36.1% by cases of MSM (accounting for 46.5% of cases in men) and

injecting drug use accounting for 14.6% of the cases (figure 1.1.3). If we look at current tendencies related to routes of transmission, we observe an increase of new HIV diagnoses in MSM of 31.5% in the period from 2001 to 2008, going from 191 cases in 2001 to 278 in 2008 (representing an average yearly increase of 4.6%). Regarding heterosexuals, a decrease of 13% from the period 2001 to 2008 is observed, going from 303 cases in 2001 to 268 cases in 2008 (an average yearly decrease of 2.6%). In IDUs there has been a significant decrease of 334% for the period 2001 to 2008, going from 165 cases in 2001 to 38 cases in 2008 (an average yearly decrease of 24.6%) (figure 1.1.4).

As regards clinical staging, although 59.4% were asymptomatic at the time of HIV diagnosis, 24.6% of the patients matched AIDS defining criteria and 7.8% presented symptoms although without AIDS defining criteria.

Overall, the proportion of immigrants amongst the new HIV diagnoses in Catalonia was 35.6%. How-

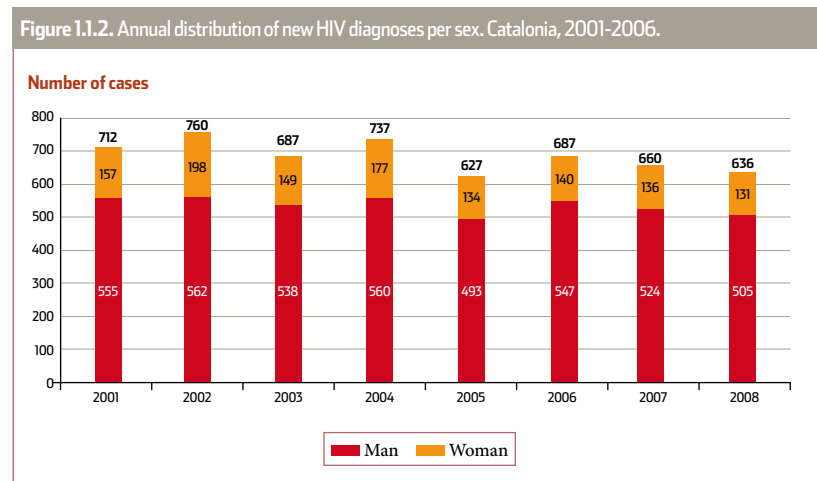


Figure 1.1.3. Percent distribution of new HIV diagnoses by transmission group and sex. Catalonia, 2001-2008.

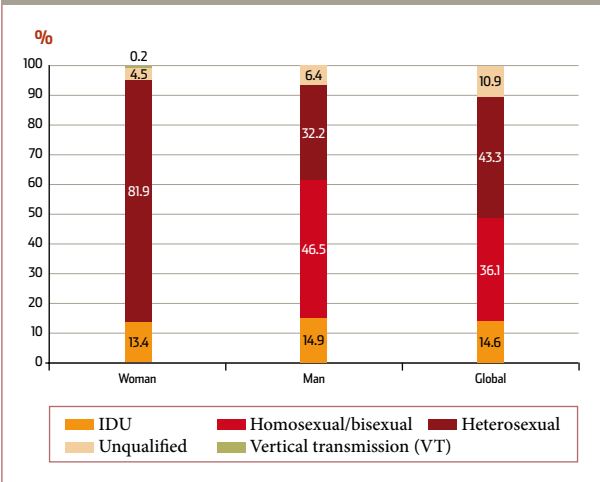
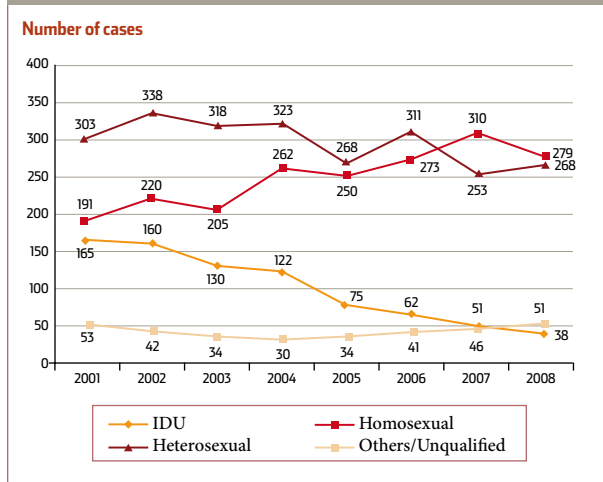


Figure 1.1.4. Evolution of new HIV diagnoses by transmission group. Catalonia, 2001-2008.



ever, there has been a progressive increase over the period analysed, going from 24.4% in 2001 to 47.2% in 2008 (figure 1.1.5).

After those of Spanish origin, 44.2% were from Latin America and the Caribbean, 29.5% were from Sub-Saharan Africa, 11.1% from Western Europe, 6.7% from Eastern Europe, 5.3% from North Africa and the rest from other countries (3.2%)

(table 1.1.1). The most frequent route of transmission of HIV has been heterosexual for women (90%) and homosexual with regard to men (45.5%) (figure 1.1.6). In figure 1.1.7 we can see the distribution of routes of transmission according to region of origin. Although in women the heterosexual route is the most frequent independent of region of origin, this is not the case for men: the heterosexual route of transmission

is the most common for men from Africa, whereas in those from Latin America and Europe it is MSM and for those from Eastern Europe it is injecting drug use.

1.1.2. Epidemiology of AIDS

1.1.2.1. Extent and distribution of AIDS

In 2008, Spain was the EU country with the fourth highest incidence of

Image 1.1. HIV Transmission patterns have changed over the years and nowadays HIV transmission is mainly by sexual practice. Promoting safe sex is an important primary health prevention intervention.



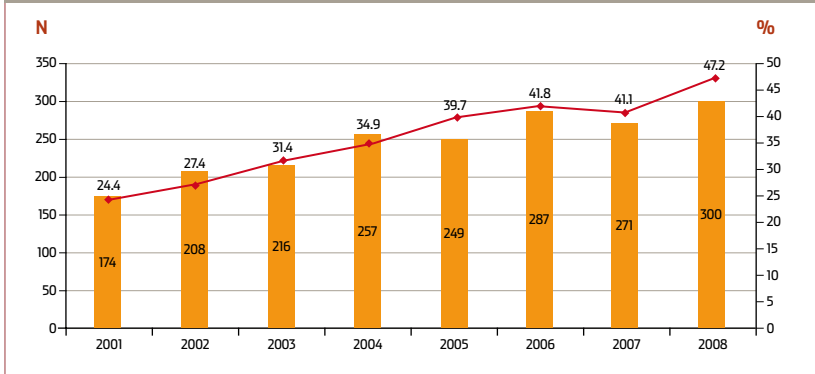
AIDS (29.1 cases per million inhabitants) after Estonia, Latvia and Portugal [11]. According to the latest update, in the Spanish AIDS register, there were 77,953 cases diagnosed up until 31st December 2008. During 2008 1,340 AIDS cases were reported. Amongst those autonomous regions with a rate of over 30 cases per million inhabitants were the Balearic Islands (58), Murcia (39.7), Madrid (38.4), La Rioja (35.7), Aragón (34.1), the Basque Country (32.3) and Navarra (31.5) (table 1.1.2) [13].

In Catalonia, the total number of AIDS cases from 1981 until 31st December 2008 was 16,235. Since the diagnosis of the first case in 1981, the annual incidence rate has increased progressively, going from 0.8 cases per 100,000 inhabitants in 1983 until arriving at 26.1 cases per 100,000 inhabitants in 1994, coinciding with the expansion of the epidemiological definition of AIDS. Between 1996

Table 1.1.1. Country of origin of new HIV infection diagnoses. Catalonia, 2001-2008.

	N	%
Spain	3,544	72.3
Other countries	1,962	35.6
Latin America/Caribbean	867	44.2
Ecuador	158	
Brazil	131	
North Africa	103	5.2
Morocco	86	
Sub-saharan Africa	579	29.5
Nigeria	83	
Western Europe	218	11.1
France	50	
Eastern Europe	131	6.7
Russia	32	
Others	64	3.3

Figure 1.1.5. Evolution of new HIV diagnoses in immigrant population. Catalonia, 2001-2008.

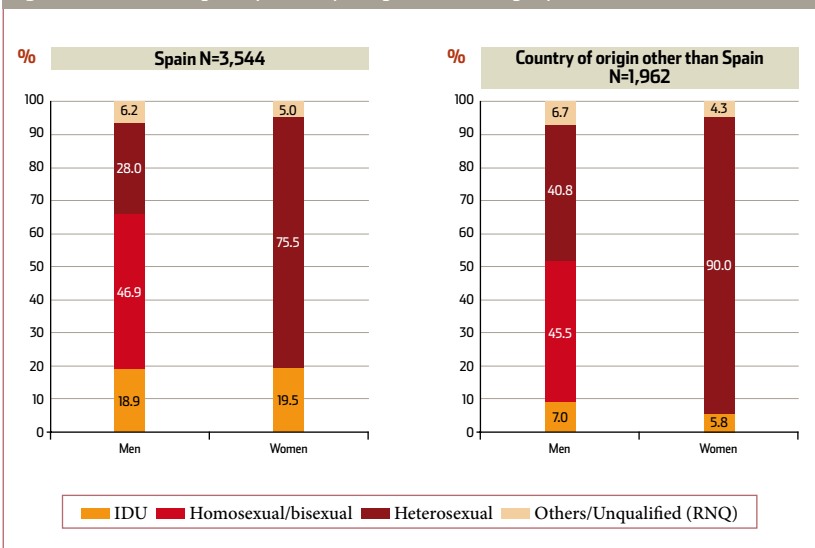


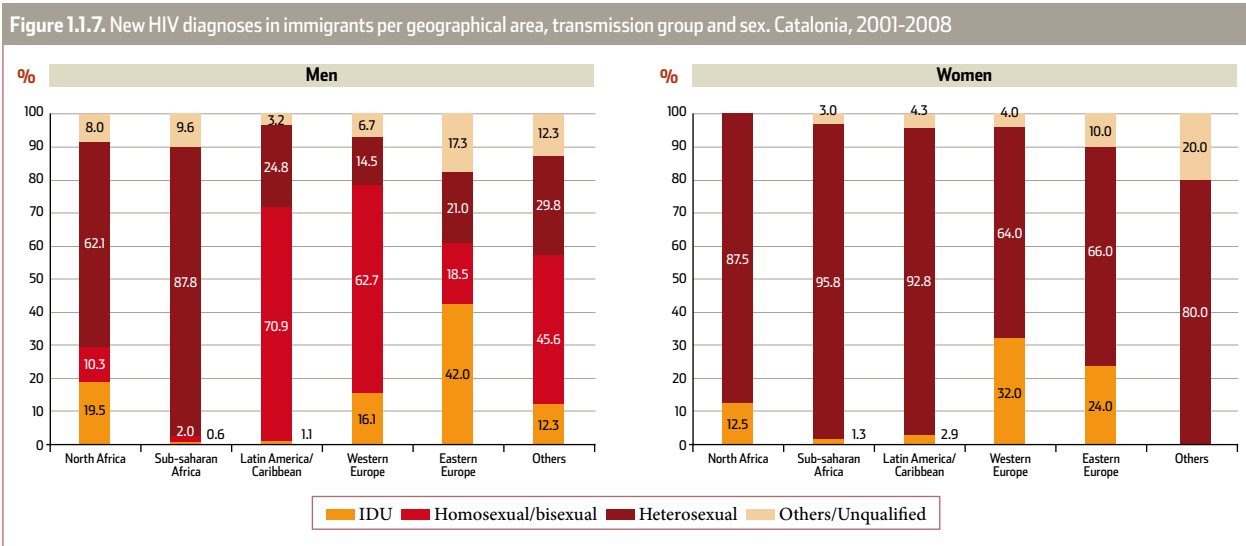
and 1998 there was a sharp decline in the number of cases (1357 and 686 cases, respectively), representing a decrease in the reported cases of AIDS of 49% in 2 years. Since then, the annual decrease in the number of AIDS cases has been less and more gradual, this stabilisation reflecting the effect of the new treatments on the incidence of AIDS cases. During 2008, 228 cases were reported to the Catalonian AIDS Register, representing a global rate of 3.1 cases per

100,000 inhabitants. Table 1.1.3 shows the AIDS cases and the corresponding rates according to health regions. The data on the declaration of AIDS in the last year should be interpreted cautiously and only provisionally due to the delay in reporting. Taking this consideration into account, during 2008 there were 25.4% less cases reported than in 2007.

1.1.2.2. Characteristics of the AIDS cases
Men represent 80.5% of the total

Figure 1.1.6. New HIV diagnoses per country of origin, transmission group and sex. Catalonia, 2001-2008.





of AIDS cases reported. However, the proportion of cases diagnosed in women has been increasing over time from 14.2% in 1986 to 21.9% in 2008. **Figure 1.1.8** shows the distribution of cases diagnosed by gender from the beginning of the epidemic, along with the ratio men:women.

65.6% (10,650) of AIDS cases were diagnosed in subjects aged between 25 and 39 years. The median age of the subjects at the time of diagnosis has increased progressively, both in men and women. In the first period (1981-1987), the median age was 30.8 years in men and 24.9 in women, whilst in the last period (1997-2008) the medi-

an age at the time of diagnosis was significantly higher, 39.8 and 36.5 years in men and women, respectively.

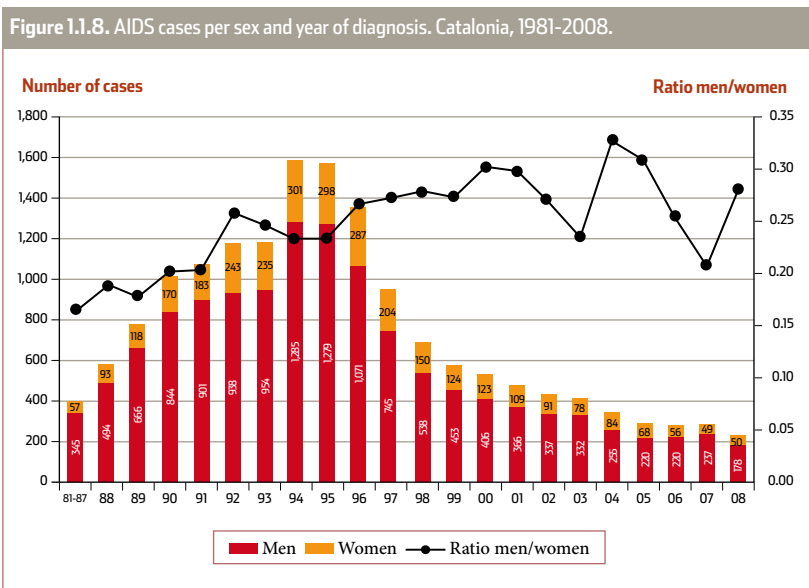


Table 1.1.2. AIDS cases diagnosed per million inhabitants. Spain, 2008.

