



Feidhmeannacht na Seirbhíse Sláinte  
Health Service Executive



# **Sexually Transmitted Infections**

## **2004**

### ***Annual Summary Report***

**The Health Protection Surveillance Centre**

**November 2005**

*The data in this report is provisional and will not be regarded as final until all returns are received and data has been validated.*

## Summary Points

- In 2004, 10,695\* sexually transmitted diseases (STIs) were notified in Ireland. This represents an increase of 12.1% when compared to 2003 (n=9,538). The three most commonly notified STIs in 2004 were ano-genital warts (n=4,174), *Chlamydia trachomatis* (n=2,803) and non-specific urethritis (n=2,746).
- Ano-genital warts, the clinically visible manifestation of infection with human papilloma virus (HPV), was the most commonly notified STI in Ireland in 2004. Notifications increased in 2004 by 4.7% compared to 2003. Ano-genital warts are the 'tip of the iceberg' of genital infection with HPV. Estimates indicate that approximately 1% of the sexually active adult population in the United States have visible genital warts.<sup>1</sup> It is estimated that many sexually active people have subclinical disease or latent HPV infection. Most visible ano-genital warts are benign and caused by HPV types 6 and 11. Infection with some other HPV types, especially 16, 18, 31 and 45 may lead to the development of invasive cervical cancer and other cancers of the ano-genital tract.<sup>1</sup>
- Genital *Chlamydia trachomatis* is a transmissible cause of severe reproductive morbidity. Notifications continued to increase in 2004. In addition to a true underlying increase in the number of people infected, the increase reflects increased testing and the use of highly sensitive and specific DNA amplification techniques (NAATS) which can be used on non-invasively collected specimens, particularly urine and vulvovaginal swabs. The numbers of infections reported are likely to represent a substantial underestimate of the true burden of disease as *C. trachomatis* infection is asymptomatic in at least 70% of women and 50% of men.<sup>2</sup>
- There is evidence that case finding for genital chlamydia infection, based on screening for infection among sections of the sexually active population, reduces the prevalence of genital tract infections and pelvic inflammatory disease in women.<sup>3, 4</sup> Possible options for conducting research in Ireland as recommended in 'The Need for Chlamydia Screening in Ireland'<sup>5</sup>, a report prepared for the Scientific Advisory Committee (SAC) of HPSC, are under consideration at present.
- There was a 45.2% increase in reported gonococcal (GC) cases between 2004 and 2003. Reported numbers of GC infections are likely to represent an underestimate of the true incidence as GC infections can be asymptomatic in up to 86 % of women and 55% of men.<sup>6</sup> In addition to increased unsafe sex, the increase in numbers of cases reported is likely to be due to improved case ascertainment as a result of increased public and professional awareness of STIs. Of the 270 cases of GC infection reported in 2004, 86.7% were among males. GC infection tends to be concentrated in core risk groups, such as MSM<sup>7</sup> and the preponderance of male cases may reflect this.
- Having increased steadily each year between 1999 and 2003, the numbers of cases of hepatitis B reported through the STI surveillance system fell from 112 cases in 2003 to 85 cases in 2004. There were 57 cases reported in 2002. These data should be interpreted with caution, as the downward trend may not continue in future years. Many of these cases are the result of people

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\* On 1st January 2004, Infectious Diseases Amendment S.I. No. 707 of 2003 established a revised list of STIs in which candidiasis, molluscum contagiosum and pediculosis pubis are no longer notifiable and have been excluded from all presentations of the total number of STIs by year in this report.

attending STI clinics from areas of the world such as Sub-Saharan Africa, most of Asia and parts of Eastern and Central Europe, where hepatitis B infection is endemic. STI clinic attendees are routinely tested for hepatitis B markers and chronic hepatitis B co-infection is likely to be a co-incidental finding as a result of infection acquired in the past.

- There were no cases of lymphogranuloma venereum (LGV) reported in 2004. Continuing vigilance is necessary as cases among MSM continue to be reported from Britain, the Netherlands, France, Sweden, Germany, Spain, United States and the United Kingdom (UK).<sup>8</sup> ([www.eurosurveillance.org/ew/2005/050602.asp](http://www.eurosurveillance.org/ew/2005/050602.asp))
- Notifications of syphilis decreased by 38.7% in 2004 compared to 2003. Between 2000 and 2002, there was a dramatic increase in syphilis among men who have sex with men (MSM) in Dublin and notifications peaked in 2002.<sup>9</sup> However, notifications have not returned to their pre-outbreak levels and syphilis remains endemic in Ireland.
- While some notifications are received from primary care physicians, and laboratories, STI surveillance in Ireland is mainly clinic-based. As significant proportions of specimens, received by laboratories to be tested for STIs, come from sources other than STI clinics, these data underestimate the true burden of sexually transmitted infection in the community, however they are a robust indicator of annual trends in STI incidence in Ireland.
- A recent review of STI surveillance in Ireland recommended that priority should be given to collecting timely disaggregate, person-based data on the major bacterial sexually transmitted infections, syphilis, gonorrhoea and genital chlamydia and also on infectious hepatitis B. The collection of this data and laboratory reporting will be facilitated by the further development of the Computerised Infectious Diseases Reporting System (CIDR), a web-based system which has been developed to manage the surveillance and control of infectious diseases in Ireland. The system will be implemented nationwide in 2006.<sup>10</sup>

## **Introduction**

During 2004, 11 sexually transmitted infections (STIs) were legally notifiable in Ireland: ano-genital warts, chancroid, *Chlamydia trachomatis*, genital herpes simplex, gonorrhoea, granuloma inguinale, infectious hepatitis B, lymphogranuloma venereum, non-specific urethritis, syphilis and trichomoniasis. On 1st January 2004, Infectious Diseases Amendment S.I. No. 707 of 2003 established a revised list of STIs in which candidiasis, molluscum contagiosum and pediculosis pubis are no longer notifiable and are excluded from all presentations of the total number of STIs by year in this report.

Aggregate data on the number of notified STIs from Departments of Public Health is collated quarterly. While notifications are received from some primary care physicians and laboratories, STI surveillance data is mainly collected from STI clinics in aggregate format. Significant numbers of specimens received by laboratories for STI diagnostic testing come from sources other than STI clinics and may not be captured by the current system. However, while underestimating the true burden of sexually transmitted infection in the community, these annual data are a robust indicator of trends in STIs.

The number of STIs notified by quarter, health board, age group and gender for 2004 are presented in this report. Rates per 100,000 population are based on the 2002 population census, are reported in appendix A. It should be noted that cases of infectious hepatitis B that are sexually transmitted may

also be reported through the weekly infectious disease report published by HPSC. Please note that quarterly STI data is only available from Q1 1995 & annual STI data is only available from 1989.

***HPSC would like to thank all those who provided data for this report, particularly the STI Clinics, Laboratories, GPs and Departments of Public Health.***

## **2004 annual summary**

During 2004, 10,695 STIs were notified compared to 9,538 in 2003 (12.1% increase) (table 1). Notified STIs have been increasing each year since 1994 (appendix A, table 8). When compared to 2003, notifications of the following diseases increased during 2004: ano-genital warts (5.0%), *C. trachomatis* (24.1%), genital herpes simplex (9.6%), gonorrhoea (45.2%), non-specific urethritis (17.8%) and trichomoniasis (1.7%). Notifications of infectious hepatitis B decreased from 112 cases in 2003 to 85 cases in 2004 (a decrease of 24.1%). Notifications of syphilis decreased from 235 cases in 2003 to 144 cases in 2004 (a decrease of 38.7%). There was one case each of chancroid and granuloma inguinale and there were no cases of lymphogranuloma venereum notified in 2004 (table 1). The cumulative rate per 100,000 population for all notifiable STIs increased to 272.9 per 100,000 population in 2004, compared to a rate of 243.5 per 100,000 in 2003 (appendix A, table 9). Annual trends for ano-genital warts, non-specific urethritis, *C. trachomatis*, genital herpes simplex, gonorrhoea, syphilis and infectious hepatitis B are presented in figure 1.

