

**Laboratory Surveillance of
Chlamydia and Gonorrhoea in Auckland,
Waikato and Bay of Plenty Regions**

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by

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- Medlab Hamilton, Hamilton
- Pathlab Medical Laboratory, Hamilton
- Rotorua Hospital Laboratory, Rotorua
- Waikato Hospital Laboratory, Hamilton
- Whakatane Hospital Laboratory, Whakatane

Contents

Summary	i
Introduction	1
Methods	1
Results.....	2
<i>Chlamydia incidence rates in the</i>	
Waikato region	2
Bay of Plenty Region	3
Auckland Region	4
Chlamydia trend data: Auckland, Waikato and Bay of Plenty Regions	5
<i>Gonorrhoea incidence rates in the</i>	
Waikato Region	6
Bay of Plenty Region.....	7
Auckland Region	8
Gonorrhoea trend data: Auckland, Waikato and Bay of Plenty Regions	9

Summary

This report presents data on chlamydia and gonorrhoea from reporting laboratories in Waikato, Bay of Plenty (BOP) and Auckland for the three-month period October to December 2003 (this period will be referred to as “the current period”). It provides annualised¹ incidence data from January 2000 to December 2003.

Chlamydia

- A total of 2819 cases of chlamydia was diagnosed for the current period. The highest incidence of laboratory diagnosed chlamydia for the current period was reported in BOP (772 per 100 000), followed by Waikato (677 per 100 000) and Auckland (603 per 100 000).
- The incidence of chlamydia was higher in females than males in all regions (BOP, 1123 and 393 per 100 000 respectively; Waikato; 927 and 412 per 100 000 respectively; Auckland, 810 and 381 per 100 000 respectively). Highest rates of chlamydia were found in females aged 15-19 years in Waikato and Bay of Plenty, and females aged 20-24 years in Auckland.
- Compared to the previous quarter the number of diagnoses of Chlamydia reported in the current period increased by 7.1% and 0.2% in BOP and Auckland regions, respectively. In Waikato, the number of Chlamydia diagnoses decreased by 1.7% over the same period.

Gonorrhoea

- A total of 287 cases of gonorrhoea was diagnosed for the current period. The highest incidence of gonorrhoea was reported in BOP (74 per 100 000), followed by Auckland (69 per 100 000) and Waikato (45 per 100 000).
- The incidence of gonorrhoea was higher in males than females in the Auckland region (96 and 42 per 100 000 respectively). In BOP and Waikato rates of gonorrhoea were higher in females than males (BOP, 77 and 72 per 100,000 respectively; Waikato, 59 and 32 per 100,000 respectively). Highest gonorrhoea rates were found in females aged 15-19 years in BOP and Waikato and in males aged 20-24 years in Auckland.
- Compared to the previous quarter the number of gonorrhoea diagnoses increased by 52.2% in the Waikato region. Over the same period there was a small decrease in the number of diagnoses in BOP and Auckland regions (1.9% and 0.5% respectively).

¹Annualised: An incidence rate correction has been applied to quarterly rates (x4) or six monthly rates (x2) to reflect probable annual incidence rates.

Introduction

Historically, surveillance of sexually transmitted infections (STIs) in New Zealand has been based on data collected by sexual health clinics. In July 1998, STI surveillance was expanded to include laboratory surveillance of chlamydia and gonorrhoea in Waikato and BOP, and in 2001, in Auckland. The ten laboratories participating provide data on positive chlamydia and gonorrhoea test results for patients seen by health providers, including general practitioners, sexual health clinics, student youth health clinics and family planning clinics.

This report presents data provided by these laboratories for the period 1st October to 30th December 2003, and trend data from January 2000. As this information may be updated over time, the results should be regarded as provisional.

Methods

The ten participating laboratories report anonymised data on laboratory-confirmed cases of chlamydia and gonorrhoea, by age and sex, to ESR

For chlamydia, five laboratories provided data for all test-positive *patients*. The remaining five laboratories provided data for all test-positive *specimens*. For the purposes of analysis, it was assumed that each test-positive specimen was equivalent to one test-positive patient. For gonorrhoea, ten laboratories provided age and sex for all test-positive patients.