Balears	58.0
Murcia	39.7
Madrid	38.4
La Rioja	35.7
Aragón	34.1
País Vasco	32.3
Navarra	31.5
Melilla	30.1
Galicia	29.3
Ceuta	28.2
Cataluña	26.9
C. Valenciana	24.5
Canarias	20.3
Andalucía	19.8
Cantabria	19.5
Castilla La Mancha	13.3
Castilla y León	12.3
Asturias	7.7
Extremadura	7.4
Total	26.1

Source: AIDS National Plan Secretary.

Table 1.1.3. Number of AIDS cases that reside in Catalonia and incidence rate (per 100,000 inhabitants) by health region, 2000-2008.

Sanitary region	2000		2001		2002		2003		2004		2005		2006		2007		2008	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Lleida	26	7.6	26	7.4	19	5.4	18	5.1	15	4.3	15	4.3	11	3.3	12	3.5	13	3.7
Tarragona	30	6.8	30	6.4	25	5.3	14	3.0	13	2.8	6	1.3	4	0.7	7	1.2	15	2.5
Terres de l'Ebre	8	6.0	9	6.6	11	8.0	4	2.9	5	3.7	6	4.4	6	3.4	9	4.9	2	1.1
Girona	38	4.1	37	3.9	32	3.3	40	4.2	24	2.5	14	1.5	30	4.5	31	4.5	28	3.9
Costa de Ponent	80	8.7	73	7.6	61	6.4	51	5.3	55	5.7	47	4.9						
Barcelonès Nord i Maresme	70	10.3	55	7.7	65	9.1	49	6.9	18	2.5	61	8.6						
Centre	84	5.3	64	3.8	60	3.6	57	3.4	29	1.7	26	1.6						
Barcelona Ciutat	190	12.6	181	12.0	155	10.3	177	11.8	150	10.0	113	7.5						
Catalunya Central													8	1.7	4	0.8	10	2.0
Barcelonès													215	4.4	222	4.6	158	3.2
Alt Pirineu i Aran													2	2.8	1	1.4	2	2.6
Total	526	8.1	475	7.0	428	6.3	410	6.1	309	4.6	288	4.3	276	3.9	286	4.0	228	3.1

The route of transmission which accumulated most cases of AIDS in Catalonia was via injecting drug use with 54.4% (54.3% in men and 54.6% in women). In second place amongst men was the MSM group (24%) and amongst women, it was the group infected through heterosexual sex (35.7%).

Looking at current tendencies in the distribution of transmission groups we can see that from the beginning of the epidemic until 1993, the IDU group represented 58.1% of AIDS cases, followed by the MSM group with 25.9%. Comparing recent tendencies (2001-2008) one can see a great decrease in cases amongst IDUs (37.1%), a stabilising of the cases amongst MSM (20.7%) and a large increase in cases amongst heterosexuals (37%) (figure 1.1.9). Figure 1.1.10 shows the annual percentage evolution of routes of transmission and gender in the period 1981-2008.

Table 1.1.4 shows the AIDS defining illnesses grouped into time periods.

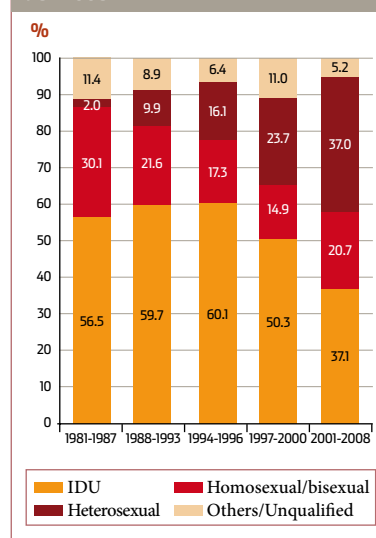
With the incorporation of tuberculosis (pulmonary and extrapulmonary), it became the most common AIDS defining illness, representing 26.4% of cases in the latest period. Amongst women diagnosed with AIDS for the period 1994-2008 (2072), 102 were diagnosed with invasive cervical cancer (4.9%).

1.1.2.3. AIDS in children

There has been a sharp decline in paediatric AIDS since 1996 when Zidovudine prophylaxis (AZT) was introduced for pregnant women with HIV in 1996 (figure 1.1.11).

Of the 222 paediatric cases (under 13 years old) seen in the AIDS Register in Catalonia up to 31st December 2008, the majority occurred via vertical transmission (VT) (91.9%), and within this group, 49% of the mothers were infected from the use of shared injecting drug material and 37.1% from sexual relations. The last reported case of AIDS in a child was reported in 2003.

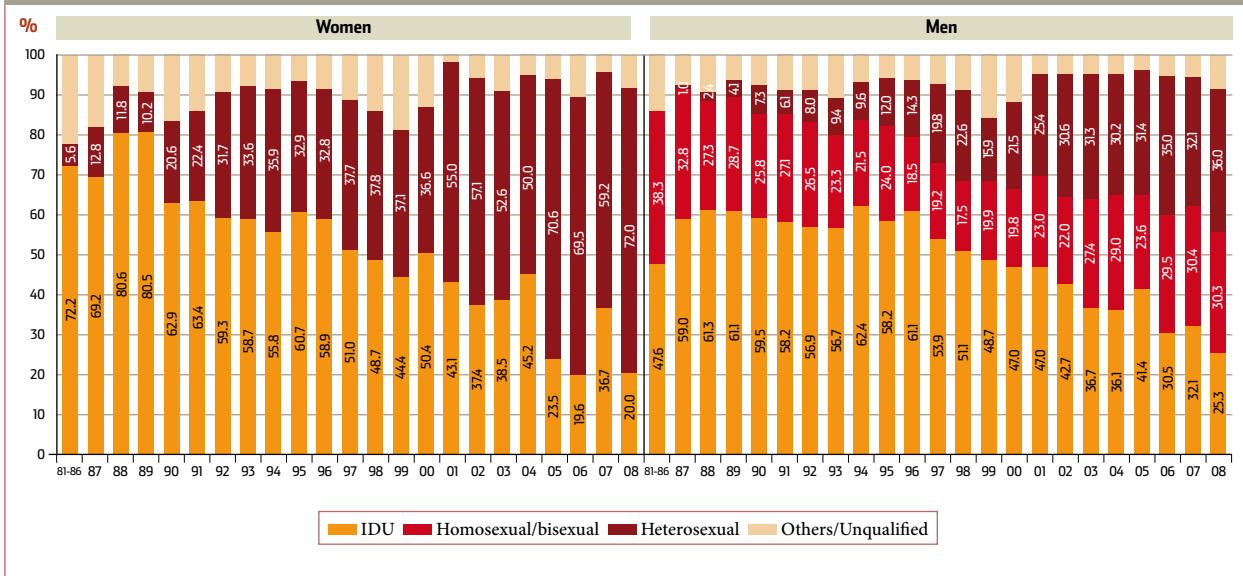
Figure 1.1.9. Percent evolution of AIDS cases by transmission groups and periods. Catalonia, 1981-2008.



1.1.2.4. HIV/AIDS Mortality

Until the end of 2008 there were 10,149 deaths recorded in the AIDS Register (64.4% of the total of reported cases). It is estimated that approximately 6,086 people are living with AIDS in Catalonia (4,737 men and 1,349 women) (figure 1.1.12).

Figure 1.1.10. Percent evolution of AIDS cases by transmission group and sex. Catalonia, 1981-2008.



82% of the deaths were men, 66.2% were subjects aged between 25 and 39 years, and 59.6% were IDUs. With the introduction of HAART in 1996 a marked decline in mortality to 50.4% has been seen starting in 1997, a figure which has been maintained to the present day.

riod 2000 to 2002, respectively. **Table 1.1.6** shows the proportion of people who survive longer than 12, 24 and 36 months after an AIDS diagnosis according to determined characteristics. Survival at 12, 24 and 36 months decreases in those diag-

nosed aged over 35 years in comparison with those younger than 35 years old. Survival is superior amongst those people whose route of transmission is sexual (heterosexual or homosexual) than those who either acquire the virus via in-

Table 1.1.5 shows the impact of the AIDS epidemic, measured in years of potential life lost in the population aged from 13 to 65 years in Catalonia. In 2007, deaths from AIDS were equivalent to 2.4% of potential life years lost due to all causes of death in this age group in Catalonia.

Long term survival of people with an AIDS diagnosis has also increased with the introduction of HAART in 1996 [14], going from a survival rate at 12, 24 and 36 months of 67.7%, 52.6% and 47.7% in 1995 to 81.4%, 76% and 73% for the pe-

Figure 1.1.11. Paediatric AIDS incidence by year of birth. Catalonia, 1986-2008.

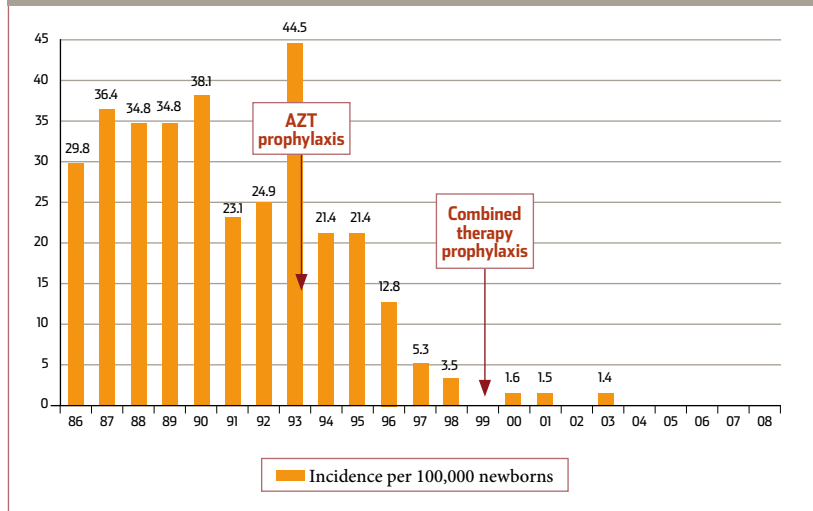


Table 1.1.4. Distribution of AIDS defining conditions of cases that reside in Catalonia by periods, 1981-2008.

Disease that indicates AIDS	1981-1987		1988-1993		1994-2008		Global	
	N	%	N	%	N	%	N	%
Pneumonia by <i>P. jiroveci</i>	105	26.1	1,261	21.6	1,915	19.2	3,281	20.2
Extrapulmonary Tuberculosis	-	-	1,225	21.0	1,416	14.2	2,653	16.3
Esophagus Candidiasis	88	21.9	745	12.8	953	9.5	1,786	11.0
Lung Tuberculosis	-	-	-	-	1,638	16.4	1,642	10.1
Wasting syndrome	-	-	707	12.1	772	7.7	1,479	9.1
Brain toxoplasmosis	45	11.2	518	8.9	607	6.1	1,170	7.2
Kaposi's sarcoma	45	11.2	370	6.3	487	4.9	902	5.6
Lymphomas	22	5.4	139	2.4	392	3.9	553	3.4
VCM infection	19	4.7	123	2.1	194	1.9	336	2.0
Progressive multifocal leucoencephalopathy	8	2.0	100	1.7	300	3.0	408	2.5
HIV encephalopathy	1	0.2	131	2.2	227	2.3	359	2.2
Recurrent pneumonia	-	-	4	0.1	288	2.9	292	1.8
Invasive cervix cancer	-	-	1	0.0	102	1.0	103	0.6
Cryptosporidiosis	18	4.5	137	2.4	132	1.3	287	1.8
Extrapulmonary cryptococcosis	9	2.2	91	1.6	171	1.6	271	1.7
Chronic mucocutaneous herpes simplex	8	2.0	77	1.3	76	0.8	161	1.0
Mycobacterium avium or kansasii	3	0.7	24	0.4	96	1.0	123	0.8
Mycobacterium other species, extrapulmonary	2	0.5	32	0.5	85	0.9	119	0.7
Múltiple recurrent bacteria infections	3	0.7	49	0.8	21	0.2	73	0.4
Salmonella septicemia	1	0.2	39	0.7	33	0.3	73	0.4
Isosporiasis with diarrhea	5	1.2	21	0.4	26	0.3	52	0.3
Trachea/bronchus or lung candidiasis	5	1.2	13	0.2	21	0.2	39	0.2
Bronchus, lung or esophagus herpes simplex	-	-	13	0.2	18	0.2	31	0.2
Lymphoid interstitial pneumonitis	3	0.7	14	0.2	10	0.1	27	0.2
Disseminated histoplasmosis	-	-	1	0.0	12	0.1	13	0.1
Disseminated coccidiomycosis	-	-	-	-	2	0.0	2	0.0
Total	402		5,839		9,994		16,235	

Figure 1.1.12. AIDS cases living in Catalonia, 1981-2007.

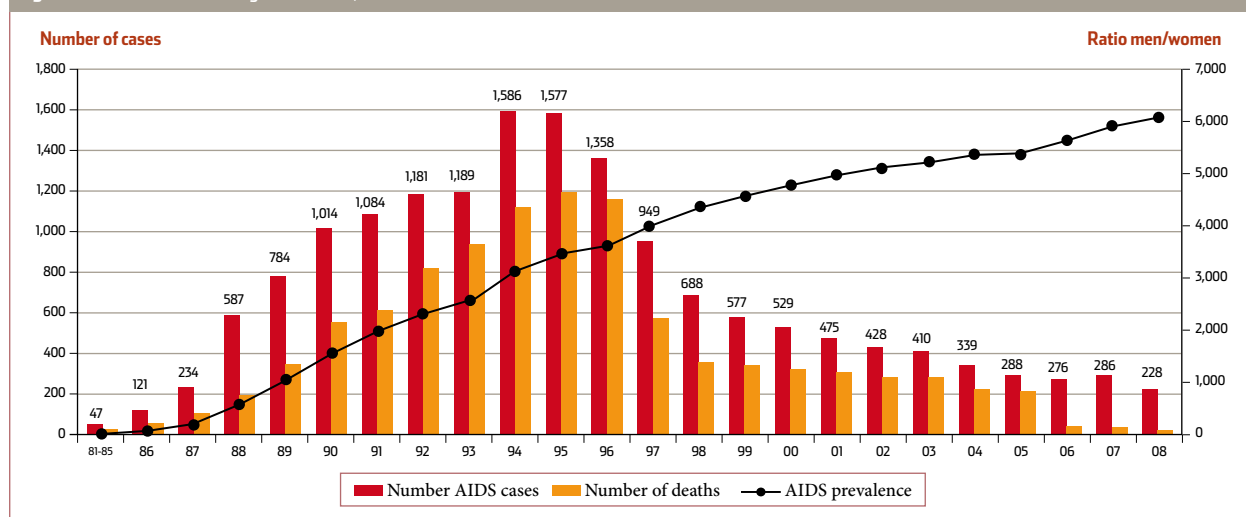


Table 1.1.5. Years of potential life lost (YPLL-65) attributable to AIDS mortality, Catalonia, 1992-2007.