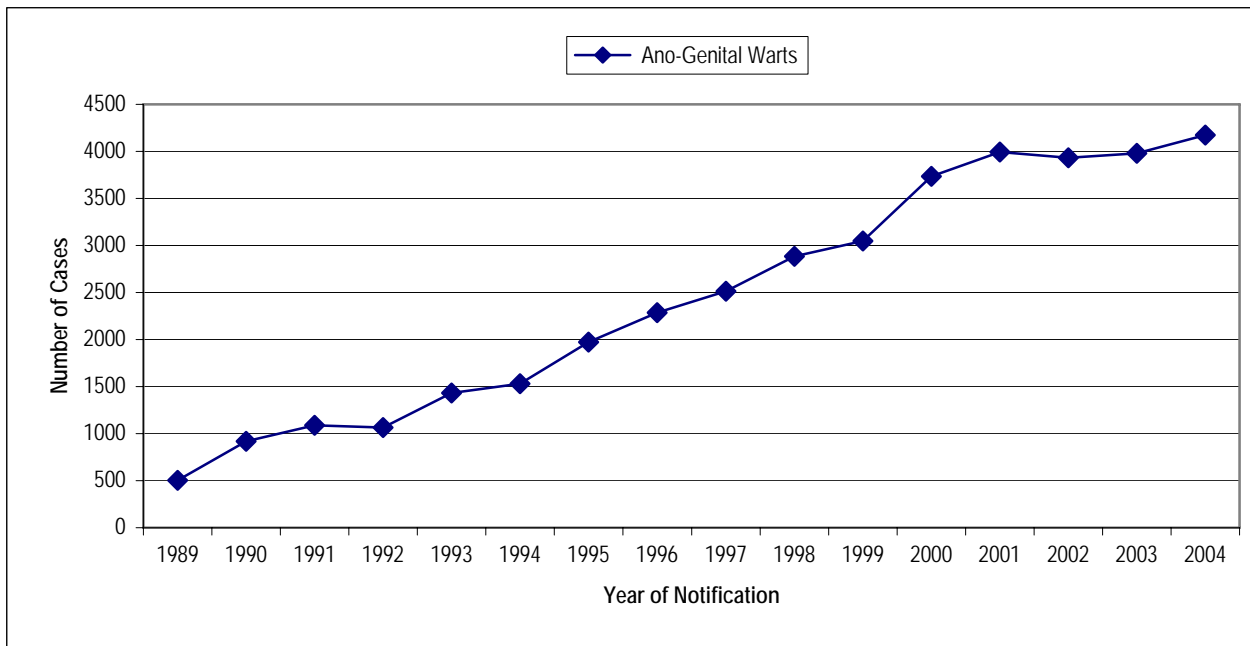
In 2004, 47.2% (n=5,050) of all STI notifications were from the HSE-ER, 15.9% (n=1,697) were from the HSE-MW, 14.2% (n=1,524) were from the HSE-S, 10.1% (n=1,083) were from the HSE-W, 7.2% (n=769) were from the HSE-SE, 4.5% (n=476) were from the HSE-NW, 0.47% (n=50) were from the HSE-M and 0.43% (n=46) were from the HSE-NE (table 2). It is important to note that STI surveillance is mainly clinic based and there are currently no STI clinics in the HSE-M and HSE-NE. Additionally, many people use STI clinics outside their area of residence so this data does not necessarily reflect cases resident in each health board. The majority of notifiable STIs in 2004 were notified by the HSE-ER: ano-genital warts (n=1,813; 43.4%), *C. trachomatis* (n=1,563; 55.8%), genital herpes simplex (n=248; 60.3%), gonorrhoea (n=189; 70%), infectious hepatitis B (n=57; 67.1%), non-specific urethritis (n=1,058; 38.5%), syphilis (n=97; 67.4%) and trichomoniasis (n=25; 41.7%). STI notifications increased in the HSE-ER (6.8%), HSE-M (2400%), HSE-MW (34.2%) HSE-NE (170.6%) HSE-SE (7.7%), HSE-S (0.4%) and the HSE-W (39.9%) in 2004, compared to 2003. A decrease was seen in the HSE-NW (-8.5%).

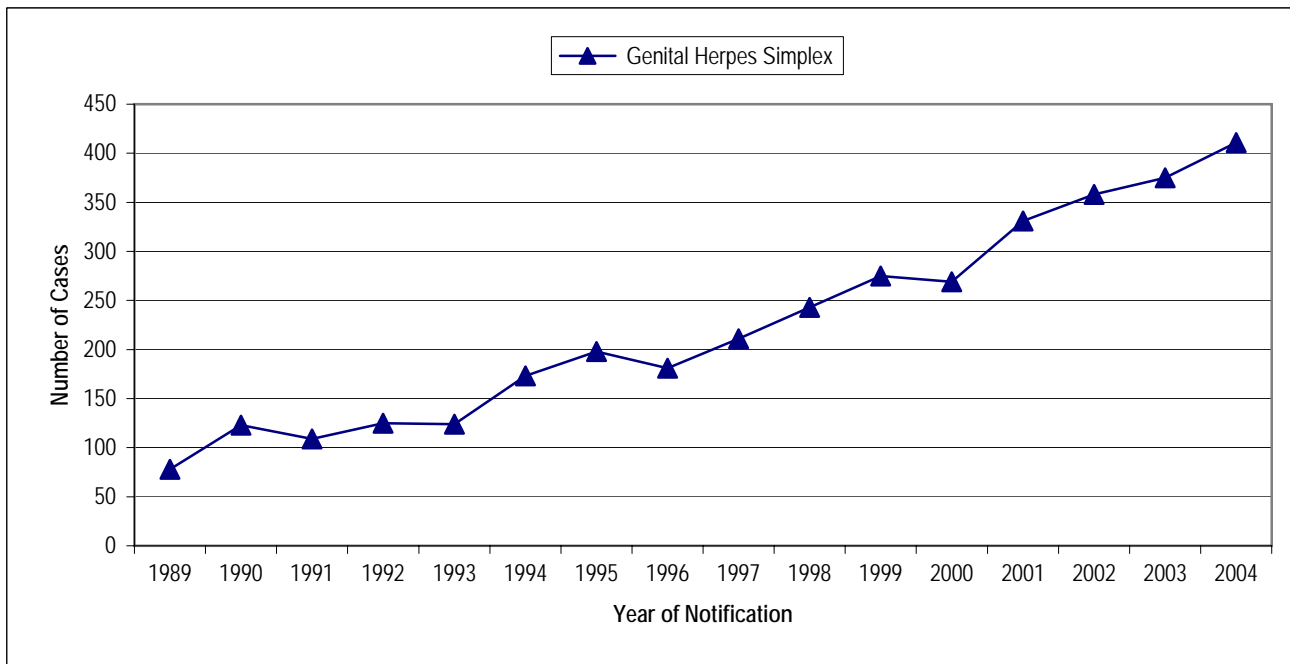
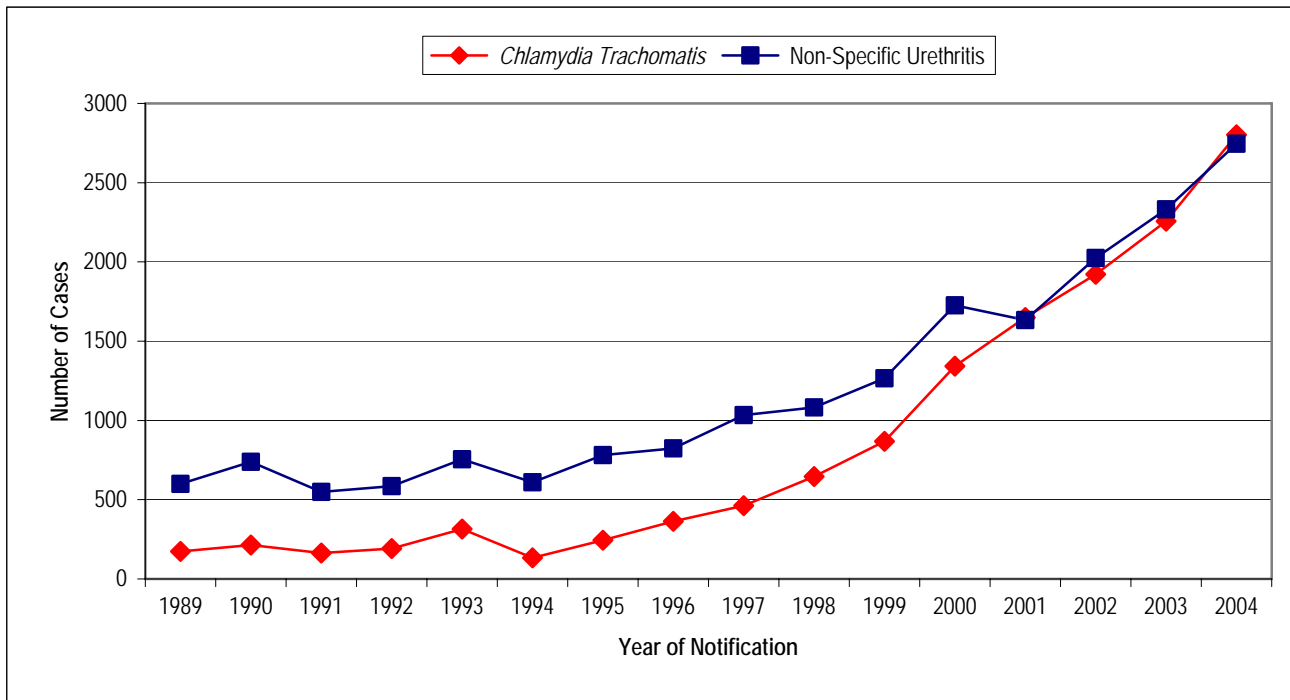
Fifty-one percent (n=5,458) of all notified STIs were amongst males during 2004 and 36.4% (n=3,897) were amongst females (table 6). Gender data were not reported for 12.5% (n=1,340) of notifications, mostly ano-genital warts. The majority of cases of gonorrhoea (86.7%), non-specific urethritis (79.9%), infectious hepatitis B (81.8%), syphilis (72.9%) and ano-genital warts (34.9%) were amongst males. The majority of notifications of genital herpes simplex (66.4%), *C. trachomatis* (53.2%) and trichomoniasis (91.7%) were amongst females (table 3, figure 2).