Analyses of laboratory data were performed in SAS version 8. Annualised population-based disease rates were calculated by dividing the number of test-positive patients or specimens by 2001 census data from the Auckland, Waikato, and BOP regions. For Auckland, census data from South Auckland, Central Auckland and North West Auckland Health Districts were used. For Waikato, census data from the Waikato Health District was used. For the BOP, census data from Tauranga, Eastern BOP, Rotorua and Taupo Health Districts were used.

Results

Chlamydia Incidence Rates for the Waikato Region: October to December 2003

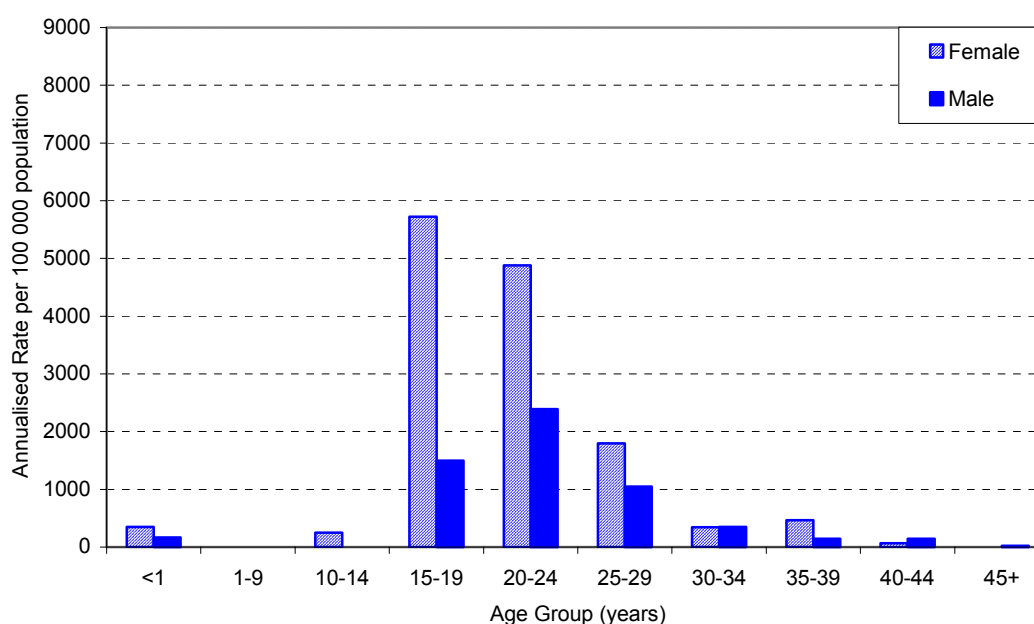
Laboratories in Waikato tested 5137 specimens for chlamydia, of which 522 (10.2%) cases tested positive. The male to female case ratio was 1:2.3. The mean age of chlamydia cases was 21.9 years (median age 20 years).

Seventy five percent of all chlamydia cases occurred in people aged 15-24 years. Eleven cases of chlamydia were reported in people aged less than 15 years. Overall, the highest rates of chlamydia were found among females aged 15-19 years.

**Table 1. Number of cases and rates of chlamydia in Waikato by age group and sex:
October to December 2003**

Agegroup	Number of Chlamydia cases				Annualised Rate		
	Female	Male	Unknown	Total	Female	Male	Total
<1	2	1	0	3	349	168	257
1-9	0	0	0	0	0	0	0
10-14	8	0	0	8	252	0	124
15-19	162	45	1	208	5720	1497	3563
20-24	121	60	0	181	4881	2388	3626
>24	71	49	0	120	286	215	252
Unknown	0	1	1	2	-	-	-
All ages	364	156	2	522	927	412	677