Year	YPLL-65 AIDS		YPLL-65(%) On all death causes	
	Men	Women	Men	Women
1995	24,534	6,036	17.7	11.4
1996	20,199	5,642	15.0	10.0
1997	9,255	2,433	8.1	4.5
1998	5,077	1,348	4.4	2.6
1999	4,993	1,375	4.7	2.9
2000	4,853	1,164	4.7	3.0
2001	3,890	1,429	4.0	3.6
2002	4,346	1,371	4.5	3.5
2003	3,478	1,279	3.5	3.2
2004	4,015	880	2.9	1.6
2005	3,385	968	2.5	1.7
2006	2,758	780	2.1	1.5
2007	3,465	870	2.7	1.6

Table 1.1.6. Rate of persons that survive more than 12, 24 and 36 months after AIDS diagnosis by certain characteristics, 2000-2002.

	N	Survival in months (%)		
		>12	>24	>36
Age at diagnosis				
<15	4	100.0	100.0	100.0
15-19	2	100.0	100.0	100.0
20-24	33	93.9	84.8	81.8
25-29	136	87.5	83.1	80.9
30-34	322	86.6	82.6	80.1
35-44	622	81.0	75.7	73.5
>44	313	72.2	65.5	61.7
Origin country				
Spain	1,259	80.3	74.5	71.6
Not Spain	173	89.0	87.3	86.1
Way of transmission				
IDU	649	78.9	71.2	68.1
MSM	240	82.9	80.0	77.1
Heterosexual	440	85.2	81.8	79.8
Unqualified	99	76.3	72.2	70.1
Vertical transmission	4	100.0	100.0	100.0
Total	1,432	81.4	76.0	73.4

jecting drug use or whose risk is not defined. Although survival is higher amongst non-Spanish subjects compared to those from Spain, this data may not coincide with the real situation. People of non-Spanish ori-

gin probably return to their native country when they become ill, and therefore information about their health status may be underreported and not available in the Death Register of Catalonia.

1.1.2.5. HIV/AIDS infection in Barcelona*

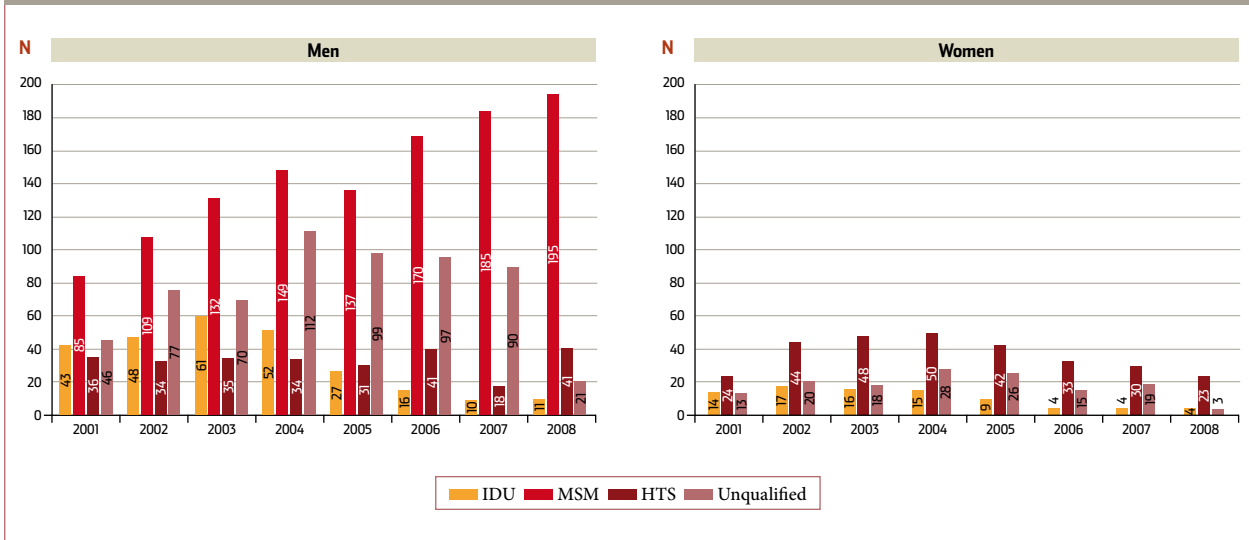
* Patricia García de Olalla, Roser Clos, Pilar Gorrindo, Juan A Caylá and the Epidemiology Service Nursing Team of the ASPB.

Since 2001 and until 2008 3,309 new diagnoses in over 18s were reported to the Voluntary Information System of HIV Infection in the city of Barcelona, of which 86% resided in Barcelona.

During 2008, 297 new cases of HIV were reported, which represents 17% less than in 2007. 90% of the new diagnoses were men. Of the 273 cases with known transmission route (92%), MSM accounted for 79% (193 cases) of men whilst 82% (23 cases) of women probably were of heterosexual sex transmission route (figure 1.1.13). 50% of patients a CD4 count lower than 350 cells/ml at the time of diagnosis. Up until 2008, 9,297 cases of AIDS had been reported, of which 6,786 (73%) resided in the city of Barcelona. During 2008, 92 cases of AIDS were reported, a decrease of 34.8% regarding 2007 (figure 1.1.14). This decrease was not evenly distributed between men and women, or according to routes of transmission. In the case of men, the largest fall was seen in IDUs (56%) and bisexual and homosexual men (35%), with respect to the previous year.

In 2008, 77% of HIV infection cases were men, the median age at diagnosis being 38 and 42 years in men and women, respectively. 38% of cases were people born outside Spain (45% of men and 14% of women). 77% of men were infected through sex (55% MSM and 22% HST). The route of transmission for 50% of women was heterosexual sex.

Figure 1.1.13. New HIV infection by transmission group and sex in Barcelona, 2001-2008.



The proportion of people who did not know they were infected with HIV the year before their diagnosis was 55%. This proportion was even higher in people infected by unprotected sexual relations (64% in MSM, 84% in heterosexual men and 50% in heterosexual women).

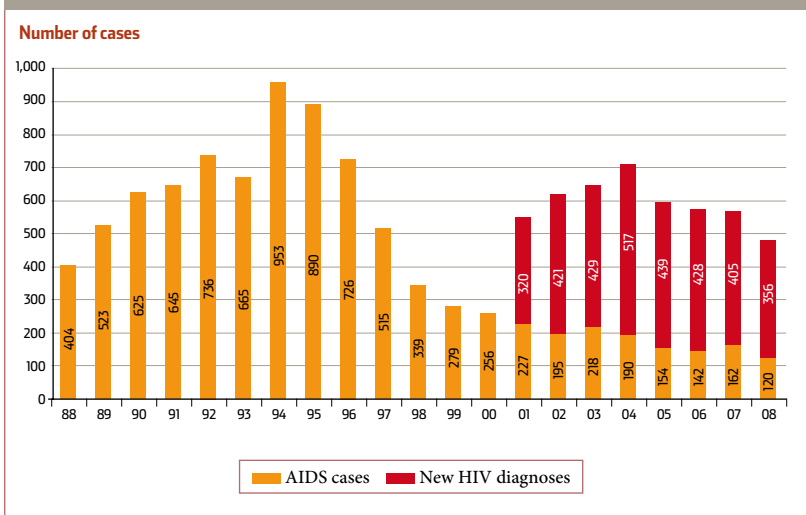
Tuberculosis and Pneumocystis pneumonia (PCP) were the most common defining illnesses at 27% and 24% respectively. HIV/AIDS infection continues to be a large public health problem in our sphere for various reasons. Amongst these we must cite the fact that a high per-

centage of people do not know they are HIV infected [15], because patients diagnosed later have a higher probability of developing AIDS and dying than those patients who are diagnosed early. At the same time, early diagnosis of the infection allows for the reduction of HIV transmission.

Conclusions:

1. For the time period analysed, there was an increase in new HIV diagnosis amongst MSM, necessitating the reinforcing of primary prevention of HIV infection through the promotion of healthy sexual habits and other interventions specifically directed at this group.
2. People of non-Spanish origin account for more than a third of new HIV diagnoses in Spain, in part as a result of increased immigration to Spain in recent years. This indicates the need to ensure access to health services for this group,

Figure 1.1.14. AIDS cases and new HIV diagnoses in Barcelona, 1988-2008.



with the facilitation of information about the centres where the HIV test can be taken, along with information about primary and secondary prevention measures.

3. The mandatory notification of HIV infection instigated in July 2010 allows for a reliable information system which will help in the correct evaluation of prevention programmes and the control of HIV infection.

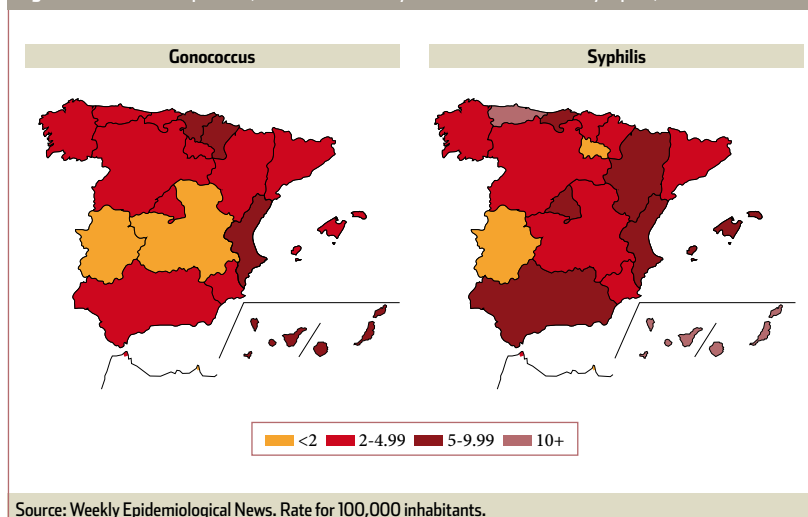
4. Although AIDS mortality has decreased over 50% since the introduction of HAART in 1996, it has been stable in the last few years. Whether this mortality is directly attributable to HIV infection or is due to other causes, related or not to AIDS must be analysed.

1.2. Morbidity rates of sexually transmitted infections in Catalonia

1.2.1. Epidemiology of sexually transmitted infections

Each year there are an estimated 340 million sexually transmitted infections (STIs) in the world. These infections can have important consequences, such as infertility, cancer, long-term incapacity, and even death [16-20]. Since the end of 1990, changes in the pattern and epidemiology of STIs and how they relate to HIV not just in the EU but all around the world have been observed, which makes these pathologies even more relevant as a public health problem.

Figure 1.2.1. STI rates per 100,000 inhabitants by autonomous community. Spain, 2008.



Source: Weekly Epidemiological News. Rate for 100,000 inhabitants.

In the EU and western countries, the groups most affected are young people aged 25 and under, MSM, of foreign origin or had recently arrived, people with HIV and women of reproductive age, amongst others. Since the end of the 1990s and the start of the last decade, an increase in the reporting of gonorrhoea, syphilis, chlamydia, as well as outbreaks of syphilis, lymphogranuloma venereum (LGV), hepatitis A and shigellosis, especially in MSM have been detected. The increase of co-infections of these pathologies with HIV via sexual contact is cause for concern. In Europe, the latest data places Spain in fourth place with respect to cases of syphilis, seventh place for gonorrhoea and sixteenth place for chlamydia [16-27].

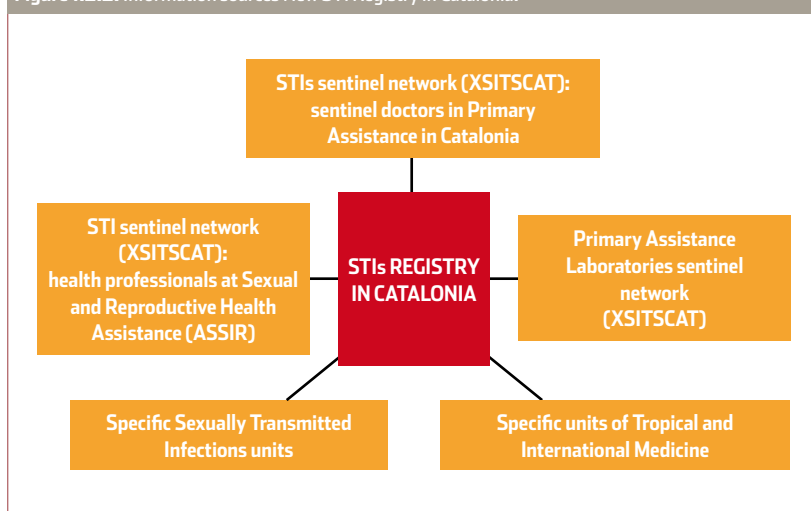
This information is important within the EU because of the interrelation between countries, the affected groups, types of sexual network and places where the infections are

spread, along with the appearance of resistance to treatments and variants which are difficult to detect and diagnose, as well as how they relate to HIV infection [19-21, 26-31].

As a consequence various European countries have begun to take measures through public health actions, increasing surveillance, and the monitoring and control of STIs. Likewise, at European level we have seen a unification of criteria, the emission of health warnings, press releases, publications and reports through the ECDC and the European Surveillance of Sexually Transmitted Infections (ESSTI) [17-18, 21, 23, 26-28].

STIs in Spain, just as in the rest of Europe, began to increase at the start of the new century. Cases of Syphilis have increased by 177%, increasing from an annual rate of 2.32 cases per 100,000 inhabitants in 2003 to 5.70 in 2008. The rate of infection with gon-

Figure 1.2.2. Information sources New STI Registry in Catalonia.



orrhoea has also increased by 77.5% (2003-2008), and jumped from 2.7 cases per 100,000 inhabitants in 2003 to 4.25 in 2008. During the period 2003 to 2008, ten cases of congenital syphilis have also been reported. In 2008 there were no reported cases.

The regions most affected by syphilis with respect to the total population (x 100,000 inhabitants) were the Canary Islands (12.85), Asturias (12.76) and the Balearic Islands (9.56). For gonorrhoea, the regions were Valencia (9.75), the Canary Islands (8.93) and Navarra (5.47) [32] (figure 1.2.1).