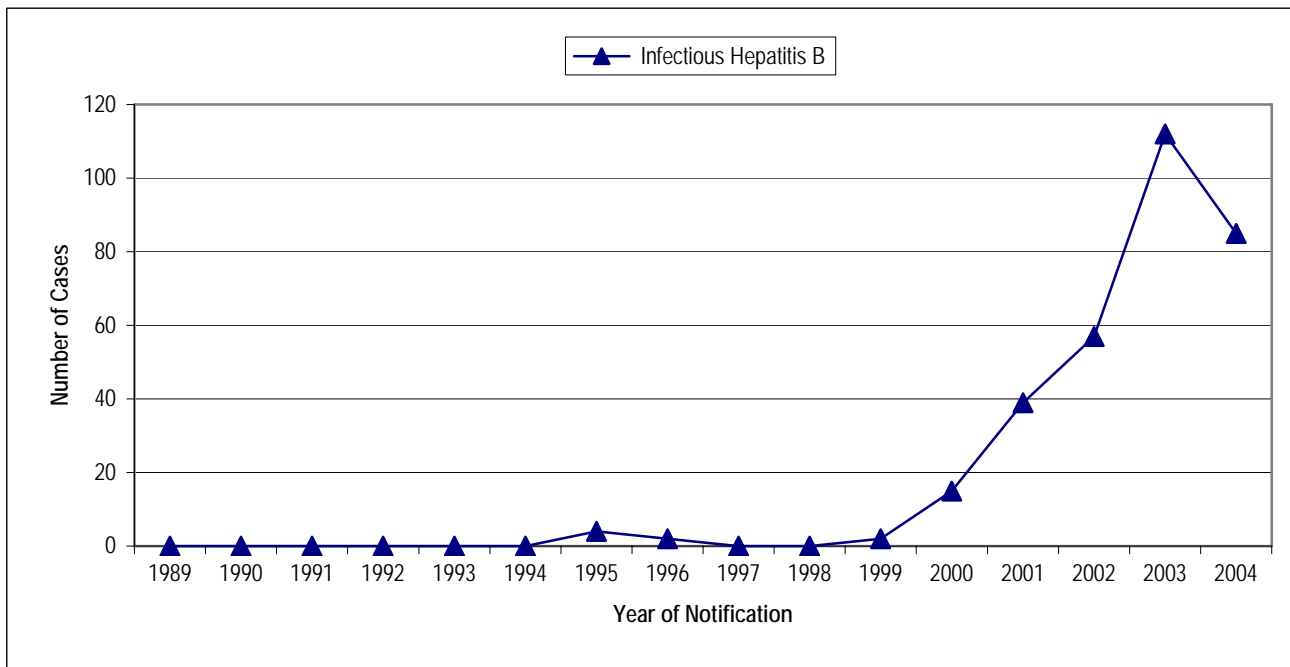
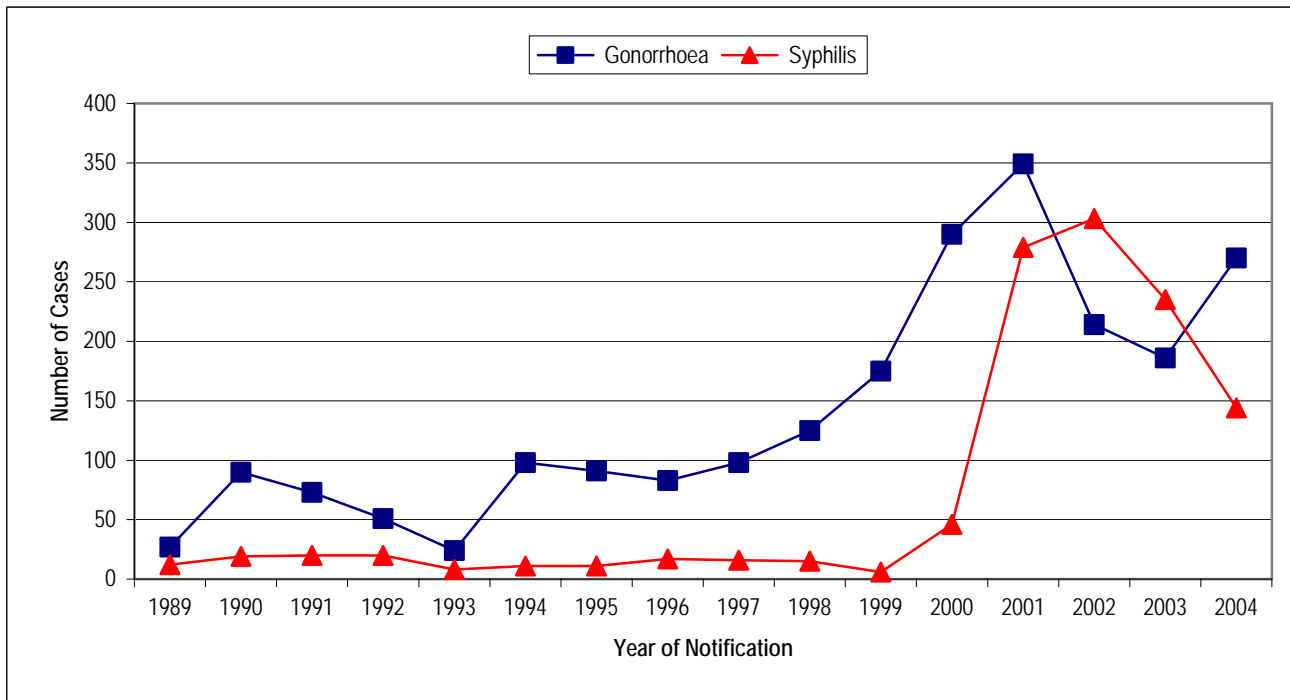
In 2004, 11% (n=1174) of notified cases of STIs were 0 to 19 years old, 55.9% (n=5983) were 20 to 29 years, 15.3% (n=1632) were 30 to 39 years, 5.5% (n=591) were aged 40 years of age or older and the age of 12.3% of cases was unknown (n=1315). For all of the STIs, the highest numbers and rates were seen in the 20-29 year age group. (table 3, figure 3).