**Figure 1. Annualised rates of chlamydia in Waikato by age group and sex:
October to December 2003**



**Chlamydia incidence rates for the Bay of Plenty Region:
October to December 2003**

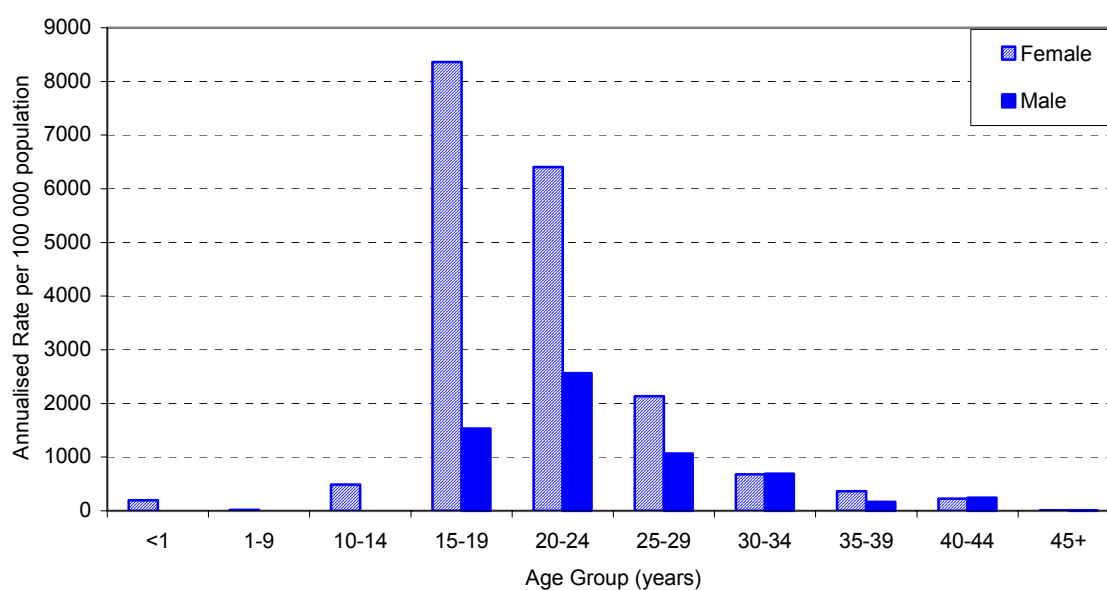
Laboratories in the BOP tested 4563 specimens for chlamydia, of which 529 (11.6%) cases tested positive. The male to female case ratio was 1:3. The mean age of chlamydia cases was 21.9 years (median age 20 years).

Seventy two percent of all chlamydia cases occurred in people aged 15-24 years. Sixteen cases of chlamydia were reported in people aged less than 15 years. Overall, the highest rates of chlamydia were found among females aged 15-19 years.

**Table 2. Number of cases and rates of chlamydia in the BOP by age group and sex:
October to December 2003**

Agegroup	Number of Chlamydia cases				Annualised Rate		
	Female	Male	Unknown	Total	Female	Male	Total
<1	1	0	0	1	200	0	97
1-9	1	0	0	1	21	0	10
10-14	14	0	0	14	491	0	243
15-19	186	36	0	222	8361	1530	4850
20-24	113	44	1	158	6406	2562	4538
>24	80	51	0	131	348	246	300
Unknown	0	0	2	2	-	-	-
All ages	395	131	3	529	1123	393	772

**Figure 2. Annualised rates of chlamydia in the BOP by age group and sex:
October to December 2003**



**Chlamydia incidence rates for the Auckland Region:
October to December 2003**

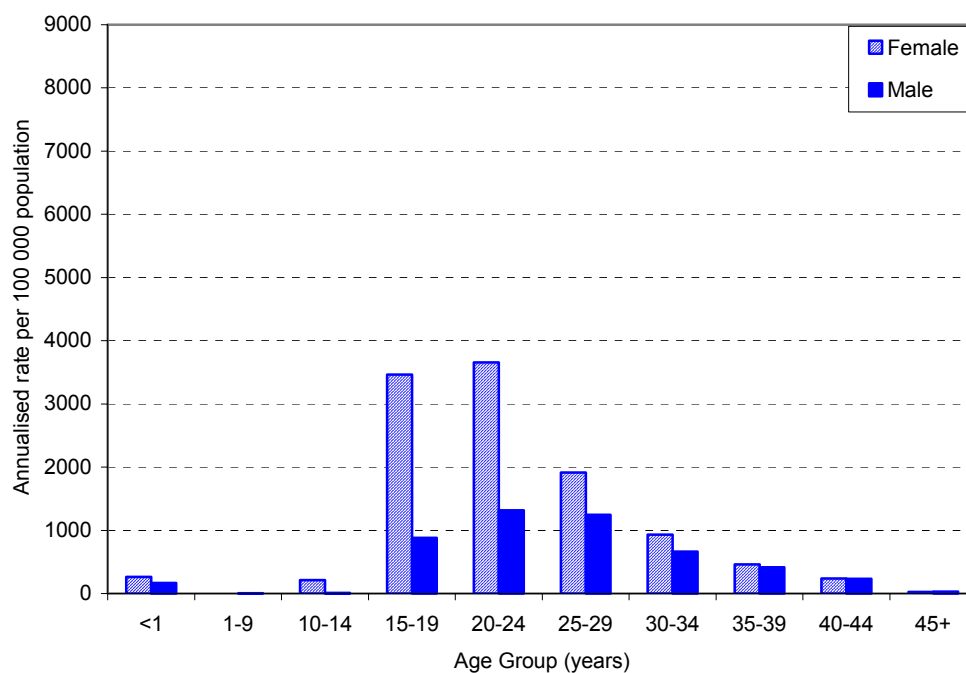
Laboratories in Auckland tested 27,275 specimens for chlamydia, of which 1,768 (6.5%) cases tested positive. The male to female case ratio was 1:2.2. The mean age of chlamydia cases was 24.9 years (median age 23 years).