An increase in the microbiological reports of STIs beginning in the year 2000 for *Treponema pallidum*, *Neisseria gonorrhoea*, *chlamydia trachomatis*, and Herpes simplex 1-2 were also observed.

With respect to LGV, it is not currently an individualised MDD in Spain, although it is in Catalonia. In 2008 an outbreak of LGV within the

MSM group, mainly HIV-positive, related to the clients of 2 saunas in Barcelona (Catalonia) was reported to the National Centre of Epidemiology. Two cases were also reported in Bilbao (the Basque Country).

1.2.2. The epidemiology of STIs in Catalonia

Until now, the epidemiology of STIs in Catalonia had been based on information obtained from three information systems: The Register of MDD, the Microbiological Notification System of Catalonia (SNMC, according to the Catalan acronym) and the Register of STIs in Catalonia (RITS, according to the Catalan acronym) [33]. With the objective of better coordinating the answers to the health problems associated with STIs, starting with the Decree 445/2004, on 30th November, CEEISCAT began to bring together the epidemiologic information related to STIs in Catalonia [34]. In

2006, through the Decree 391/2006 of 17th October, the circuit of MDD and STI outbreaks were modified by the DS [35]. Specifically, syphilis, gonorrhoea and LGV were considered to be MDD individualised. Genital infections such as chlamydia, trichomonas, genital herpes, genital warts and other STIs were also added. Their incidence was to be reported numerically in a weekly basis. The reporting doctors send the reports to the UVE in each area, and in the case of Barcelona to the ASPB and finally to CEEISCAT.

The Register of MDD is based on the weekly report either numerical or individualised by health workers when a patient presents with clinical indications or suspects that they have one of the MDD [33].

The SNMC is based on the collection of microbiological information of the selected etiological diagnoses, which are reported voluntarily by various hospital laboratories. There are currently 40 hospital laboratories in Catalonia reporting to the system. The microorganisms reported in the file of STIs are: *Neisseria gonorrhoea*, *Treponema pallidum*, *Trichomonas vaginalis*, *Haemophilus ducreyi*, the Herpes simplex virus (VHS 1/2) and *chlamydia trachomatis*. Since 2005, CEEISCAT has used information from the etiological agents of STIs of the SNMC as a complementary source for the surveillance of STIs in Catalonia.

During 2006 CEEISCAT included the reinforced epidemiologic surveillance of STIs with the aim of improving strategic preventative

and welfare intervention measures. For this reason, during the same year, the process of the implantation

of a sentinel network of reinforced surveillance of STIs by doctors and health professionals in sexual

and reproductive health assistance (ASSIR, according to the Catalan acronym) programmes and primary

Figure 1.2.3. STI rates per 100,000 inhab. Compulsory notification. Catalonia, 1996-2008.

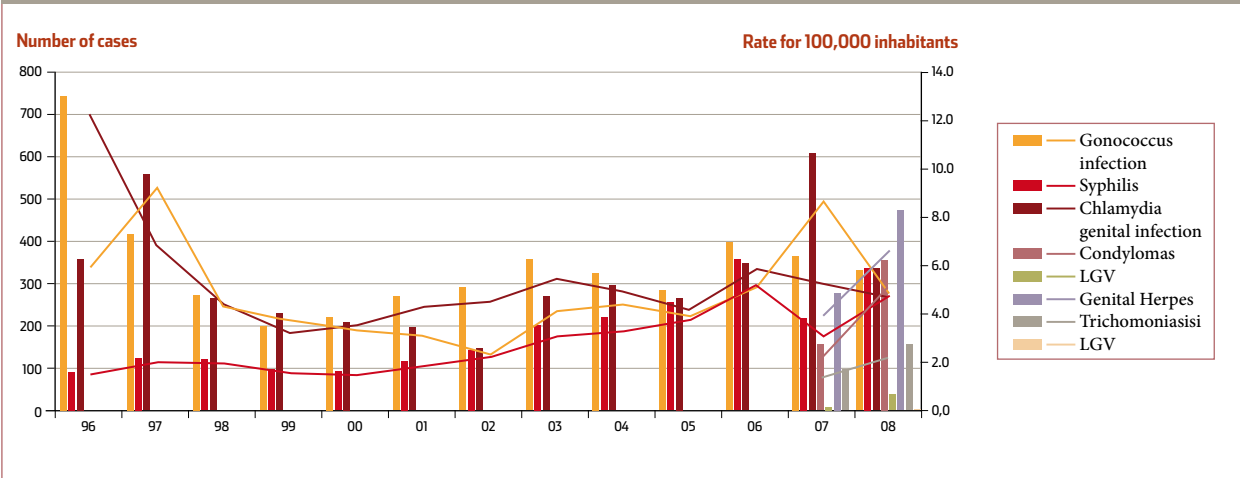
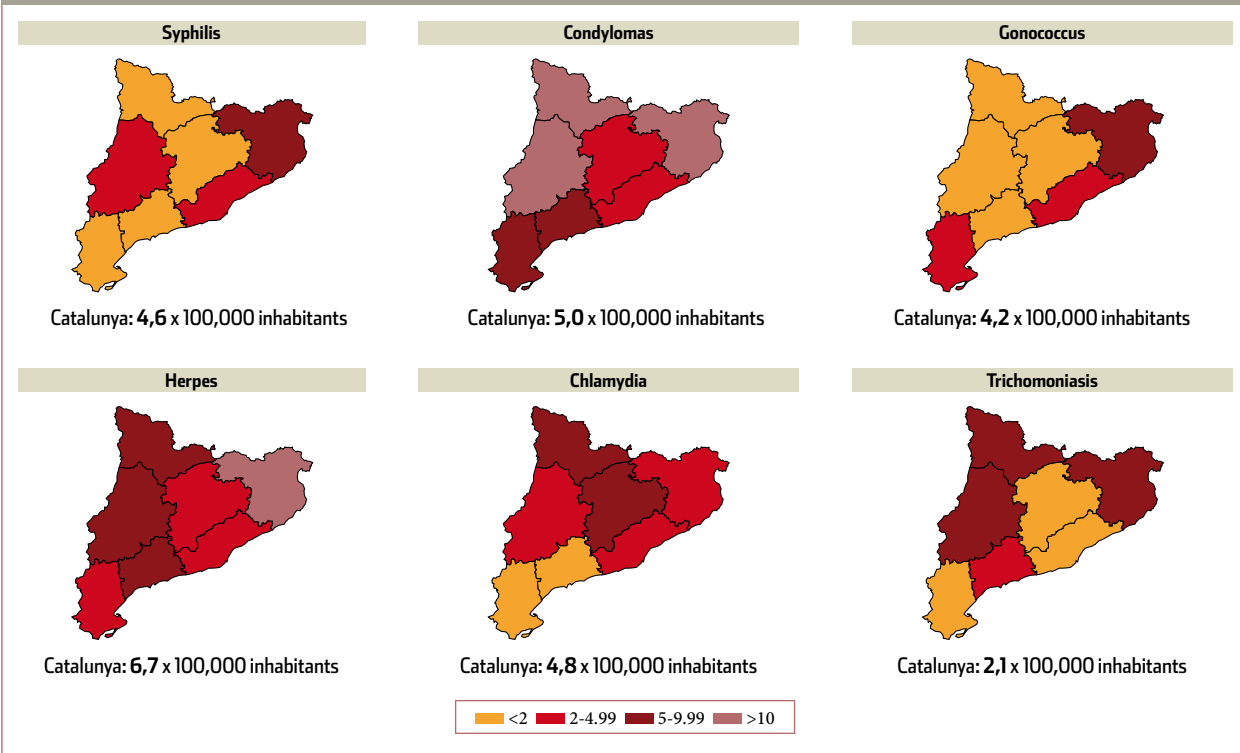


Figure 1.2.4. STI rates per 100,000 inhabitants by regions of Catalonia. 2008.



Source: Register of MDD.

health centre laboratories was initiated (figure 1.2.2) in order to be able to improve estimates of prevalence and detect changes in morbidity rates and the epidemiology of these infections. It also carries out estimates in each territory, and strengthens the thoroughness of mandatory declaration, which until that time had been a weekly numerical count.

During 2006-2007 the Register of Sexually Transmitted Diseases was renamed the RITS, with the expansion of the sources of declaration and participants, adding the network of sentinel health professionals of primary STI health care to the Units of sexually transmitted infections (UITS, according to the Catalan acronym).

1.2.2.1 Extent and distribution of STIs

By 2008, the main STIs surveyed in Catalonia maintained the increasing trend seen in the previous five years (table 1.2.1 and figure 1.2.3). This increase was observed in the whole of Spain and in other complementary information systems such as the reports to the SNMC and the RITS [27, 32-33].

Table 1.2.1. Frequency and rates* of mandatory declaration STIs per year. Catalonia, 1996-2008.

Year	Syphilis		Gonococcus infection		LGV		Chlamydia genital infection		Genital
	Freq.	Rate	Freq.	Rate	Freq.	Rate	Freq.	Rate	Freq.
1996	91	1.5	743	12.2	**	**	358	5.9	**
1997	124	2.0	416	6.8	**	**	557	9.2	**
1998	121	2.0	273	4.4	**	**	264	4.3	**
1999	97	1.6	199	3.2	**	**	229	3.7	**
2000	92	1.5	220	3.5	**	**	209	3.3	**
2001	117	1.8	270	4.3	**	**	196	3.1	**
2002	142	2.2	290	4.5	**	**	146	2.3	**
2003	202	3.1	356	5.4	**	**	268	4.1	**
2004	219	3.3	325	4.9	**	**	295	4.4	**
2005	255	3.7	283	4.2	**	**	265	3.9	**
2006	356	5.2	397	5.8	**	**	347	5.1	**
2007	217	3.1	365	5.2	7	0.1	607	8.7	277
2008	336	4.8	330	4.7	36	0.5	336	4.8	471
% change 2008	54.8		-9.6		414.3		-44.6		
% change 2003-2008	66.3		-7.3		**		25.4		
IEA 2008	1.5		0.9		5.1		1.1		

Source: Register of MDD. / * Rates calculated per 100,000 inhabitants from population projections based on the 2001 census for Catalonia and estimations between the 1991 and 2001 censuses for Catalonia,

Table 1.2.2. Frequency and rates* of notified cases of mandatory declaration STIs per year and health region. Catalonia, 2008.

Health region	Syphilis		Gonococcus infection		LGV		Chlamydia genital infection		Genital
	Freq.	Rate	Freq.	Rate	Freq.	Rate	Freq.	Rate	Freq.
Terres de l'Ebre	2	1.1	7	3.7	0	0.0	2	1.1	8
Camp de Tarragona	5	0.8	8	1.3	0	0.0	9	1.5	45
Barcelonès	240	4.9	228	4.6	34	0.7	237	4.8	217
Gironès	59	8.2	47	6.6	0	0.0	34	4.7	159
Catalunya Central	8	1.6	6	1.2	0	0.0	34	6.8	18
Lleida	13	3.7	3	0.9	1	0.3	15	4.3	20
Alt Pirineu i Arán	1	1.3	1	1.3	0	0.0	5	6.6	4
Total Catalunya	328	4.6	300	4.2	35	0.5	336	4.8	471

Source: Register of MDD. / * Rates calculated per 100,000 inhabitants from population projections based on the 2001 census for Catalonia and estimations between the 1991 and 2001 censuses for Catalonia,

Of the individualised MDD, syphilis remained on the rise with an increase of 66.3% in the last five years. In 2008 there were 336 cases reported (4.8 cases per 100,000 inhabitants). The same year there were 330 cases of gonorrhoea with a rate of 4.7 cases per 100,000 inhabitants. This rate was stable in 2008. Genital chlamydia is one of the most frequent STIs

in Catalonia, with an increasing trend of 30.9% in the previous five years (table 1.2.1).

As for the other STIs, a total of 5,904 suspected infections were reported, an increase of 24.7% in the previous five years and a high incidence in 2008 with a rate of 83.6 per 100,000 inhabitants. With regards to congen-

ital syphilis, in the last year no cases were reported (table 1.2.1).

Of the new incorporations to the weekly numerical reports (decreed 391/2006), there were 471 reports of genital herpes with a rate of 6.7 cases per 100,000 inhabitants and an increase of 70% with respect to the previous year, 2007. Cases of genital

Herpes	Condylomas		Trichomonas		Other STIs		Newborn ophthalmia		Congenital syphilis		
	Rate	Freq.	Rate	Freq.	Rate	Freq.	Rate	Freq.	Rate		
**	**	**	**	**	**	6,314	103.7	**	**	**	**
**	**	**	**	**	**	5,347	87.8	**	**	**	**
**	**	**	**	**	**	4,944	80.4	**	**	**	**
**	**	**	**	**	**	4,615	74.4	**	**	**	**
**	**	**	**	**	**	3,782	60.5	**	**	**	**
**	**	**	**	**	**	3,395	53.5	**	**	**	**
**	**	**	**	**	**	3,406	53.1	**	**	**	**
**	**	**	**	**	**	3,972	60.5	**	**	**	**
**	**	**	**	**	**	3,572	53.3	**	**	**	**
**	**	**	**	**	**	3,725	54.6	**	**	**	**
**	**	**	**	**	**	4,620	67.8	**	**	**	**
4.0	155	2.2	97	1.4	4,735	67.5	37	44.2	4	4.8	
6.7	355	5.0	155	2.2	5,904	83.6	45	50.5	0	0.0	
70.0	129.0		59.8		24.7		21.6		-100.0		
**	**		**		48.6		800.0		**		
**	**		**		1.5		3.8		0		

National Statistics Institute (INE). / ** Mandatory declaration STIs from 2007.

Herpes	Condylomas		Trichomonas		Other STIs		Newborn ophthalmia		Congenital syphilis	
	Rate	Freq.	Rate	Freq.	Rate	Freq.	Rate	Freq.	Rate	
4.2	14	7.4	2	1.1	9	4.8	1	51.6	0	0.0
7.5	31	5.2	16	2.7	795	132.5	2	24.9	0	0.0
4.4	156	3.2	59	1.2	1,646	33.4	78	133.7	0	0.0
22.2	76	10.6	36	5.0	3,245	452.7	7	76.3	0	0.0
3.6	24	4.8	9	1.8	131	26.1	6	93.4	0	0.0
5.7	43	12.2	20	5.7	45	12.8	0	0.0	0	0.0
5.2	11	14.4	4	5.2	32	41.9	0	0.0	0	0.0
6.7	355	5.0	146	2.1	5,903	83.6	94	1.3	0	0.0

National Statistics Institute (INE). / ** Mandatory declaration STIs from 2007.

warts increased from 155 reports to 355 in 2008 (an increase of 129%), with a rate of five cases per 100,000 inhabitants. Trichomonas infection increased by 59.8% with respect to the previous year, with a total of 155 cases reported giving a rate of 2.2 cases per 100,000 inhabitants (**table 1.2.1** and **figure 1.2.3**).