**Table 1:** Notified sexually transmitted infections for 2004 and 2003.

Sexually Transmitted Infection	Cases 2004	Cases 2003	Increase	% Increase
Ano-Genital Warts	4174	3981	193	4.8%
Chancroid	1	0	1	0%
<i>Chlamydia trachomatis</i>	2803	2258	545	24.1%
Genital Herpes Simplex	411	375	36	9.6%
Gonorrhoea	270	186	84	45.2%
Granuloma inguinale	1	0	1	0%
Infectious Hepatitis B	85	112	-27	-24.1%
Lymphogranuloma venereum	0	0	0	0%
Non-Specific Urethritis	2746	2332	414	17.8%
Syphilis	144	235	-91	-38.7%
Trichomoniasis	60	59	1	1.7%
<b>Total</b>	<b>10695</b>	<b>9538</b>	<b>1157</b>	<b>12.1%</b>







**Figure 1:** Number of notifications of ano-genital warts, non-specific urethritis, *C. trachomatis*, genital herpes simplex, gonorrhoea, syphilis and infectious hepatitis B, by year between 1989 and 2004.

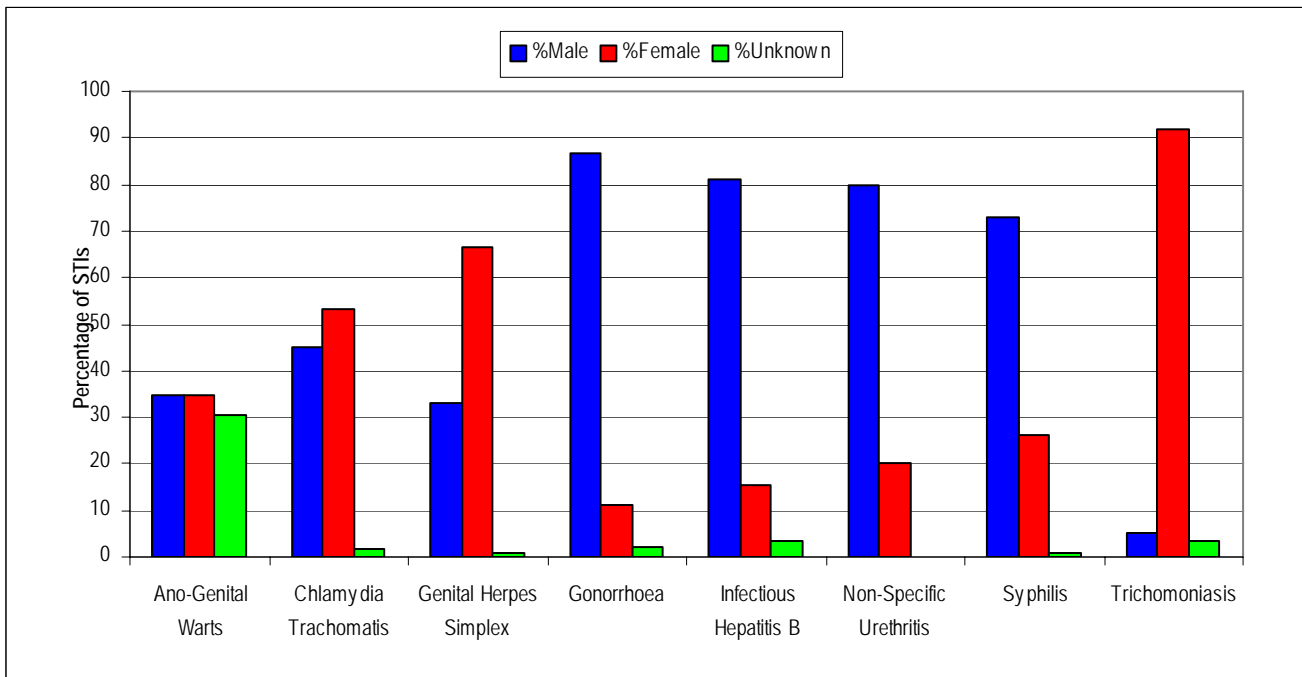
**Table 2:** Notified sexually transmitted infections by health board for 2004.

Sexually Transmitted Infection	HSE-ER	HSE-M	HSE-MW	HSE-NE	HSE-NW	HSE-SE	HSE-S	HSE-W	Total
Ano-Genital Warts	1813	0	526	1	217	393	698	526	4174
Chancroid	0	0	0	0	0	0	0	1	1
<i>Chlamydia trachomatis</i>	1563	39	208	36	78	159	380	340	2803
Genital Herpes Simplex	248	0	27	0	2	14	51	69	411
Gonorrhoea	189	1	8	1	6	12	29	24	270
Granuloma inguinale	0	0	1	0	0	0	0	0	1
Infectious Hepatitis B	57	0	10	1	8	0	3	6	85
Lymphogranuloma venereum	0	0	0	0	0	0	0	0	0
Non-Specific Urethritis	1058	0	908	0	163	183	331	103	2746
Syphilis	97	1	8	2	1	4	20	11	144
Trichomoniasis	25	9	1	5	1	4	12	3	60
<b>Total</b>	<b>5050</b>	<b>50</b>	<b>1697</b>	<b>46</b>	<b>476</b>	<b>769</b>	<b>1524</b>	<b>1083</b>	<b>10695</b>