Fifty five percent of all chlamydia cases occurred in people aged 15-24 years. Thirty-five cases of chlamydia were reported in people aged less than 15 years. The highest rates of chlamydia were found among females aged 20-24 years.

**Table 3. Number of cases and rates of chlamydia in Auckland by age group and sex:
October to December 2003**

Agegroup	Number of Chlamydia cases				Annualised Rate		
	Female	Male	Unknown	Total	Female	Male	Total
<1	6	4	0	10	265	169	216
1-9	0	1	0	1	0	5	2
10-14	23	1	0	24	211	9	107
15-19	362	94	2	458	3462	881	2168
20-24	385	134	1	520	3658	1318	2513
>24	444	307	2	753	458	352	409
Unknown	0	2	0	2	-	-	-
All ages	1,220	543	5	1,768	810	381	603

**Figure 3. Annualised rates of chlamydia in Auckland by age group and sex:
October to December 2003**



**Chlamydia trend data: Auckland, Waikato and Bay of Plenty Regions
October to December 2003**

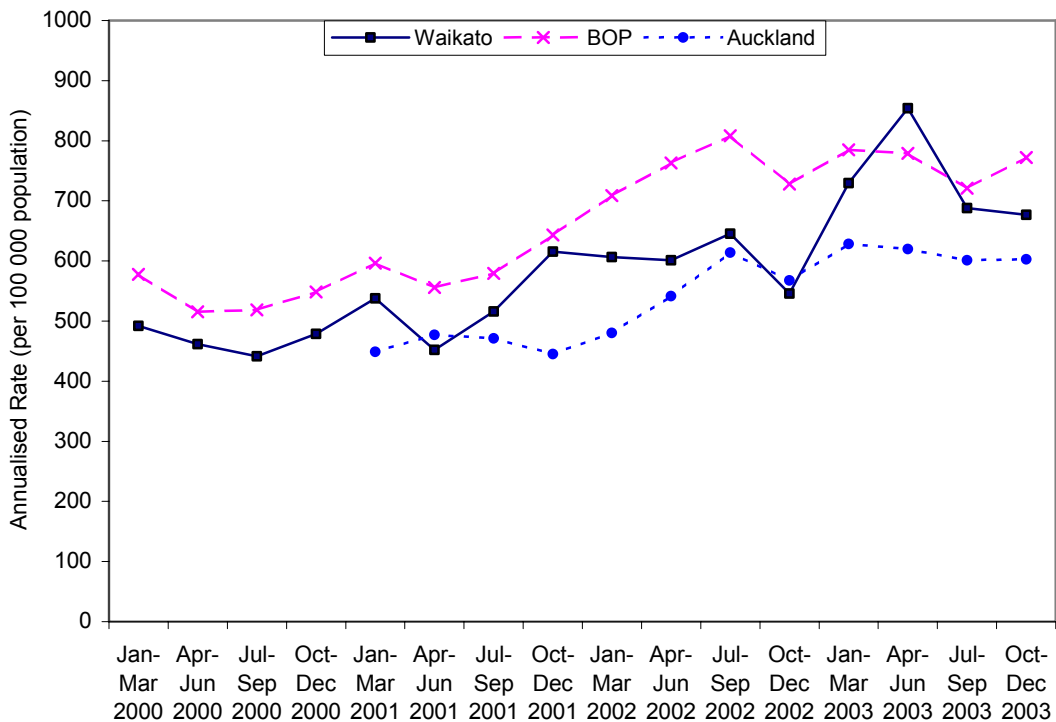
The number of specimens tested for Chlamydia in the current period decreased in all regions compared to the previous three-month period (a decrease of 4.9% in Auckland, 14.7% in BOP, 19.3% in Waikato).