Catalonia has incorporated LGV as an STI of individualised mandatory declaration. In 2007 seven cases were reported whilst in 2008 this number increased to 36, an outbreak of LGV being declared in Barcelona.

The regions with the highest rates per 100,000 inhabitants were (**table 1.2.2**

and **figure 1.2.4**): for syphilis – Girona (8.2), Barcelona (4.9), and Lerida (3.7), for gonorrhoea – Girona (6.6), Barcelona (4.6) and the Terres de l'Ebre (3.7), for genital chlamydia – Central Catalonia (6.8), Pyrenees-Aran (6.6) and Barcelona (4.8), for other STI – Girona (452.7), Tarragona (132.5) and Pyrenees-Aran (41.9),

Table 1.2.3. Yearly frequency of STIs notified to the SNMC, 1996–2008.

Year	<i>C. trachomatis</i>		<i>N. gonorrhoeae</i>		Herpes simplex		<i>T. pallidum</i>		<i>T. vaginalis</i>	
	Freq.	Change %	Freq.	Change %	Freq.	Change %	Freq.	Change %	Freq.	Change %
1996	30	-14.29	35	40.00	0	0.00	86	-27.12	0	0.00
1997	58	93.33	27	-22.86	0	0.00	63	-26.74	118	**
1998	43	-25.86	41	51.85	0	0.00	76	20.63	131	11.02
1999	26	-39.53	61	48.78	7	**	81	6.58	148	12.98
2000	32	23.08	67	9.84	52	642.86	51	-37.04	141	-4.73
2001	27	-15.63	87	29.85	28	-46.15	75	47.06	168	19.15
2002	14	-48.15	47	-45.98	26	-7.14	96	28.00	87	-48.21
2003	30	114.29	68	44.68	57	119.23	90	-6.25	141	62.07
2004	21	-30.00	102	50.00	109	91.23	239	165.56	145	2.84
2005	24	14.29	105	2.94	167	53.21	362	51.46	116	-20.00
2006	20	-16.67	222	111.43	122	-26.95	606	67.40	170	46.55
2007	21	5.00	330	48.65	99	-18.85	224	-63.04	131	-22.94
2008	126	500.00	354	7.27	82	-17.17	133	-40.63	160	22.14
Change % 2008	500.00		7.27		-17.17		-40.63		22.14	
Change % 2003-2008	320.00		420.59		43.86		47.78		13.48	

Source: SNMC.

Table 1.2.4. Distribution of STIs notified to the SNMC by sex and age group, 2008.

Year	<i>Chlamydia trachomatis</i>				<i>Neisseria gonorrhoeae</i>				Herpes simplex		
	Woman	Man	Freq.	%	Woman	Man	Freq.	%	Woman	Man	Freq.
<15	1	0	1	0.79	1	1	2	0.6	1	0	1
15-19	8	0	8	6.3	6	14	20	5.6	9	0	9
20-29	35	6	41	32.5	22	123	145	41	29	5	34
30-39	27	16	43	34.1	13	89	102	28.8	13	6	19
40-49	7	19	26	20.6	3	40	43	12.1	8	4	12
50-59	0	4	4	3.2	3	9	13	3.7	2	1	3
60+	0	0	0	0	4	5	9	2.5	3	1	4
Unknown	2	1	3	2.4	0	20	20	5.6	0	0	0
Total	80	46	126	100	52	301	354	99.9	65	17	82

Source: SNMC.

for neonatal ophthalmia – Barcelona (133.7), Central Catalonia (93.4) and Girona (76.3)

From the beginning of the AIDS epidemic until the end of the 1990s, cases of STIs were decreasing. In the case of syphilis the rate was always low (table 1.2.1 and figure

1.2.3). Between the end of the last century and the start of the new millennium (1998-2002), we began to see an increase in the reporting of STI of mandatory declaration. This increase was continuous during the period 1999-2008 with increases of 246.4% for syphilis, 65.8% for gonorrhoea, 46.7% for genital chlamydia, and 27.9% for the sum total of other STI (table 1.2.1)

ple from outside Spain was also observed (48.2%, n=247), of which the majority were from Latin American countries (46.5%), followed by those from Western Europe (17%), sub-Saharan Africa (12.5%), Eastern Europe (12.1%) and North Africa (7.7%).

Sexual orientation was mainly homosexual (47.1%), followed by heterosexual (28.1%) and bisexual (4.7%).

<i>H. ducreyi</i>		Total	
Freq.	Change %	Freq.	Change %
0	0	151	-15.17
0	0	266	76.16
0	0	291	9.40
0	0	323	11.00
0	0	343	6.19
1	**	386	12.54
0	0	270	-30.05
0	0	386	42.96
0	0	616	59.59
0	0	774	25.65
0	0	1,140	47.29
0	0	805	-29.39
0	0	855	6.21
0.00		6.21	
0.00		121.50	

1.2.2.2. The characteristics of STI of individualised mandatory declaration

Infectious Syphilis

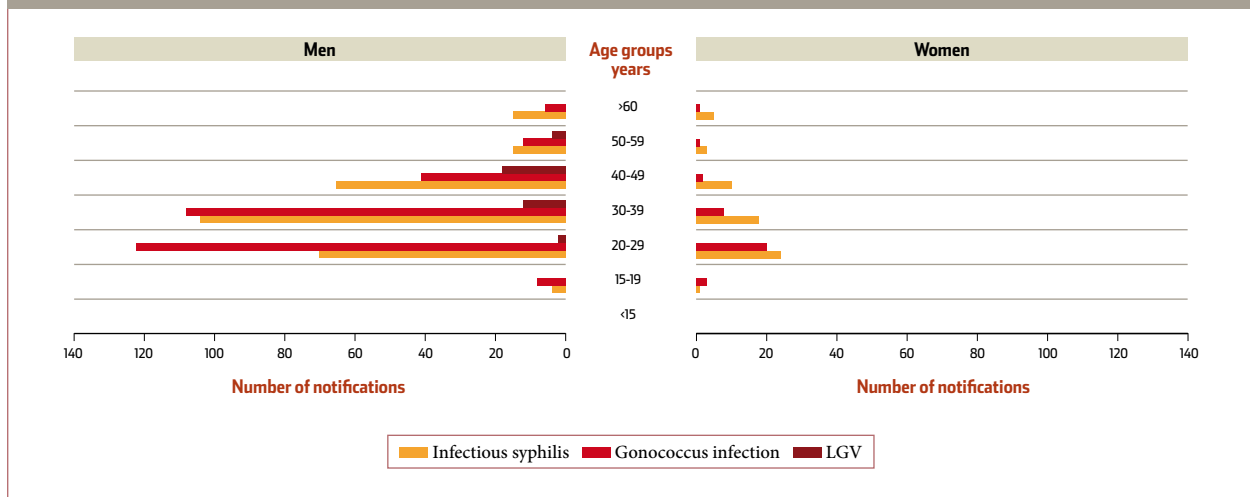
Between 1st January 2007 and 31st December 2008, the Register of MDD in Catalonia received reports of 512 cases (tables 1.2.1, 1.2.2 and figures 1.2.3, 1.2.5), 82.8% were men and 17.2% were women. The average age was 36.4 years and the most affected groups were men aged from 25 to 39 years old and women from 20 to 34 years old. During 2008, there was an increase of cases amongst people aged younger than 35 and from 45 to 49 years old. A high proportion of cases amongst peo-

Of the cases with previous history of STIs, 18.6% (95/512) were infected with HIV at the time of diagnosis and 12% reported having had an STI diagnosed during the previous year and 4.7% (24/512) of all cases were diagnosed with HIV at the same time as they were diagnosed with syphilis.

The infectious period of syphilis, if not treated, is 12 months, which includes primary, secondary and early latent syphilis. Of the 512 cases diagnosed, 55.1% were declared as infectious syphilis (primary, secondary and early latent) and the rest of them

	<i>Treponema pallidum</i>				<i>Trichomonas vaginalis</i>				Total			
	%	Woman	Man	Freq.	%	Woman	Man	Freq.	%	Woman	Man	Freq.
1.2	0	1	1	0.8	0	0	0	0	2	2	4	0.0
11	0	1	1	0.8	3	0	3	1.9	26	15	41	1.9
41.5	9	17	26	19.5	38	0	38	23.8	133	151	284	23.8
23.2	16	29	46	34.6	53	0	53	33.1	123	140	263	33.1
14.6	4	17	21	15.8	29	1	30	18.8	51	81	132	18.8
3.7	2	9	11	8.3	19	1	20	12.5	26	24	50	12.5
4.9	4	6	10	7.5	4	0	4	2.5	15	12	27	2.5
0	3	14	17	12.8	12	0	12	7.5	17	35	52	7.5
100.1	38	94	133	100.1	158	2	160	100.1	393	460	853	100.1

Figure 1.2.5. Distribution of STIs notified to the Register of individualized MDDD by sex and age group, 2008.



were in the non-infectious phase or unspecified. The importance of the ability to specify the phase of the infection, due to the implications this has when reviewing sexual contacts must be emphasised.

As regards behavioural data, the cases diagnosed during this time period report high risk practices with an average of 16.8 (standard deviation (SD): 32.4) sexual partners during the previous 12 months (excluding commercial SW (SW)). 39.8% reported having had a new sexual partner during the previous 3 months and only 14.1% had used a condom in their last sexual relation. During the previous 12 months, 8.2% had maintained sexual relationships in sex venues, 7% in foreign countries, 5.1% had taken drugs, and 3.1% had engaged in sexual contact with prostitutes and 4.7% were SW.

Syphilis cases reported to have a high number of sexual partners, unprotected sexual practices and a high

proportion of them were infected with HIV. Reviewing sexual contacts is very important, but in only 47.7% of the 512 cases a sexual partner study had been initiated with an average of 2.1 sexual partners having been located by the patient.

Regarding the possibility of maternal-foetal exposure to or transmission of syphilis, three women were diagnosed during pregnancy. Of these, one had secondary phase syphilis, and the other two were in a non-specified phase.

Infection with gonorrhoea

During the same time period the Register of MDD in Catalonia received 695 reports of gonorrhoea, of which 330 had occurred in 2008 (tables 1.2.1, 1.2.2 and figures 1.2.3, 1.2.5).

Until 31st December 2008, 562 cases were diagnosed, of which 89.5% were men and 10.5% were women with an H/D (M/F) ratio of 8.5. The average age was 32.1 years (SD: 9.4 years) and

the most affected groups were men aged from 25 to 34 and women from 20 to 29. During 2008, there was an increase in cases within the group of young people aged 25 and under and the group aged from 30 to 39. A third of the cases were of foreign origin (30.8%, n=173), of which the majority (43.9%) were from Latin American countries, followed by western Europe (24.3%), north Africa (14.5%), Eastern Europe (9.8%) and Asia (4.6%).

The majority of patients with STIs were heterosexuals (32%), followed by homosexuals (25.3%) and a bisexual (4.1%). The sexual orientation was unknown in 38.6% of the cases.

During 2007 and 2008, the history of STIs in reported cases was the following: 8.2% (46/562) were co-infected with HIV at the time of diagnosis and 12% had been diagnosed with an STI during the previous year. Ten cases of gonorrhoea were concurrently diagnosed with another

STI of mandatory declaration: four cases with syphilis, five cases with LGV and one case with triple infection of syphilis-gonorrhoea-LGV. Of these ten cases, 80% were co-infected with HIV.

The cases diagnosed during this period, reported high risk sexual practices with an average of 13.2 (SD: 22.9) sexual partners during the previous 12 months (excluding commercial SW). In the previous three months 40.6% reported having had a new sexual partner and only 13.5% had used a condom in the last sexual relation.

Like syphilis, the cases of gonorrhoea declared stated having had a high number of sexual partners and unprotected sex, and there was a high proportion infected with HIV. Attempts to locate sexual partners had been initiated in only 32.9% of the 562 cases and an average of 1.49 (SD: 1.33) sexual contacts had been located by the patient.

With respect to risk behaviour during the previous 12 months, 9.9% reported having maintained sexual contact with prostitutes, whilst 4.5% were SW, 3.9% had maintained sexual relations in sex venues, 4% had maintained sexual practices in other countries, and 3.2% had taken drugs before engaging in sex. The type of practices and contacts reported indicated a heterosexual profile for this STI.

Lymphogranuloma Venereum (LGV)

Between 1st January 2007 and 31st December 2008 there were 43 cases

of LGV reported to the Register of MDD in Catalonia, of which 37 occurred in 2008 (tables 1.2.1, 1.2.2 and figures 1.2.3, 1.2.5).

All the cases were identified within a group of men who practised sex with men (one bisexual), with an average age of 39 (SD 1.0), mainly infected with HIV (39/43 cases, 90.7%), who had multiple sexual partners in the last year (an average of 47 partners, SD 9.1) and sexual contact in networks and sex venues such as saunas, bars, nightclubs, and Internet chat-rooms, amongst others.

There were 60.5% of the cases reporting to have had a new sexual partner in the previous 3 months and just over half reported having had unprotected sex in their last sexual relation. Half of the cases were diagnosed with a concurrent STI in the last year, being syphilis, gonorrhoea or genital warts. The infection status as regards Hepatitis B and C viruses (HCV) was unknown in the majority of cases. Most of the cases, (86%) resided in the city of Barcelona, 11.6% resided in the rest of Catalonia and one outside of Catalonia. 18.6% were from EU countries, 20.9% were from Latin America and 60.5% were Spanish.

The first cases of LGV were diagnosed in the UITS Drassanes. This UITS provided the majority of the cases, with 69.8% of the total, the rest having been diagnosed in the Germans Trias i Pujol Hospital (HUGTiP, according to the Catalan acronym). Thirty-seven of the cases were treated with Doxycycline for 21 days. In all 43 cases *C.trachomatis*

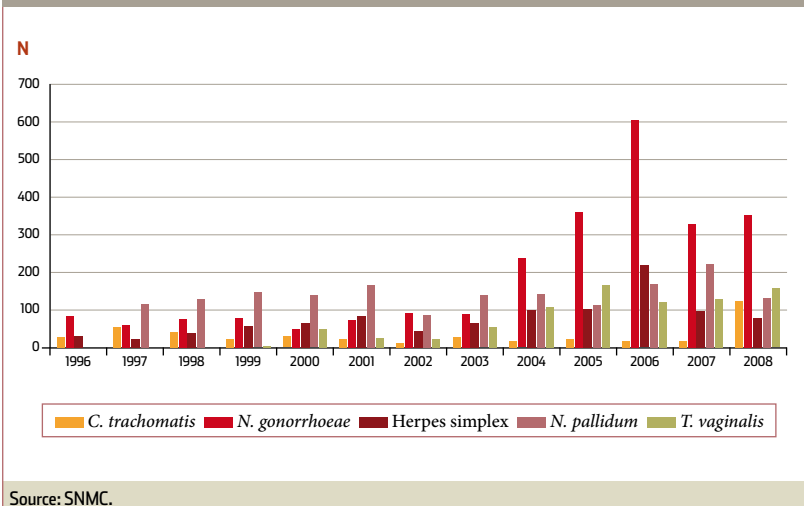
was detected and 41 of these were confirmed for serotypes L1-L3 with molecular genotyping techniques in the Microbiology Service of the Vall de Hebrón Hospital (34/43) and at the HUGTiP (9/43). Of the total of confirmed cases, 9 were serotype 2 (UHGTyP), and 34 were serotype L1-L3 non-specific (Vall de Hebrón). The average number of days between the onset of symptoms until the diagnosis was approximately 3.6 months (109.7 days, SD: 21.8 days).