**Table 3:** Notified sexually transmitted infections by age group (years) and gender for 2004.

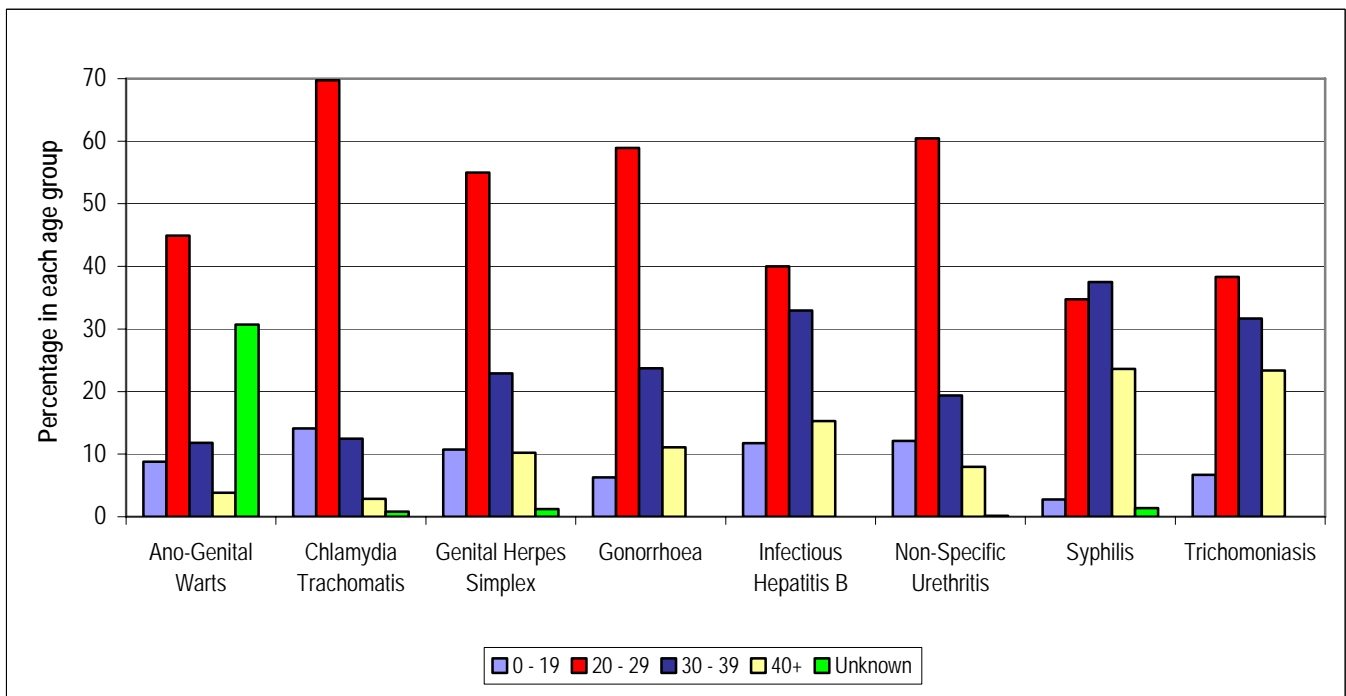
Sexually Transmitted Infection	0 - 19	20 - 29	30 - 39	40+	Age UK <sup>1</sup>	Male	Female	Gender UK <sup>1</sup>	Total
Ano-Genital Warts	367	1875	492	159	1281	1454	1445	1275	4174
Chancroid	0	1	0	0	0	0	1	0	1
<i>Chlamydia trachomatis</i>	395	1955	350	80	23	1264	1492	47	2803
Genital Herpes Simplex	44	226	94	42	5	135	273	3	411
Gonorrhoea	17	159	64	30	0	234	30	6	270
Granuloma inguinale	0	1	0	0	0	1	0	0	1
Infectious Hepatitis B	10	34	28	13	0	69	13	3	85
Lymphogranuloma venereum	0	0	0	0	0	0	0	0	0
Non-Specific Urethritis	333	1659	531	219	4	2193	550	3	2746
Syphilis	4	50	54	34	2	105	38	1	144
Trichomoniasis	4	23	19	14	0	3	55	2	60
<b>Total</b>	<b>1174</b>	<b>5983</b>	<b>1632</b>	<b>591</b>	<b>1315</b>	<b>5458</b>	<b>3897</b>	<b>1340</b>	<b>10695</b>

<sup>1</sup>UK=Unknown



**Figure 2:** Percentage of notified sexually transmitted infections by gender for 2004.\*

\*Note that chancroid, granuloma inguinale and lymphogranuloma venereum are not presented in figure 2 as only one case each of chancroid and granuloma inguinale were notified and no case of lymphogranuloama venereum reported in 2004.



**Figure 3:** Percentage of notified sexually transmitted infections by age group for 2004.\*\*

\*\*Note that chancroid, granuloma inguinale and lymphogranuloma venereum are not presented in figure 2 as only one case each of chancroid and granuloma inguinale were notified and no case of lymphogranuloama venereum reported in 2004.

## Disease-specific trends, 2004 annual summary

Data tables are detailed in appendix A, pages 16-18.

Please note that quarterly STI data is only available from Q1 1995 & annual STI data is only available from 1989.

### Ano-genital warts

Notifications increased each year between 1992 and 2001 and levelled off in 2002 and increased further in 2004. In 2004 notifications (n=4,174, rate=106.7 per 100,000 population) increased by 4.8%, compared to 2003. The number of cases averaged over 1,000 cases per quarter. In 2004, males accounted for 34.8% of cases and females for 34.6% of cases (gender was not reported for 30.6% cases). Eight point eight percent of cases were aged 0-19, 44.9% of cases were 20-29, 11.8% were 30-39, 3.8% were aged 40 years or older and the age of 30.7% of cases was not reported. Ano-genital warts accounted for the majority (39%) of all STI notifications in 2004.

### Chancroid

One case of chancroid was notified in 2004. With the exception of the year 2000 (when 16 cases were notified), between 0 and 3 cases of chancroid were notified each year between 1989 and 2004.

### Chlamydia trachomatis

From 1989 to 1995, the number of cases of *C. trachomatis* notified remained stable fluctuating around a mean of 205 cases per year (standard deviation: 55.8). Since 1995 the number of cases of *C. trachomatis* notified has increased steadily every year. Notifications increased by 1,044% between 1995 and 2004 and by 24.1% between 2003 and 2004. Two thousand eight hundred and three cases (71.6 per 100,000 population) were notified in 2004. The number of cases of *C. trachomatis* rose steadily over each of the quarters in 2004. During Q4 2004, 800 (20.4 per 100,000 population) cases of *C. trachomatis* were notified. This is the highest number notified in any one quarter on record. *C. trachomatis* accounted for 26.2% of all STI notifications in 2004. Forty-five point one percent of cases were male and 53.2% were female (gender was not reported in 1.7% cases). Fourteen point one percent of cases were aged 0-19 years, 69.8% of cases were 20-29, 12.5% were 30-39, 2.9% were aged 40 years or older.

### Genital herpes simplex

Genital herpes simplex notifications increased by 426.9% between 1989 and 2004 and by 9.6% between 2003 and 2004. Four hundred and eleven cases (10.5 per 100,000 population) were notified in 2004. The number of cases reported decreased during Q2 (n=86) and peaked during Q4 (n=117). Thirty two point nine percent of cases were male and 66.4% were female (gender was not reported in 0.7% cases) in 2004. Ten point seven percent of cases were aged 0-19, 55% of cases were 20-29, 22.9% were 30-39, 10.2% were aged 40 years or older and the age of 1.2% of cases was not reported.

### Gonorrhoea

Gonorrhoea notifications increased consistently between 1996 (n=83 (2.3 per 100,000 population) and 2001 (n=349, 8.9 per 100,000 population). Numbers have declined in the two years since then, reaching 186 in 2003. The numbers of cases have climbed again in 2004, an increase of 45.2% (compared to 2003). Two hundred and seventy cases of gonorrhoea (6.9 per 100,000 population) were notified in 2004. Notifications peaked in Q4 2004 (n=91). Eighty-six point seven percent of cases were male and 11.1% were female (gender was not reported 2.2% cases) in 2004. Six point three percent of cases were aged 0-19, 58.9% of cases were 20-29, 23.7% were 30-39, 11.1% were aged 40 years or older. In 2004 there were no cases where the age of the patient was not known.

### **Granuloma inguinale**

No cases of granuloma inguinale were notified during 2004. The number of cases of granuloma inguinale has ranged from 0 to 6 cases per year, between 1989 and 2004.

### **Infectious Hepatitis B**

Between 1989 and 1999, infectious hepatitis B cases reported through the STI quarterly notification system ranged from 0 to 4 cases per year. Notifications increased from 2 cases in 1999 to 112 in 2003, the highest yearly total on record. Eight-five cases were notified in 2004 (2.2 per 100,000 population), a decrease of 24.1% compared to 2003. Numbers peaked in Q2 (n=26) and declined in Q3 (n=14). Eighty-one point two percent of cases notified were male and 15.3% were female (gender was not reported in 3.5% cases). The number of male cases increased by 4.5% and the number of female cases decreased by 71.7% in 2004, compared to 2003. Eleven point eight percent of cases were aged 0-19, 40.0% of cases were 20-29, 32.9% were 30-39, 15.3% were aged 40 years or older. There were no cases where the age of the patient was not known in 2004.

### **Lymphogranuloma venereum**

No cases of lymphogranuloma venereum (LGV) were notified during 2004. The number of cases of LGV has ranged from 0 to 5 cases per year, between 1989 and 2004.