Compared to the previous three-month quarter, the number of Chlamydia diagnoses increased by 7.1% and 0.2% in BOP and Auckland regions, respectively. Over the same period the number of diagnoses decreased by 1.7% in Waikato.

Rates of chlamydia for the current period were highest in the BOP region (772 per 100 000). The rate of chlamydia in the BOP region was significantly higher than in Auckland (603 per 100 000), and Waikato region (677 per 100 000) (chi-square, $p < 0.05$). The rate of chlamydia in the Auckland region was significantly lower than the rate in the Waikato Region (chi-square, $p < 0.05$).

For the current period 14 cases of chlamydia were reported in infants.

**Figure 4. Annualised rates of chlamydia reported by region:
January 2000 to December 2003**



**Gonorrhoea incidence rates for the Waikato Region:
October to December 2003**

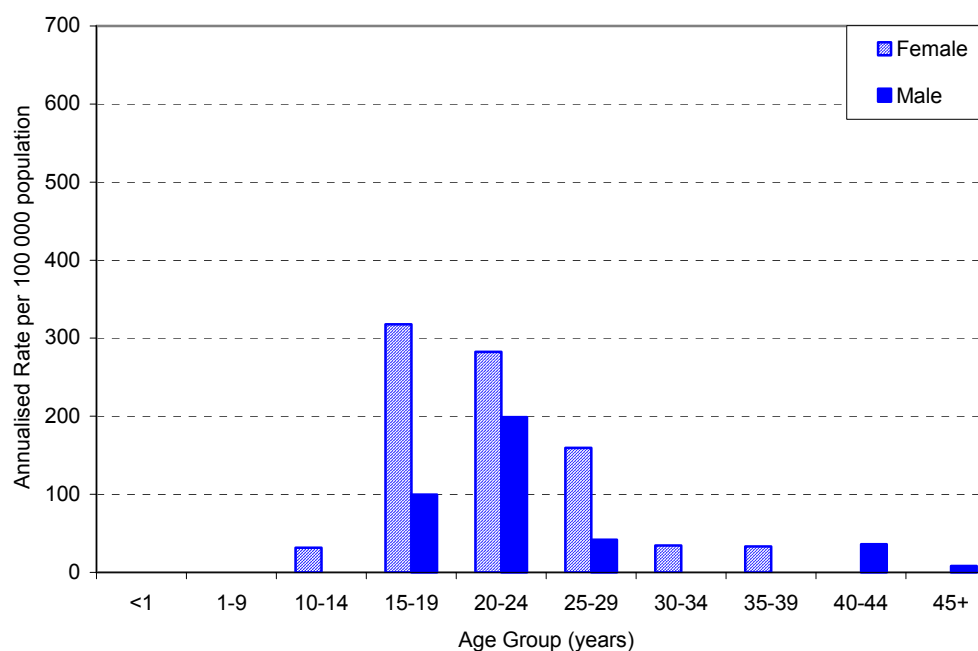
Laboratories in the Waikato region tested 8638 specimens for gonorrhoea, of which 35 (0.4%) cases tested positive. The male to female case ratio was approximately 1:1.9. The mean age of gonorrhoea cases was 23.5 years (median 21 years).

Sixty nine percent of all reported gonorrhoea cases occurred in people aged 15-24 years. Overall rates of gonorrhoea were higher in females than males. The highest age-specific rates of gonorrhoea were found in females aged 15-19 years (fig. 5).