Due to the increase in cases observed during the time period from December 2007 to May 2008, the ASPB declared an outbreak in the city of Barcelona on 5th June 2008 [21]. The epidemiological characteristics of the cases detected were similar to outbreaks in the rest of Europe. The approach to the investigation into sexual contacts was complicated by the type of relations and the high quantity of partners reported, which on many occasions were anonymous.

1.2.2.3. The characteristics of STIs reported to the Microbiological Notification System of Catalonia

A total of 855 incidents of causal etiological agents of STIs were reported in 2008. Of these, 15.6% correspond to *T. Pallidum*, 41.4% to *N. gonorrhoea*, 18.7% to *T. vaginalis*, 9.6% to the VHS, and 14.7% to *C. trachomatis*. The number of declarations of *C. trachomatis* increased (500%), followed by the VHS 1 and 2 (22.1%) and *T. pallidum* (7.3%) (table 1.2.3 and figure 1.2.6). The age groups most affected were women aged from 20 to 29 and from 30 to 39, and men

Figure 1.2.6. Annual distribution of STIs notified to the SNMC, 1996-2008.



Source: SNMC.

aged from 30 to 39 (table 1.2.4 and figure 1.2.7). An increase in cases notified in young people under 35 years old was also observed (table 1.2.4 and figures 1.2.7).

With regard to *N. gonorrhoea*, 105 strains were notified, of which 5.7% were Beta-lactamase positive, 30.5% were Beta-lactamase negative and in 63.8% there was no result.

Of the total of 855 declarations, 46% (393) were women with an average age of 36.8 years (SD: 18.2 years) with more notifications for *T. vaginalis* (40.2%), followed by *C. trachomatis* (20.4%), and by the VHS (16.5%). The age groups most affected in women were: young women aged from 20 to 29, followed by adults from 30 to 39 and from 40 to 49. In comparison with 2007, there was a slight increase of 12.3% in the total of the STIs declared, mainly in the declarations of *C. trachomatis*, *T. vaginalis*, and *N. gonorrhoea* (figure 1.2.8).

In women the age groups with most notifications for each etiological agent were the following:

- *C. trachomatis*: young women < 35 years
- *N. gonorrhoea*: young women < 35 years
- Herpes Simplex: young women < 35 years
- *T. pallidum*: 25-39 years
- *T. vaginalis*: mainly those aged 25-44 years.

With regard to men, of the total of declarations received during the year 2008, 460 (53.8%) notifications corresponded to men with an average age of 39 years (SD: 20 years) mainly affected by *N. gonorrhoea* (65.4%), *T. pallidum* (20.4%) and *C. trachomatis* (10%). The age groups mostly affected were: young men aged from 20 to 29 years, (32.8%) followed by the group aged 30 to 39 years (30.4%). During the year 2008, in men there was no overall change in the total of STIs declared

when compared with 2007, but there was an important increase in the number of declared cases of *C. trachomatis* (figure 1.2.8). This change in the number of declarations can be explained by the initiation of the sending of screening samples in the MSM group to the Vall de Hebrón Hospital laboratory by the UITs in Drassanes.

In men, the age groups with most notifications for each etiological agent were the following:

- *C. trachomatis*: 30-44 years
- *N. gonorrhoea*: young men <35 years
- Herpes simplex: adult men 30-59 years
- *T. pallidum*: adult men 30-49
- *T. vaginalis*: mainly those aged over 45 years

The trend from 2003 to 2008 shows a global increase of 121.5% with respect to 2003. The increase was observed mainly on *C. Trachomatis*, *T. pallidum* and Herpes Simplex notification (table 1.2.3 and figure 1.2.6). It must be emphasised that there was variability in the notification of *C. trachomatis* along with the difficulty in establishing patterns during this period and the increase in the notification of *T. pallidum* which was difficult to classify as infectious.

1.2.2.4. The characteristics of the STI declared to the Register of STIs (RITS) in Catalonia

From May 2007 until 2009 a total of 2,536 patients with STIs were recorded in the RITS (tables 1.2.5, 1.2.6 and 1.2.7). The majority of the cases were declared by the UITs of Drassanes

Figure 1.2.7. Distribution of STI notified to the SNMC by age-group and sex, 2008.

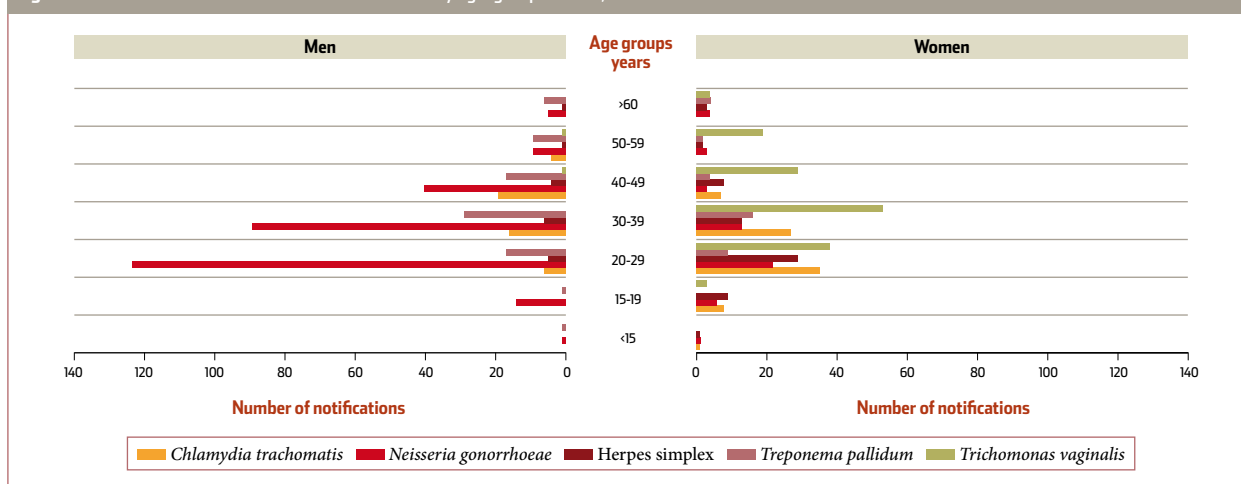
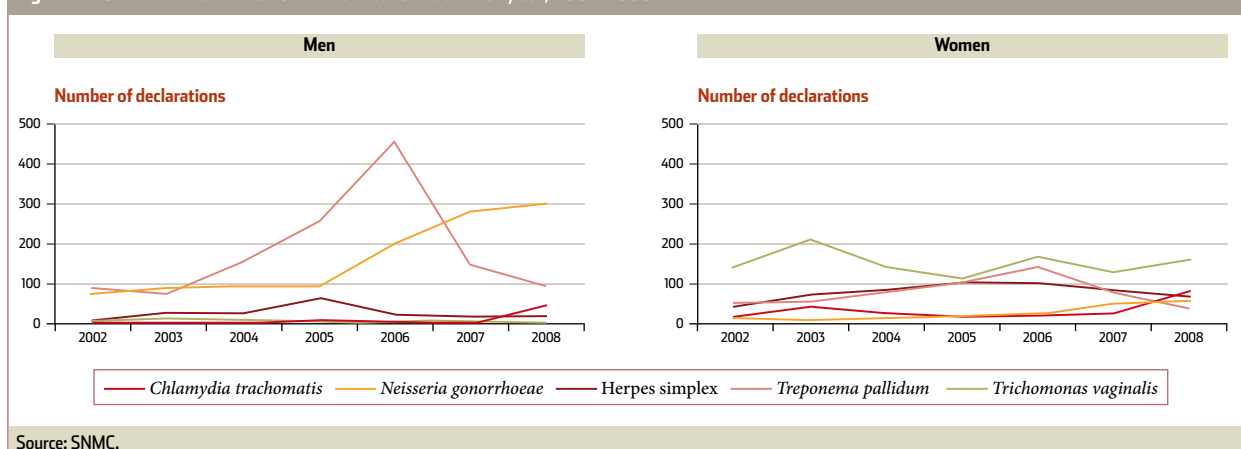


Figure 1.2.8. Annual distribution of STI notified to the SNMC by sex, 2002-2008.n



Source: SNMC.

(86.4%), followed by the ASSIR sentinel network (11.1%) and in a lower proportion by the network of family doctors (2.5%).

During this period, 68.2% of those registered were men (31.8% women) and 44% were of foreign origin. The average age was 31.5 years (SD 8.7). With regard to sexual orientation, the majority declared to be heterosexual 58.6%), but 38% of 2,536 re-

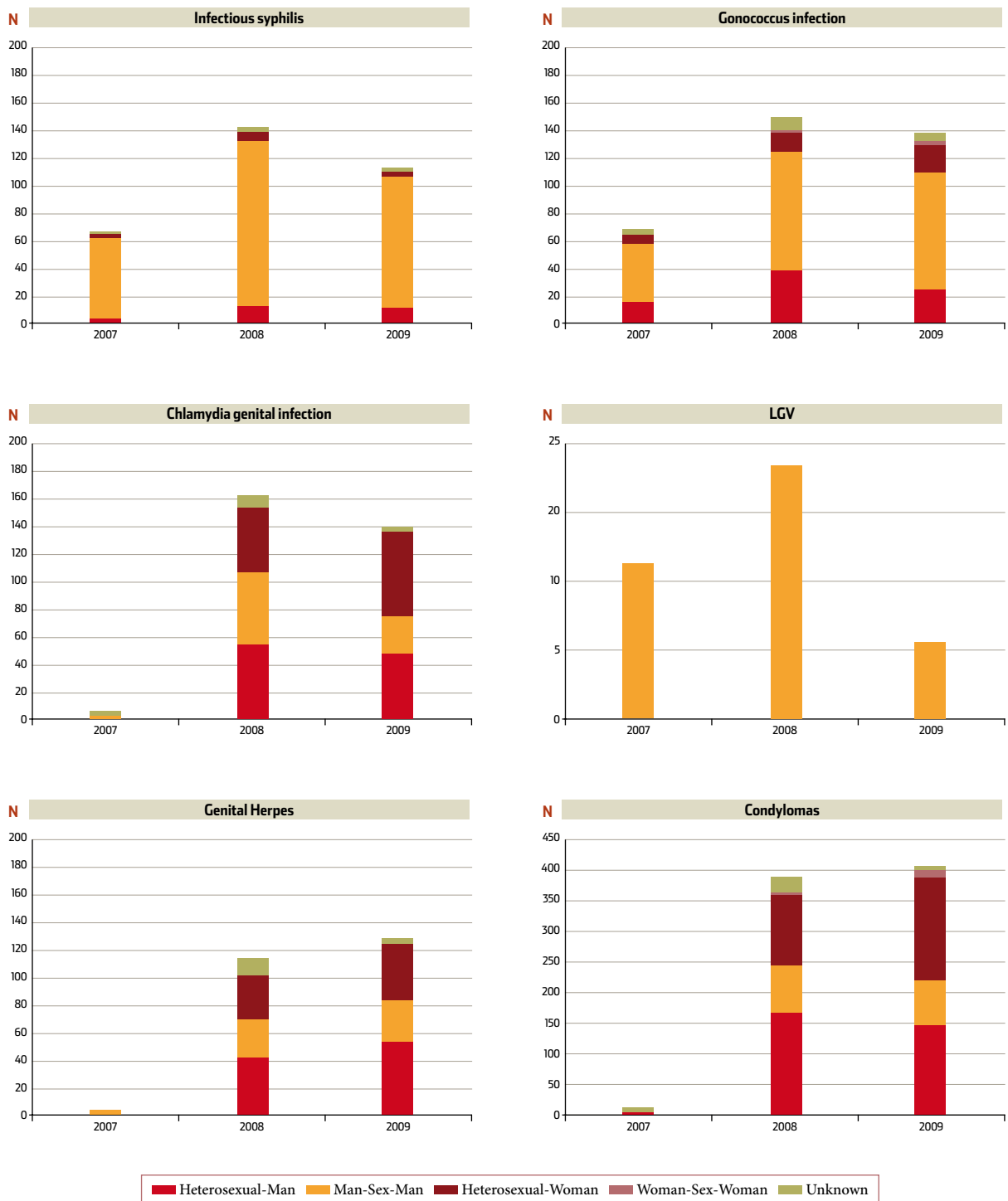
ported having maintained sexual relations with someone of the same sex (mainly MSM). A high proportion (37.5%) reported having had a new partner in the previous three months and 43.5% had not used a condom in their last sexual relation.

The most reported STIs were genital warts (31.7%), followed by syphilis (17%), gonorrhoea (14.1%), chlamydia (12.15%) and HSV (9.7%). The

overall data also shows a high proportion of co-infection (11.6%) with HIV in these patients (13.1% UITs, 2.1% ASSIR, 1.6% family doctors) and 6.8% with another concurrent STI at the time of diagnosis. In the previous 12 months 14.5% had been diagnosed with another STI previous to their current diagnosis (table 1.2.6).

Diferently from other STI, the LGV was diagnosed only in MSM (figure 1.2.9).

Figure 1.2.9. Distribution of STIs selected by sex and sexual orientation. RITS, 2007-2009.



Source: RITS.

With the exception of Trichomoniasis, the rest of STIs monitored by the RITS show an increasing trend along the years. Including to the series historical data from the ancient STI registry (1996-2006) allows to see this trend (figure 1.2.10 and 1.2.11)

STIs in the general population

Until 2009, the most frequent STIs in the general population were detected by the sentinel network of family doctors. This network provided a total of 64 patients who visited the primary health system with 2.5% of the total registered giving a total of 67 incidents of STIs. During the same period, a total of ten doctors coming from eight centres notified cases within the RITS (tables 1.2.5, 1.2.6 and 1.2.8).