### **Non-specific urethritis**

Non-specific urethritis notifications fluctuated around a mean of 640 per year between 1989 and 1994 (standard deviation: 78.4). Since then, the number of cases has either increased or remained stable every year (standard deviation: 631.7). In 2004, 2,746 cases of non-specific urethritis were notified (70.6 per 100,000 population). This represents an increase of 17.8%, compared to 2003. Notifications peaked in Q4 (n=817). This is the highest number notified in any one quarter on record. Seventy nine point nine percent of cases notified were male and 20.0% were female (gender was not reported 0.11% cases). The number of male cases increased by 20.4% and the number of female cases increased by 8.1%, compared to 2003. Twelve point one percent of cases were aged 0-19, 60.4% of cases were 20-29, 19.3% were 30-39, 8.0% were aged 40 years or older and the age of 0.2% of cases was not reported. Non-specific urethritis accounted for 25.7% of all STI notifications in 2004.

### **Syphilis**

There was against a low incidence of syphilis nationally between 1989 and 1999, when the mean number of annual notifications was 14.1 (standard deviation: 4.6). Notifications peaked in 2002 at 303 cases and syphilis has remained endemic since. One hundred and forty-four cases were notified in 2004 (3.7 per 100,000 population). This represents a decrease of 38.7% when compared to 2003. Numbers were highest in Q2 (n=49) and lowest in Q4 (n=21). Seventy-two point nine percent of cases notified were male and 26.4% were female (gender was not reported 0.7% cases). The number of male cases decreased by 23.4% and the number of female cases decreased by 60.8%, compared to 2003. Two point eight percent of cases were aged 0-19, 34.7% of cases were 20-29, 37.5% were 30-39, 23.6% were aged 40 years or older and the age of 1.4% of cases was not reported. An enhanced surveillance system was introduced by HPSC to capture data on all syphilis cases from January 2000, however this data is not presented in this report.

### **Trichomoniasis**

Trichomoniasis notifications fluctuated significantly between 1989 and 2004. The highest number of cases on record occurred in 1991 when 163 notifications were made (4.6 per 100,000 population). The mean number of notifications for all years between 1989 and 2004, excluding 1991, was 60.5 (standard deviation: 17.4). During 2004, 60 cases (1.5 per 100,000 population) were notified. This represents an

increase of 1.7% compared to 2003. Five percent of cases notified were male and 91.7% were female. The number of male cases decreased by 70% and the number of female cases increased by 12.2%, compared to 2003. Six point seven percent of cases were aged 0-19, 38.3% of cases were 20-29, 31.7% were 30-39, 23.3% were aged 40 years or older. There were no cases where the age of the patient was not known in 2004.

## Discussion

The overall numbers of STIs reported in Ireland have increased each year since 1994 and increased again during 2004 by 12.1%, indicating that young sexually active people are continuing to put themselves at risk by engaging in unsafe sexual behaviour. Between 2000 and 2004, 55.9% of STIs occurred in 20-29 year olds. This age group is more likely to have higher numbers of sexual partners, change partners more frequently and engage in high-risk behaviour such as unprotected sex with new sex partners. It is also likely that case identification is improving. Media attention and public health education initiatives have led to increased public and professional awareness of STIs and better case ascertainment. The availability of highly sensitive and specific laboratory testing for STIs, particularly infections such as genital chlamydia infection, which is usually asymptomatic, has also undoubtedly contributed to the increases in the numbers of cases recorded

### Ano-genital warts

Ano-genital warts, the clinically visible manifestations of infection with human papilloma virus (HPV), was the most commonly notified STI in Ireland, accounting for 39% of the total number of STIs notified in 2004, with fewer numbers of cases reported in 2003. While the numbers reported in 2004 are the highest on record, they represent only a very small percentage of the overall burden of HPV infection in the community. Estimates indicate that approximately 1% of the sexually active adult population in the United States has clinically apparent genital warts<sup>1</sup> and it is estimated that many sexually active people have sub-clinical disease or latent HPV infection. Most visible ano-genital warts are benign and caused by HPV types 6 and 11. Infection with some other HPV types, especially 16, 18, 31 and 45 may lead to the development of invasive cervical cancer and other cancers of the ano-genital tract.<sup>1</sup> Recently, a two year randomized control trial found that a quadrivalent recombinant vaccine against HPV types 6, 11, 16, 18 was 100% effective in preventing early stage cancers and precancerous abnormalities caused by the two key strains of HPV—16 and 18—that are associated with 70% of cervical cancers.<sup>11</sup>

### Genital chlamydia infection

The numbers of notified cases of genital *C. trachomatis* continued to rise in 2004. In addition to a true underlying increase in the number of people infected, the increase reflects increased testing and the use of highly sensitive and specific DNA amplification techniques (NAATS), which can be used on non-invasively collected specimens, particularly urine and vulvo-vaginal swabs. The numbers reported are likely to represent a substantial underestimate of the true burden of disease as *C. trachomatis* infection is asymptomatic in at least 70% of women and 50% of men.<sup>2</sup> This infection is a transmissible cause of severe reproductive morbidity, including pelvic inflammatory disease (PID), tubal factor infertility and ectopic pregnancy in women. Approximately 40% of women with untreated *C. trachomatis* infection experience PID. Of those with PID, 20% will become infertile, 18% will experience chronic pelvic pain and 9% will have a life-threatening tubal pregnancy.<sup>13</sup> There is evidence that case finding for genital chlamydia infection, based on screening for infection among sections of the sexually active population, reduces the prevalence of genital tract infections and pelvic inflammatory disease in women.<sup>3, 4</sup> 'The Need for Chlamydia Screening in Ireland'<sup>5</sup> a report prepared for the Scientific Advisory Committee (SAC) of HPSC recommends that consideration be given to conducting a study to establish the

prevalence of genital *C. trachomatis* infection among men and women in various age groups in Ireland and to examine the feasibility and acceptability of screening for *C. trachomatis* in various settings. In addition, the study would establish best practice for management of identified infections including partner notification and would also estimate the costs of a screening programme for genital *C. trachomatis* in Ireland. Possible options for conducting such research are under consideration at present.

### **Lymphogranuloma venereum**

There were no cases of LGV reported in Ireland during 2004. LGV is a systemic infection caused by serovars L1 to L3 of the bacterium *Chlamydia trachomatis*. The infection is endemic in certain parts of Africa, Asia, South America and the Caribbean. For many decades this infection was rarely seen in Western Europe and any cases that were seen were considered to have been imported. Clusters of LGV have been reported from many European cities among men who have sex with men (MSM) since 2003.<sup>12</sup> As of March 2005, clusters of LGV in MSM have been reported from the Netherlands (Amsterdam and Rotterdam), Belgium (Antwerp), France (Paris), Sweden (Stockholm), Germany (Hamburg), Spain (Barcelona), the United States (Atlanta, San Francisco and New York) and the United Kingdom.<sup>8</sup> Most cases were of white ethnicity and are HIV positive. High levels of concurrent sexually transmitted infections (gonorrhoea, syphilis, Hepatitis B Virus, and genital Herpes Simplex Virus infection) were also seen. Furthermore, there is some evidence that sexual transmission of Hepatitis C Virus was associated with the LGV outbreak in Rotterdam, the Netherlands.<sup>14</sup> It is therefore highly likely that cases of LGV will appear in Ireland in the future. There is a need to maintain awareness and vigilance in relation to the possibility of this infection, particularly among MSMs with a history of recent travel to affected cities.<sup>9</sup>

### **Gonorrhoea**

The peak in gonorrhoea notifications observed in 2001 coincided with the outbreak of syphilis amongst MSM. Gonococcal infections tend to be concentrated in core risk groups, such as MSM and the preponderance of male cases (86.7% of notifications were males) may be a reflection of this. Reported numbers are likely to represent an underestimate of the true incidence of infection as gonorrhoea can be asymptomatic in up to 86 % of women and 55% of men.<sup>6</sup> In addition to increased unsafe sex, the 45.2% increase in reported cases between 2004 and 2003, may be due to improved case ascertainment as a result of increased public and professional awareness of STIs generally.