Table 4. Number of cases and rates of gonorrhoea in the Waikato region by age group and sex: October to December 2003

Agegroup	Number of Gonorrhoea cases				Annualised Rate		
	Female	Male	Unknown	Total	Female	Male	Total
<1	0	0	0	0	0	0	0
1-9	0	0	0	0	0	0	0
10-14	1	0	0	1	31	0	16
15-19	9	3	0	12	318	100	206
20-24	7	5	0	12	282	199	240
>24	6	4	0	10	24	18	21
Unknown	0	0	0	0	-	-	-
All ages	23	12	0	35	59	32	45

Figure 5. Annualised rates of gonorrhoea in the Waikato region by age group and sex: October to December 2003



**Gonorrhoea incidence rates for the Bay of Plenty Region:
October to December 2003**

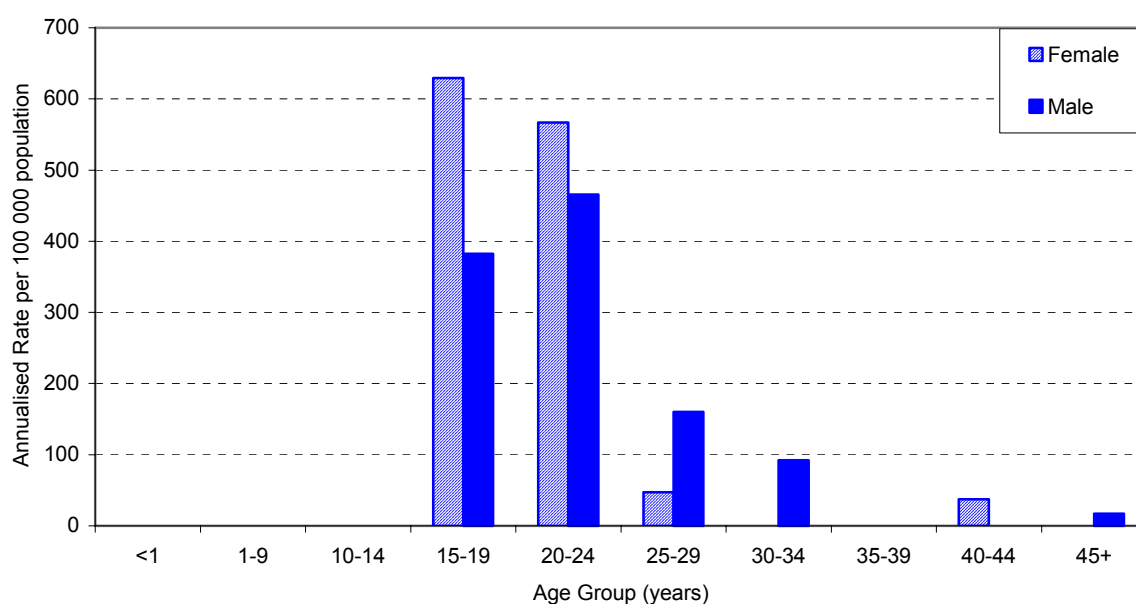
Laboratories in the BOP region tested 8409 specimens for gonorrhoea, of which 51 (0.6%) cases tested positive. The male to female case ratio was 1:1.1. The mean age of gonorrhoea cases was 22.2 years (median 20 years).

Eighty percent of all reported gonorrhoea cases occurred in people aged 15-24 years. Overall rates of gonorrhoea were higher in females than males and the highest age-specific rates of gonorrhoea were found among females aged 15-19 years (fig.6).

**Table 5. Number of cases and rates of gonorrhoea in the BOP by age group and sex:
October to December 2003**

Agegroup	Number of gonorrhoea cases				Annualised Rate		
	Female	Male	Unknown	Total	Female	Male	Total
<1	0	0	0	0	0	0	0
1-9	0	0	0	0	0	0	0
10-14	0	0	0	0	0	0	0
15-19	14	9	0	23	629	383	502
20-24	10	8	0	18	567	466	517
>24	2	7	0	9	9	34	21
Unknown	1	0	0	1	-	-	-
All ages	27	24	0	51	77	72	74