The characteristics of the population included were: mainly men (78.1% ratio H/D: 3.6) with an average age of 33 years (SD 9.3) with a very high proportion being of foreign origin (64.1%). The majority declared themselves to be heterosexual (95.3%) and only 4.7% were MSM.

The most frequent incidents of STIs were genital warts (32.8%), non-specific urethritis (32.8%), Hepatitis B (12.5%), genital herpes (10.9%) and gonorrhoea (9.4%). With regard to HIV, co-infection was at 1.6%. The percentage who presented with symptoms of a concurrent STI at the time of diagnosis was 4.7%. In the previous 12 months 15.6% had been infected with an STI prior to their current diagnosis.

Regarding behavioural data, 29.7% of cases reported having had a new

Figure 1.2.10. Distribution of syphilis, gonococci, chlamydia and trichomonas. Register of Sexually Transmitted Diseases and RITS, 1996-2009.

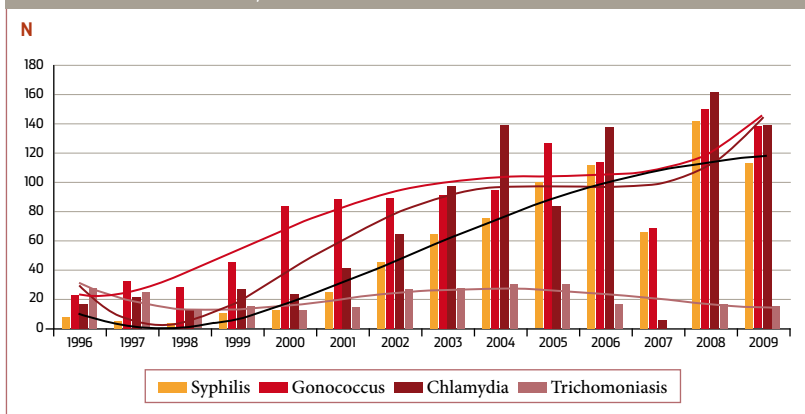
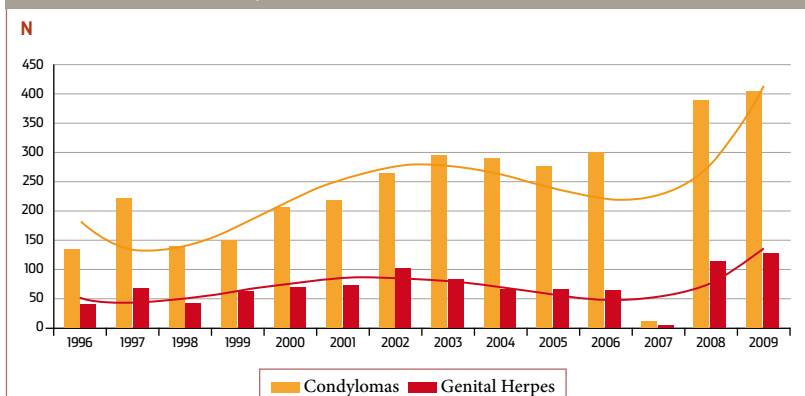


Figure 1.2.11. Distribution of condyloma acuminatum and genital herpes. Register of Sexually Transmitted Diseases and RITS, 1996-2009.



Source: Register of Sexually Transmitted Diseases (1996-2007) and RITS (2007-2009).
** In 2007: changes in the notification system.

sexual partner in the previous three months and 62.5% had not used a condom in the last sexual relation. The average number of sexual partners in the last 12 months was 3.02 partners (SD: 0.66). During the previous 12 months, 22% reported having maintained sexual relations in other countries, 15.6% had consumed drugs before maintaining sexual relations and 12.5% had engaged in sexual relations with prostitutes.

In 75% of the total of registered cases, a review of their sexual contacts had been initiated with an average of 1.69 (SD: 0.19) contacts or sexual partners in the previous three months, of which an average of 1.43 of the sexual contacts (SD: 0.24) were located.

- The profile of the cases declared within the network of sentinel doctors is one of adult heterosexual males with an average of three

Table 1.2.5. Number of notified STIs episodes by sex and sexual orientation. Register of STIs, 2007-2009.

ASSIR (n=281 patients)	Sex and sexual orientation											
	Heterosexual-Man		Man-Sex-Man		Heterosexual-Woman		Woman-Sex-Woman		Unknown		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Condylomas	12	60.0	0	0	95	35.7	5	83.3	0	0	112	39.9
Gonococcus	1	5.6	0	0	4	1.5	0	0	0	0	5	1.8
HBV	0	0	0	0	0	0	0	0	0	0	0	0
HCV	0	0	0	0	0	0	0	0	0	0	0	0
Chlamydia	2	10.0	0	0	25	9.6	0	0	0	0	27	9.6
Genital Herpes	1	5.0	0	0	7	2.7	0	0	0	0	8	2.8
Papillomavirus	0	0	0	0	14	5.4	0	0	0	0	14	50.0
LGV	0	0	0	0	0	0	0	0	0	0	0	0
Infectious syphilis (1,2, latent early syphilis)	0	0	0	0	0	0	0	0	0	0	0	0
Latent late syphilis	0	0	0	0	0	0	0	0	0	0	0	0
Unspecified syphilis	0	0	0	0	2	0.8	0	0	1	50.0	3	1.1
Trichomonas	0	0	0	0	16	60.0	1	16.7	1	50.0	18	6.4
Urethritis	1	5.0	0	0	0	0	0	0	0	0	1	0.4
Vaginosis	0	0	0	0	94	35.3	1	16.7	0	0	95	33.8
Soft chancre	0	0	0	0	0	0	0	0	0	0	0	0
Other STIs	3	15.0	0	0	11	4.2	0	0	0	0	14	50.0
Total	20	100.0	0	0	268	100.0	7	100.0	2	100.0	297	100.0

UIITS (n=2191 patients)	Sex and sexual orientation											
	Heterosexual-Man		Man-Sex-Man		Heterosexual-Woman		Woman-Sex-Woman		Unknown		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Condylomas	291	43.5	154	16.5	188	380.0	12	52.2	27	32.5	672	30.7
Gonococcus	74	11.1	214	22.9	36	7.3	5	21.7	17	20.5	346	15.8
HBV	0	0	3	0.3	0	0	0	0	0	0	3	0.1
HCV	0	0	0	0	1	0.2	0	0	0	0	1	0
Chlamydia	100	14.9	83	8.9	83	16.8	2	8.7	10	120.0	278	12.7
Genital Herpes	93	13.9	59	6.3	65	13.1	1	4.3	13	15.7	231	10.5
Papillomavirus	1	0.1	0	0	3	0.6	0	0	0	0	4	0.2
LGV	0	0	41	4.4	0	0	0	0	0	0	41	1.9
Infectious syphilis (1,2, latent early syphilis)	26	4.2	276	27.1	14	2.6	0	0	5	5.4	321	13.6
Latent late syphilis	9	1.3	14	1.5	7	1.4	0	0	0	0	30	1.4
Unspecified syphilis	10	1.5	62	6.6	15	3.1	0	0	2	2.4	89	4.1
Trichomonas	0	0	0	0	10	20.0	1	4.3	0	0	11	0.5
Urethritis	41	6.1	61	6.5	1	0.2	0	0	7	8.4	110	50.0
Vaginosis	0	0	0	0	54	10.9	4	17.4	3	3.6	61	2.8
Soft chancre	0	0	0	0	1	0.2	0	0	0	0	1	0
Other STIs	47	70.0	50	5.4	54	10.9	1	4.3	8	9.6	160	7.3
Total	692	100.0	1,017	100.0	532	100.0	26	100.0	92	100.0	2,359	100.0



Morbidity and mortality



STI	Sex and sexual orientation											
	Heterosexual-Man		Man-Sex-Man		Heterosexual-Woman		Woman-Sex-Woman		Unknown		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Condylomas	16	34.0	2	66.7	3	21.4	0	0	0	0	21	32.8
Gonococcus	5	10.6	0	0.0	1	7.1	0	0	0	0	6	9.4
HBV	5	10.6	0	0	3	21.4	0	0	0	0	8	12.5
HCV	0	0	0	0	0	0	0	0	0	0	0	0
Chlamydia	1	2.1	0	0	1	7.1	0	0	0	0	2	3.1
Genital Herpes	3	6.4	1	33.3	3	21.4	0	0	0	0	7	10.9
Papillomavirus	0	0	0	0	0	0	0	0	0	0	0	0
LGV	0	0	0	0	0	0	0	0	0	0	0	0
Infectious syphilis (1,2, latent early syphilis)	0	0	0	0	0	0	0	0	0	0	0	0
Latent late syphilis	0	0	0	0	0	0	0	0	0	0	0	0
Unspecified syphilis	1	2.1	0	0	0	0	0	0	0	0	1	1.6
Trichomonas	0	0	0	0	4	28.6	0	0	0	0	4	6.3
Urethritis	18	38.3	0	0	0	0	0	0	0	0	18	28.1
Vaginosi	0	0	0	0	0	0	0	0	0	0	0	0
Soft chancre	0	0	0	0	0	0	0	0	0	0	0	0
Other STIs	0	0	0	0	0	0	0	0	0	0	0	0
Total	49	100.0	3	100.0	15	100.0	0	0	0	0	67	100.0

STI	Sex and sexual orientation											
	Heterosexual-Man		Man-Sex-Man		Heterosexual-Woman		Woman-Sex-Woman		Unknown		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Condylomas	319	44.93	156	16.03	286	34.84	17	51.52	27	31.03	805	30.68
Gonococcus	80	11.27	214	21.99	41	4.99	5	15.15	17	19.54	357	13.61
HBV	5	0.70	3	0.31	3	0.37	0	0.00	0	0.00	11	0.42
HCV	0	0.00	0	0.00	1	0.12	0	0.00	0	0.00	1	0.04
Chlamydia	103	14.51	83	8.53	109	13.28	2	6.06	10	11.49	307	11.70
Genital Herpes	97	13.66	60	6.17	75	9.14	1	3.03	13	14.94	246	9.38
Papillomavirus	1	0.14	0	0.00	17	2.07	0	0.00	0	0.00	18	0.69
LGV	0	0.00	41	4.21	0	0.00	0	0.00	0	0.00	41	1.56
Infectious syphilis (1,2, latent early syphilis)	26	3.66	276	28.37	14	1.71	0	0.00	5	5.75	321	12.23
Latent late syphilis	9	1.27	14	1.44	7	0.85	0	0.00	0	0.00	30	1.14
Unspecified syphilis	11	1.55	62	6.37	17	2.07	0	0.00	3	3.45	93	3.54
Trichomonas	0	0.00	0	0.00	30	3.65	2	6.06	1	1.15	33	1.26
Urethritis	9	1.27	14	1.44	7	0.85	0	0.00	0	0.00	30	1.14
Vaginosi	0	0.00	0	0.00	148	18.03	5	15.15	3	3.45	156	5.95
Soft chancre	0	0.00	0	0.00	1	0.12	0	0.00	0	0.00	1	0.04
Other STIs	50	7.04	50	5.14	65	7.92	1	3.03	8	9.20	174	6.63
Total	710	100.0	973	100.0	821	100.0	33	100.0	87	100.0	2.624	100.0

Source: RITS.

Table 1.2.6. HIV+ status by sex and sexual orientation. Register of STIs, 2007-2009.

ASSIR	Sex and sexual orientation											
	Heterosexual-Man		Man-Sex-Man		Heterosexual-Woman		Woman-Sex-Woman		Unknown		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
HIV+	2	11.1	0	0.0	4	1.6	0	0.0	0	0.0	6	2.1
HIV unknown	5	27.8	0	0.0	70	27.5	1	16.7	1	50.0	77	27.4
Total	18	100.0	0	0.0	255	100.0	6	100.0	2	100.0	281	100.0
UITS	Sex and sexual orientation											
	Heterosexual-Man		Man-Sex-Man		Heterosexual-Woman		Woman-Sex-Woman		Unknown		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
HIV+	15	2.2	261	28.0	5	1.0	0	0.0	5	6.0	286	13.1
HIV unknown	341	51.0	184	19.7	173	35.8	10	43.5	66	79.5	774	35.3
Total	669	100.0	933	100.0	483	100.0	23	100.0	83	100.0	2,191	100.0
EAP Sentinel network of health professionals	Sex and sexual orientation											
	Heterosexual-Man		Man-Sex-Man		Heterosexual-Woman		Woman-Sex-Woman		Unknown		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
HIV+	0	0.0	0	0.0	1	7.1	0	0.0	0	0.0	1	1.6
HIV unknown	14	29.8	1	33.3	2	14.3	0	0.0	0	0.0	17	26.6
Total	47	100.0	3	100.0	14	100.0	0	0.0	0	0.0	64	100.0
TOTAL RITS	Sex and sexual orientation											
	Heterosexual-Man		Man-Sex-Man		Heterosexual-Woman		Woman-Sex-Woman		Unknown		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
HIV+	17	2.3	261	27.9	10	1.3	0	0.0	5	5.9	293	11.6
HIV unknown	360	49.0	185	19.8	245	32.6	11	37.9	67	78.8	868	34.2
Total	734	100.0	936	100.0	752	100.0	29	100.0	85	100.0	2,536	100.0

Source: RITS.

partners in the last year with infrequent use of condoms and mainly diagnosed with genital warts and urethritis.

- Emphasis must be placed on the fact that 1.6% of patients diagnosed in primary health centres with an STI were infected with HIV.
- The doctors from the sentinel network had a highly positive awareness of the approach taken in the reviewing of sexual contacts.

STIs in women and young people

The group of women, young people and their partners treated during this period within the ASSIR sentinel network provided a total of 281 patients. Reports were received from nine centres participating in the ASSIR sentinel network (tables 1.2.5, 1.2.6 and 1.2.9). The population treated in these centres is made up of young adults with an average age of 29.6 years (SD: 9.5). Given the specific characteristics of the users of ASSIR centers, the contribution

within the RITS is mainly of women from the general population (93.6%, H/D ratio: 0.07). One third of those registered are from other countries with 32.7% of the total. The majority were heterosexuals, with few cases of women who have sex with women being observed.

The most frequent incidents of STIs were genital warts (39.9%), vaginosis (33.8%), chlamydia (9.6%) and trichomas (6.4%). With regard to HIV infection, the proportion was 2.1%.

Table 1.2.7. Main characteristics of the RITS patients, ASSIR, 2007-2009 (N=281 patients).