### **Infectious hepatitis B**

Following a dramatic increase in hepatitis B reported through the STI Surveillance system in 2003 (96.5%), a fall in numbers was observed in 2004 (-24.1%). Hepatitis B is known to affect certain subgroups of the population, namely intravenous drug users, prisoners and chronically infected immigrants from endemic areas of the world such as Sub-Saharan Africa, most of Asia and parts of Eastern and Central Europe.<sup>7</sup> It is important to note that case classification data was not collected prior to 2004 and we do not know whether the reported cases of infectious hepatitis B were acute or chronic nor do we know the country of origin of notified cases. However, anecdotally it is known that there are increasing numbers of people attending STI clinics from countries where hepatitis B is endemic. STI clinic attendees are routinely screened for hepatitis B markers and it is likely that the notifications in 2004 are largely attributable to people from these countries who are tested in STI clinics and whose chronic hepatitis B co-infection is a co-incidental finding as a result of infection acquired in the past.

### **Syphilis**

Between 2000 and 2002, there was a dramatic increase in syphilis amongst men who have sex with men (MSM) in Dublin.<sup>9</sup> Similar increases were seen in the UK, several other European countries and

the United States. Syphilis, like other genital ulcer diseases, increases the risk of transmitting and acquiring HIV. In response to this increase the Director of Public Health in the Eastern Regional Health Authority (ERHA) (as what the Health Service Executive-Eastern Region was known then) established an outbreak control team in October 2000. Intervention measures included the provision of additional resources for clinical services, contact tracing, educational materials, onsite testing in MSM venues and information campaigns targeted at the MSM community.<sup>9</sup> The outbreak amongst MSM in Dublin peaked in 2002 and notifications decreased by 22.4% in 2003 and by a further 38.7% in 2004. However, notifications have not returned to their previous levels prior to 2000 and syphilis remains endemic in Ireland.

### **Surveillance developments**

STI control, prevention and policy-making requires timely surveillance data that includes a range of demographic, behavioural, clinical and microbiological information. Ideally, data should be collected from all sites where STIs are identified. Although some notifications are currently received from primary care, STI surveillance in Ireland is mainly clinic-based. This data is sufficient to display the general trends in STIs, but is an underestimate of true incidences as significant proportions of specimens received by laboratories to be tested for STIs come from sources other than STI clinics. A recent review of STI surveillance in Ireland recommended that a national Sexual Health Strategy should be developed as a priority, in order to provide a framework for the development of STI prevention, diagnostic and treatment services and surveillance, both in STI clinic and primary care services, including general practice, student health services and family planning clinics. Incident case reports from clinicians, collected on a person or case-based basis, to include demographic, clinical and risk factor information in addition to laboratory notifications of individual STIs, should provide the basis for STI surveillance. Furthermore, priority should be given to collecting timely disaggregate, person-based data on the major bacterial infections, syphilis, gonorrhoea and genital chlamydia and also on infectious hepatitis B. The collection of this data and laboratory reporting will be facilitated by the further development of CIDR, a web-based system, to manage the surveillance and control of infectious diseases in Ireland.<sup>10</sup> These recommendations, when fully implemented, will greatly improve the accuracy, timeliness, completeness and usefulness of STI notifications in Ireland. It is anticipated that the CIDR system will be implemented nationwide in 2006 and will allow linkage of STI events or episodes with a particular patient and will also allow information in relation to concurrent and recurrent STIs to be captured while ensuring patient confidentiality. The CIDR system will also ensure that strict security and confidentiality mechanisms are in place to protect the data and ensure it is used in an appropriate and ethical manner.

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## Appendix A: data tables

\*Rates per 100,000 population for 1989 to 1993 are based on the 1991 population census; rates for 1994 to 1999 are based on the 1996 population census and rates for 2000 to 2004 are based on the 2002 population census.

**Table 4:** Numbers of current notifiable sexually transmitted infections per 100,000\* population by age group (years) and gender for 2004.

Sexually Transmitted Infection	0 - 19	20 - 29	30 - 39	40+	Age UK <sup>1</sup>	Male	Female	Gender UK <sup>1</sup>	Total
Ano-Genital Warts	32.18	292.50	82.61	10.32	3.22	74.71	73.31	32.55	106.56
Chancroid	0.00	0.16	0.00	0.00	3.22	0.00	0.05	0.00	0.03
Chlamydia Trachomatis	34.63	304.98	58.77	5.19	3.22	64.95	75.70	1.20	71.56
Genital Herpes Simplex	3.86	35.26	15.78	2.73	3.22	6.94	13.85	0.08	10.49
Gonorrhoea	1.49	24.80	10.75	1.95	3.22	12.02	1.52	0.15	6.89
Granuloma inguinale	0.00	0.16	0.00	0.00	3.22	0.05	0.00	0.00	0.03
Infectious Hepatitis B	0.88	5.30	4.70	0.84	3.22	3.55	0.66	0.08	2.17
Lymphogranuloma venereum	0.00	0.00	0.00	0.00	3.22	0.00	0.00	0.00	0.00
Non-Specific Urethritis	29.19	258.80	89.16	14.22	3.22	112.68	27.90	0.08	70.10
Syphilis	0.35	7.80	9.07	2.21	3.22	5.40	1.93	0.03	3.68
Trichomoniasis	0.35	3.59	3.19	0.91	3.22	0.15	2.79	0.05	1.53
<b>Total</b>	<b>102.93</b>	<b>933.35</b>	<b>274.02</b>	<b>38.38</b>	<b>3.22</b>	<b>280.45</b>	<b>197.71</b>	<b>34.21</b>	<b>273.03</b>

<sup>1</sup>UK=Unknown

**Table 5:** Numbers of current notifiable sexually transmitted infections per 100,000\* population by health board for 2004.

Sexually Transmitted Infection	HSE-ER	HSE-M	HSE-MW	HSE-NE	HSE-NW	HSE-SE	HSE-S	HSE-W	Total
Ano-Genital Warts	129.37	0.00	154.89	0.29	97.94	92.77	120.27	138.31	106.56
Chancroid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.03
Chlamydia Trachomatis	111.53	17.31	61.25	10.44	35.20	37.53	65.48	89.40	71.56
Genital Herpes Simplex	17.70	0.00	7.95	0.00	0.90	3.30	8.79	18.14	10.49
Gonorrhoea	13.49	0.44	2.36	0.29	2.71	2.83	5.00	6.31	6.89
Granuloma inguinale	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.03
Infectious Hepatitis B	4.07	0.00	2.94	0.29	3.61	0.00	0.52	1.58	2.17
Lymphogranuloma venereum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Non-Specific Urethritis	75.49	0.00	267.38	0.00	73.56	43.20	57.03	27.08	70.10
Syphilis	6.92	0.44	2.36	0.58	0.45	0.94	3.45	2.89	3.68
Trichomoniasis	1.78	3.99	0.29	1.45	0.45	0.94	2.07	0.79	1.53
<b>Total</b>	<b>360.34</b>	<b>22.19</b>	<b>499.72</b>	<b>13.33</b>	<b>214.83</b>	<b>181.53</b>	<b>262.60</b>	<b>284.78</b>	<b>273.03</b>