**Figure 6. Annualised rates of gonorrhoea in the BOP by age group and sex:
October to December 2003**



**Gonorrhoea incidence rates for the Auckland Region:
October to December 2003**

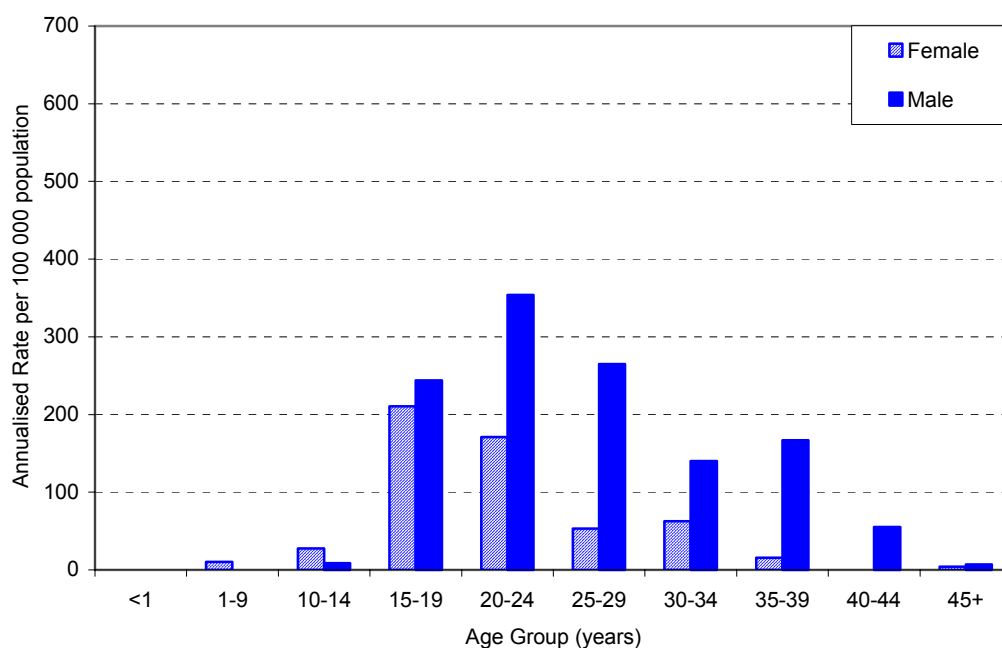
Laboratories in the Auckland region tested 40,276 specimens for gonorrhoea, of which 201 (0.5%) cases tested positive. The male to female case ratio was approximately 1:0.6. The mean age of gonorrhoea cases was 25.8 years (median 23 years).

Fifty one percent of all reported gonorrhoea cases occurred in people aged 15-24 years. Overall rates of gonorrhoea were higher in males than females, and the highest age-specific rate of gonorrhoea was found in males aged 20-24 years (fig. 7).

**Table 6. Number of cases and rates of gonorrhoea in Auckland by age group and sex:
October to December 2003**

Agegroup	Number of gonorrhoea cases				Annualised Rate		
	Female	Male	Unknown	Total	Female	Male	Total
<1	0	0	0	0	0	0	0
1-9	2	0	0	2	10	0	5
10-14	3	1	0	4	27	9	18
15-19	22	26	0	48	210	244	227
20-24	18	36	0	54	171	354	261
>24	19	74	0	93	20	85	51
Unknown	0	0	0	0	-	-	-
All ages	64	137	0	201	42	96	69

**Figure 7. Annualised rates of gonorrhoea in Auckland by age group and sex:
October to December 2003**



Gonorrhoea trend data: Auckland, Waikato and Bay of Plenty Regions

October to December 2003

The number of specimens tested for gonorrhoea in the current period was lower than the previous three-month period in Waikato and Auckland (3.5% and 3.7% respectively) whereas the number tested in BOP increased by 6.1%.

Compared to the previous quarter the number of gonorrhoea diagnoses increased by 52.2% in the Waikato region. Over the same period there was a small decrease in the number of diagnoses in BOP and Auckland regions (1.9% and 0.5% respectively).

The rate of gonorrhoea for the current period was highest in the BOP region (74 per 100 000), this was not significantly higher than in Auckland (69 per 100 000), however, it was significantly higher than in the Waikato region (45 per 100 000) (chi-square, $p < 0.05$). The rate of gonorrhoea in the Auckland region was significantly higher than the rate in the Waikato Region (chi-square, $p < 0.05$).

Figure 8. Annualised rates of gonorrhoea reported by region:
January 2000 to December 2003