	Man		Woman		Total	
	n	%	n	%	n	%
Mean age (years)	27.5 (DE: 5.7)		29.7 (DE: 9.7)		29.6 (DE: 9.5)	
Education	Man		Woman		Total	
Primary schooling	2	11.1	64	24.3	66	23.5
High school	6	33.3	100	38.0	106	37.7
University	5	27.8	50	19.0	55	19.6
No studies	0	0.0	3	1.1	3	1.1
Unknown	5	27.8	46	17.5	51	18.1
Total	18	100.0	263	100.0	281	100.0
Origin	Man		Woman		Total	
North America	0	0.0	2	0.8	2	0.7
Latin America	4	22.2	62	23.6	66	23.5
Sub-saharan Africa	0	0.0	3	1.1	3	1.1
Middle East and North Africa	0	0.0	5	1.9	5	1.8
Western and central Europe	0	0.0	5	1.9	5	1.8
Eastern Europe and Central Asia	0	0.0	9	3.4	9	3.2
South and Eastern Asia	0	0.0	1	0.4	1	0.4
Eastern Asia	0	0.0	1	0.4	1	0.4
Oceania	0	0.0	0	0.0	0	0.0
Spain	14	77.8	175	66.5	189	67.3
Total	18	100.0	263	100.0	281	100.0
Sexual orientation	Man		Woman		Total	
Heterosexual	18	100.0	255	96.9	273	97.8
Same-sex relationship	0	0.0	6	2.3	6	2.2
Unknown	0	0.0	2	0.8	2	0.7
Total	18	100.0	263	100.0	281	100.0
Mean number of partners < 12 months*	Man		Woman		Total	
Number	2.7 (DE: 1.4)		1.9 (DE: 2.1)		1.9 (DE: 2.0)	
New sexual partner < 3 months	Man		Woman		Total	
Yes	5	27.8	67	25.5	72	25.6
No	13	72.2	193	73.4	206	73.3
Unknown	0	0.0	3	1.1	3	1.1
Total	18	100.0	263	100.0	281	100.0
Sex worker < 12 months	Man		Woman		Total	
Yes	0	0.0	2	0.8	2	0.7
Total	18	100.0	263	100.0	281	100.0
Mean number of clients during the previous week	0		4.0 (DE: 1.4)		4.0 (DE: 1.4)	





Sexual contact outside Spain < 12 months	Man		Woman		Total	
Yes	5	27.8	67	25.5	72	25.6
No	13	72.2	193	73.4	206	73.3
Unknown	0	0.0	3	1.1	3	1.1
Total	18	100.0	263	100.0	281	100.0

Drugs use before sexual contact < 12 months	Man		Woman		Total	
Yes	8	44.4	66	25.1	74	26.3
No	7	38.9	146	55.5	153	54.5
Unknown	3	16.7	51	19.4	54	19.2
Total	18	100.0	263	100.0	281	100.0

Sexual contacts in sexual venues < 12 months	Man		Woman		Total	
Yes	2	11.1	3	1.1	5	1.8
No	15	83.3	239	90.9	254	90.4
Unknown	1	5.6	21	8.0	22	7.8
Total	18	100.0	263	100.0	281	100.0

Contact tracing	Man		Woman		Total	
Yes	14	78	142	54	156	56
No	4	22	112	43	116	41
Unknown	0	0	9	3	9	3
Total	18	100.0	263	100.0	281	100.0

Source: RITS. / * Excluding sex workers.

Other concurrent STIs were presented in 5.7% at the time of diagnosis. In the previous 12 months 16.4% had been diagnosed with an STI previous to the current infection.

A quarter of the cases declared having had a new sexual partner in the previous three months and three quarters of those registered had not used a condom in the last sexual relation. The average number of sexual partners in the previous 12 months was 1.9 sexual partners (SD: 2.0). Regarding practices in the previous year, 26.3% had consumed drugs before engaging in sexual relations.

The review of sexual contacts had been initiated in just over 50% of the cases

with an average of 1.5 sexual partners during the last three months (SD: 1.2), of which an average of 1.8 sexual contexts were located (DE: 1.3).

- The profile of cases declared within the ASSIR network was of young heterosexual women with infrequent use of condoms, with an average of two sexual partners in the previous year and with diagnosis of genital warts and vaginosis.
- Emphasis must be placed on the fact that 2.1% of the patients diagnosed with an STI within the ASSIR centres were HIV positive.

There is little attempt to investigate sexual contacts within the ASSIR

centres, and the need to improve this approach must be emphasised.

STIs in most vulnerable groups

The most vulnerable group for the infection with and transmission of STIs during the study period is seen in the contribution of Drassanes UITS in Barcelona (Table 6.2.7). This UITS has registered a total of 2,191 patients and 2,359 STIs events. This is 86.4% of the RITS (tables 1.2.5, 1.2.6 and 1.2.10).

The profile of the population treated in the UITS was of young adults with an average age of 31.6 years (SD: 8.6) and mainly men (75.8%, H/D ratio: 3.1). The average age was 32.5 years (SD: 8.6) and 28.9 years (SD: 7.8) in

Table 1.2.8. Main characteristics of the RITS patients, UITS, 2007-2009 (N=2191 patients).

	Man		Woman		Total	
	n	%	n	%	n	%
Mean age (years)	32.5 (DE: 8.6)		28.9 (DE: 7.8)		31.6 (DE: 8.6)	
Education	Man		Woman		Total	
Primary schooling	162	9.8	53	10.0	215	9.8
High school	410	24.7	143	27.0	553	25.2
University	441	26.6	120	22.6	561	25.6
No studies	20	1.2	6	1.1	26	26.0
Unknown	628	37.8	208	39.2	836	836.0
Total	1,661	100.0	530	100.0	2,191	100.0
Origen	Man		Woman		Total	
North America	9	0.5	5	0.9	14	0.6
Latin America	374	22.5	166	31.3	540	24.6
Sub-saharan Africa	17	1.0	8	1.5	25	1.1
Middle East and North Africa	56	3.4	9	1.7	65	3.0
Western and central Europe	178	10.7	53	10.0	231	10.5
Eastern Europe and Central Asia	36	2.2	23	4.3	59	2.7
South and Eastern Asia	36	2.2	7	1.3	43	2.0
Eastern Asia	3	0.2	3	0.6	6	0.3
Oceania	1	0.1	0	0.0	1	0.0
Unknown	951	57.3	256	48.3	1,207	55.1
Total	1,661	100.0	530	100.0	2,191	100.0
Sexual orientation	Man		Woman		Total	
Heterosexual	669	40.3	483	91.1	1,152	54.6
Same-sex relationship	933	56.2	23	4.3	956	45.4
Unknown	59	3.5	24	4.5	83	8.0
Total	1,661	100.0	530	100.0	2,191	100.0
Mean number of partners < 12 months*	Man		Woman		Total	
Number	12.7 (DE: 23.5)		2.7 (DE: 6.8)			
New sexual partner < 3 months	Man		Woman		Total	
Yes	726	43.7	134	25.3	860	39.3
No	266	16.0	143	27.0	409	18.7
Unknown	669	40.3	253	47.7	922	42.1
Total	1,661	100.0	530	100.0	2,191	100.0
Sex worker < 12 months	Man		Woman		Total	
Yes	37	2	73	14	110	5
Total	1,652	100.0	528	100.0	2,180	100.0
Sexual contact outside Spain < 12 months	Man		Woman		Total	
Yes	51	3.1	4	0.8	55	2.5
No	270	16.5	126	23.9	396	18.3



Unknown	1,320	80.4	398	75.4	1,718	79.2
Total	1,641	100.0	528	100.0	2,169	100.0

Drugs use before sexual contact < 12 months	Man		Woman		Total	
Yes	34	2.0	3	0.6	37	1.7
No	269	16.2	133	25.1	402	18.3
Unknown	1,358	81.8	394	74.3	1,752	80.0
Total	1,661	100.0	530	100.0	2,191	100.0

Sexual contacts in sexual venues < 12 months	Man		Woman		Total	
Yes	78	4.7	0	0.0	78	3.6
No	264	15.9	150	28.3	414	18.9
Unknown	1,319	79.4	380	71.7	1,699	77.5
Total	1,661	100.0	530	100.0	2,191	100.0

Contact tracing	Man		Woman		Total	
Yes	930	56.0	275	51.9	1,205	55.0
No	173	10.4	72	13.6	245	11.2
Unknown	558	33.6	183	34.5	741	33.8
Total	1,661	100.0	530	100.0	2,191	100.0

Source: RITS. / * Excluding sex workers.

men and women, respectively. With regard to origin, 44.8% were from other countries, with 51.7% of men and 42.6% of women being of non-Spanish origin. Sexual orientation was as follows: 52.6% heterosexual, 42.6% HSH and 1% WSW. There were 13.8% female sex workers (FSW).

Overall, the most frequent STIs in these vulnerable populations were genital warts (30.7%), gonorrhoea (15.8%), infectious syphilis (14.7%), chlamydia (12.7%) and HSV (10.5%). This distribution was very similar for men, whilst in women it was genital warts, chlamydia and HSV, vaginosis and gonorrhoea.

During this period, syphilis was mainly diagnosed at infectious phases (23.9% primary, 30.9% sec-

ondary and 18.2% early latent syphilis) and a minority with late latent infection. Until 2009 there were 23 new cases of HIV (1%), 20 of which were MSM. The UITTS has also seen 70% of all cases diagnosed of LGV in Catalonia.

Within the most vulnerable groups, the most frequent STIs in MSM (n=93) were infectious syphilis, gonorrhoea, genital warts, chlamydia and non-specific urethritis, with 28% being co-infected with HIV. Of the total of FSW registered (n=73), the most frequent diagnoses were gonorrhoea, vaginosis, chlamydia, genital warts and HSV, with 2.7% being co-infected with HIV. Clients of prostitution (n=69) mainly presented with gonorrhoea, followed by syphilis, HSV, genital warts and

chlamydia. The young heterosexual group <25, (n=299) presented with genital warts, chlamydia, gonorrhoea and HSV.

Table 1.2.9. Main characteristics of the RITS patients, sentinel network doctors in Primary Assistance in Catalonia, 2007-2009 (N=64 patients).

Mean age	Man		Woman		Total	
	n	%	n	%	n	%
Years	33.0 (DE: 8.8)		33.6 (DE: 11.4)		33.1 (DE: 9.3)	
Education	Man		Woman		Total	
Primary schooling	10	20.0	5	35.7	15	23.4
High school	18	36.0	3	21.4	21	32.8
University	2	4.0	1	7.1	3	4.7
No studies	7	14.0	2	14.3	9	14.1
Unknown	13	26.0	3	21.4	16	25.0
Total	50	100.0	14	100.0	64	100.0
Origin	Man		Woman		Total	
North America	0	0.0	0	0.0	0	0.0
Latin America	5	10.0	5	35.7	10	15.6
Sub-saharan Africa	12	24.0	3	21.4	15	23.4
Middle East and North Africa	5	10.0	0	0.0	5	7.8
Western and central Europe	0	0.0	0	0.0	0	0.0
Eastern Europe and Central Asia	2	4.0	0	0.0	2	3.1
South and Eastern Asia	6	12.0	1	7.1	7	10.9
Eastern Asia	0	0.0	2	14.3	2	3.1
Oceania	0	0.0	0	0.0	0	0.0
Spain	20	40.0	3	21.4	23	35.9
Total	50	100.0	14	100.0	64	100.0
Sexual orientation	Man		Woman		Total	
Heterosexual	47	94.0	14	100.0	61	95.3
Same-sex relationship	3	6.0	0	0.0	3	4.7
Unknown	0	0.0	0	0.0	0	0.0
Total	50	100.0	14	100.0	64	100.0
Mean number of partners < 12 months*	Man		Woman		Total	
Number	3.4 (DE: 4.9)		0.9 (DE: 0.3)		3.0 (DE: 4.6)	
New sexual partner < 3 months	Man		Woman		Total	
Yes	19	38.0	0	0.0	19	29.7
No	31	62.0	13	92.9	44	68.8
Unknown	0	0.0	1	7.1	1	1.6
Total	50	100.0	14	100.0	64	100.0
Sex worker < 12 months	Man		Woman		Total	
Yes	0	0.0	0	0.0	0	0.0
Total	50	100.0	14	100.0	64	100.0



Sexual contact outside Spain < 12 months	Man		Woman		Total	
Yes	13	26.0	1	7.1	14	21.9
No	35	70.0	11	78.6	46	71.9
Unknown	2	4.0	2	14.3	4	6.3
Total	50	100.0	14	100.0	64	100.0

Drugs use before sexual contact < 12 months	Man		Woman		Total	
Yes	10	20.0	0	0.0	10	15.6
No	35	70.0	11	78.6	46	71.9
Unknown	5	10.0	3	21.4	8	12.5
Total	50	100.0	14	100.0	64	100.0

Sexual contacts in sexual venues < 12 months	Man		Woman		Total	
Yes	5	10.0	0	0.0	5	7.8
No	39	78.0	11	78.6	50	78.1
Unknown	6	12.0	3	21.4	9	14.1
Total	50	100.0	14	100.0	64	100.0

Contact tracing	Man		Woman		Total	
Yes	37	74.0	11	78.6	48	75.0
No	7	14.0	1	7.1	8	12.5
Unknown	6	12.0	2	14.3	8	12.5
Total	50	100.0	14	100.0	64	100.0

Source: RITS. /* Excluding sex workers.

➤ There is an increasing trend of HIV infection in MSM, which indicates the need to strengthen primary prevention of HIV infection by promoting healthy sexual behaviours and other specific interventions to this population.

➤ One third of the new HIV diagnostics are in the foreign population. Geographical and language accessibility of this population to testing resources must be guaranteed, as well as to primary and secondary prevention.

➤ Mandatory notification of HIV infection that was implemented in July 2010 is supposed to enhance HIV infection control.

➤ AIDS mortality decreased by 50% after HAART introduction in 1996, but is showing a steady trend in recent years. Further monitoring to identify alternative causes of death has to be in place.

➤ Patients attending specific UITS like Drassanes are slightly different from other STIs patients.

Drassanes is attending mainly, young men, MSM and with HIV coinfection.

➤ The most relevant diagnoses among vulnerable groups are: genital warts, Chlamydia and gonorrhoea. Syphilis is affecting mainly MSM.

➤ In the fight against STIs in Catalonia and the rest of Europe, surveillance and monitoring are crucial. In specific populations such as youngsters below 25 years of age, MSM, new comers, child bearing

women and those at increased risk of HIV infection.

➤ Enhanced surveillance of STIs is justified by the increasing numbers of migrating populations, in Catalonia and the rest of Europe. This will allow alert systems and prompt interventions.

➤ The increased number of STIs in women at child bearing age indicates the need of strengthening prevention and control of STIs in this population.

➤ In order to improve prevention and control of STIs, specific formation of health professionals, specially those working at primary healthcare teams (EAPs, according to the Catalan acronym) and ASSIR, should be guaranteed.

Image 1.2. Continuous professional development improves abilities for prevention and early detection of HIV and other STI.



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