**Table 6:** Numbers of current notifiable sexually transmitted infections by quarter from Q1 2000 to Q4 2004.

Sexually Transmitted Infection	Q1 2000	Q2 2000	Q3 2000	Q4 2000	Q1 2001	Q2 2001	Q3 2001	Q4 2001	Q1 2002	Q2 2002	Q3 2002	Q4 2002	Q1 2003	Q2 2003	Q3 2003	Q4 2003	Q1 2004	Q2 2004	Q3 2004	Q4 2004
Ano-Genital Warts	953	952	832	998	1060	1025	974	934	1017	1027	939	949	938	878	1064	1101	951	869	1201	1153
Chancroid	0	3	5	8	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
Chlamydia Trachomatis	309	346	310	378	375	379	441	454	433	460	483	546	525	496	646	591	531	707	765	800
Genital Herpes Simplex	75	50	74	70	97	73	72	89	84	103	90	81	89	73	122	91	93	86	115	117
Gonorrhoea	54	50	96	90	86	100	89	74	48	60	59	47	40	41	62	43	32	59	88	91
Granuloma inguinale	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Infectious Hepatitis B	0	0	5	10	7	10	9	13	10	13	17	17	33	33	18	28	25	26	14	20
Lymphogranuloma venereum	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Non-Specific Urethritis	425	385	404	512	400	421	407	406	470	497	530	528	560	444	695	633	578	577	774	817
Syphilis	2	7	21	16	49	72	87	71	85	64	82	72	78	60	47	50	41	49	33	21
Trichomoniasis	18	15	27	18	15	11	16	22	13	31	14	15	17	16	14	12	11	15	15	19
<b>Total</b>	<b>1836</b>	<b>1808</b>	<b>1774</b>	<b>2100</b>	<b>2090</b>	<b>2091</b>	<b>2095</b>	<b>2063</b>	<b>2160</b>	<b>2256</b>	<b>2215</b>	<b>2255</b>	<b>2280</b>	<b>2041</b>	<b>2668</b>	<b>2549</b>	<b>2262</b>	<b>2388</b>	<b>3007</b>	<b>3038</b>

**Table 7:** Numbers of current notifiable sexually transmitted infections per 100,000\* population by quarter from Q1 2000 to Q4 2004.

Sexually Transmitted Infection	Q1 2000	Q2 2000	Q3 2000	Q4 2000	Q1 2001	Q2 2001	Q3 2001	Q4 2001	Q1 2002	Q2 2002	Q3 2002	Q4 2002	Q1 2003	Q2 2003	Q3 2003	Q4 2003	Q1 2004	Q2 2004	Q3 2004	Q4 2004
Ano-Genital Warts	24.3	24.3	21.2	25.5	27.1	26.2	24.9	23.8	26.0	26.2	24.0	24.2	23.9	22.4	27.2	28.1	24.3	22.2	30.7	29.4
Chancroid	0.0	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chlamydia Trachomatis	7.9	8.8	7.9	9.6	9.6	9.7	11.3	11.6	11.1	11.7	12.3	13.9	13.4	12.7	16.5	15.1	13.6	18.0	19.5	20.4
Genital Herpes Simplex	1.9	1.3	1.9	1.8	2.5	1.9	1.8	2.3	2.1	2.6	2.3	2.1	2.3	1.9	3.1	2.3	2.4	2.2	2.9	3.0
Gonorrhoea	1.4	1.3	2.5	2.3	2.2	2.6	2.3	1.9	1.2	1.5	1.5	1.2	1.0	1.0	1.6	1.1	0.8	1.5	2.2	2.3
Granuloma inguinale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Infectious Hepatitis B	0.0	0.0	0.1	0.3	0.2	0.3	0.2	0.3	0.3	0.3	0.4	0.4	0.8	0.8	0.5	0.7	0.6	0.7	0.4	0.5
Lymphogranuloma venereum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Specific Urethritis	10.8	9.8	10.3	13.1	10.2	10.7	10.4	10.4	12.0	12.7	13.5	13.5	14.3	11.3	17.7	16.2	14.8	14.7	19.8	20.9
Syphilis	0.1	0.2	0.5	0.4	1.3	1.8	2.2	1.8	2.2	1.6	2.1	1.8	2.0	1.5	1.2	1.3	1.0	1.3	0.8	0.5
Trichomoniasis	0.5	0.4	0.7	0.5	0.4	0.3	0.4	0.6	0.3	0.8	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.4	0.5
<b>Total</b>	<b>56.7</b>	<b>54.8</b>	<b>53.4</b>	<b>61.5</b>	<b>60.7</b>	<b>62.3</b>	<b>63.3</b>	<b>61.3</b>	<b>64.9</b>	<b>69.1</b>	<b>65.9</b>	<b>67.4</b>	<b>68.0</b>	<b>61.1</b>	<b>80.2</b>	<b>75.3</b>	<b>57.7</b>	<b>61.0</b>	<b>76.8</b>	<b>77.6</b>

**Table 8:** Numbers of current notifiable sexually transmitted infections from 1989 to 2004.

Sexually Transmitted Infection	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Ano-Genital Warts	505	917	1089	1066	1432	1532	1972	2286	2514	2886	3049	3735	3993	3932	3981	4174
Chancroid	2	0	0	2	0	2	3	1	1	0	1	16	1	1	0	1
Chlamydia Trachomatis	174	215	164	192	315	133	245	364	462	646	869	1343	1649	1922	2258	2803
Genital Herpes Simplex	78	123	109	125	124	173	198	181	211	243	275	269	331	358	375	411
Gonorrhoea	27	90	73	51	24	98	91	83	98	125	175	290	349	214	186	270
Granuloma inguinale	0	0	0	0	6	0	0	1	1	0	1	0	0	0	0	1
Infectious Hepatitis B <sup>1</sup>	0	0	0	0	0	0	4	2	0	0	2	15	39	57	112	85
Lymphogranuloma venereum	0	0	0	0	0	0	0	0	5	1	2	0	0	1	0	0
Non-Specific Urethritis	600	738	549	585	756	610	781	823	1034	1083	1265	1726	1634	2025	2332	2746
Syphilis	12	19	20	20	8	11	11	17	16	15	6	46	279	303	235	144
Trichomoniasis	51	86	163	41	57	29	60	71	94	38	47	78	64	73	59	60
<b>Total</b>	<b>1449</b>	<b>2188</b>	<b>2167</b>	<b>2082</b>	<b>2722</b>	<b>2588</b>	<b>3365</b>	<b>3829</b>	<b>4436</b>	<b>5037</b>	<b>5692</b>	<b>7518</b>	<b>8339</b>	<b>8886</b>	<b>9538</b>	<b>10695</b>

**Table 9:** Numbers of current notifiable sexually transmitted infections per 100,000\* population from 1989 to 2004.

Sexually Transmitted Infection	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Ano-Genital Warts	14.3	26.0	30.9	30.2	40.6	42.3	54.4	63.0	69.3	79.6	84.1	95.4	101.9	100.4	101.6	106.6
Chancroid	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
Chlamydia Trachomatis	4.9	6.1	4.7	5.5	8.9	3.7	6.8	10.0	12.7	17.8	24.0	34.3	42.1	49.1	57.6	71.6
Genital Herpes Simplex	2.2	3.5	3.1	3.6	3.5	4.8	5.5	5.0	5.8	6.7	7.6	6.9	8.5	9.1	9.6	10.5
Gonorrhoea	0.8	2.6	2.1	1.5	0.7	2.7	2.5	2.3	2.7	3.5	4.8	7.4	8.9	5.5	4.7	6.9
Granuloma inguinale	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Infectious Hepatitis B	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.4	1.0	1.5	2.9	2.2
Lymphogranuloma venereum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Non-Specific Urethritis	17.0	20.9	15.6	16.6	21.4	16.8	21.5	22.7	28.5	29.9	34.9	44.1	41.7	51.7	59.5	70.1
Syphilis	0.3	0.5	0.6	0.6	0.2	0.3	0.3	0.5	0.4	0.4	0.2	1.2	7.1	7.7	6.0	3.7
Trichomoniasis	1.5	2.4	4.6	1.2	1.6	0.8	1.7	2.0	2.6	1.1	1.3	2.0	1.6	1.9	1.5	1.5
<b>Total</b>	<b>41.1</b>	<b>62.1</b>	<b>61.5</b>	<b>59.1</b>	<b>77.2</b>	<b>71.4</b>	<b>92.8</b>	<b>105.6</b>	<b>122.3</b>	<b>138.9</b>	<b>157.0</b>	<b>191.9</b>	<b>212.9</b>	<b>226.8</b>	<b>243.5</b>	<b>273.0</b>