Summary

This report describes the sexually transmitted disease burden in Skagit County. Primary emphasis is placed on chlamydia and gonorrhea since they are the most frequently reported STDs in Washington State. The 2003 incidence rates by age and sex for gonorrhea and chlamydia are presented.

The report concludes with a presentation of which providers in your county reported STDs.

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Skagit County STD Disease Trends

Table 1: Washington State Reportable Sexually Transmitted Diseases, Skagit County, 2003.

Disease	2002 Skagit County Cases	2003 Skagit County Cases	2003 Skagit County Rate[λ] (per 100,000)	2003 Washington State Rate[λ] (per 100,000)
Chlamydia	229	270	253	275
Gonorrhea	17	25	23	45
Early Syphilis	1	0	-	1.9
Congenital Syphilis	0	0	-	0.0 (live births)
Late/Late Latent Syphilis	0	5	4.7	2.0
Herpes (initial infection)	35	41	38	34
GI/LGV/Chancroid**	0	0	-	0.0
HIV cases**	3	4		
AIDS cases**	0	1		
TOTAL (excluding HIV/AIDS cases)	**282**	**341**	**320**	**359**

[λ] Denominator estimates for the calculation of incidence rates from Washington State Adjusted Population Estimates, OFM, February 2004.
** Rates cannot be calculated for years with fewer than five cases.*
*** See Appendix A for explanation of disease acronyms.*

In 2003, Skagit County experienced an increase from 2002 in its combined STD morbidity rate. With 341 new cases of STDs (excluding HIV/AIDS cases [1]) in 2003, the incidence rate for all STDs was 320 per 100,000 persons. This is 11% less than the 359 per 100,000 combined STD rate for Washington State. Skagit County reported no cases of congenital syphilis or GI/LGV/ Chancroid in 2003.

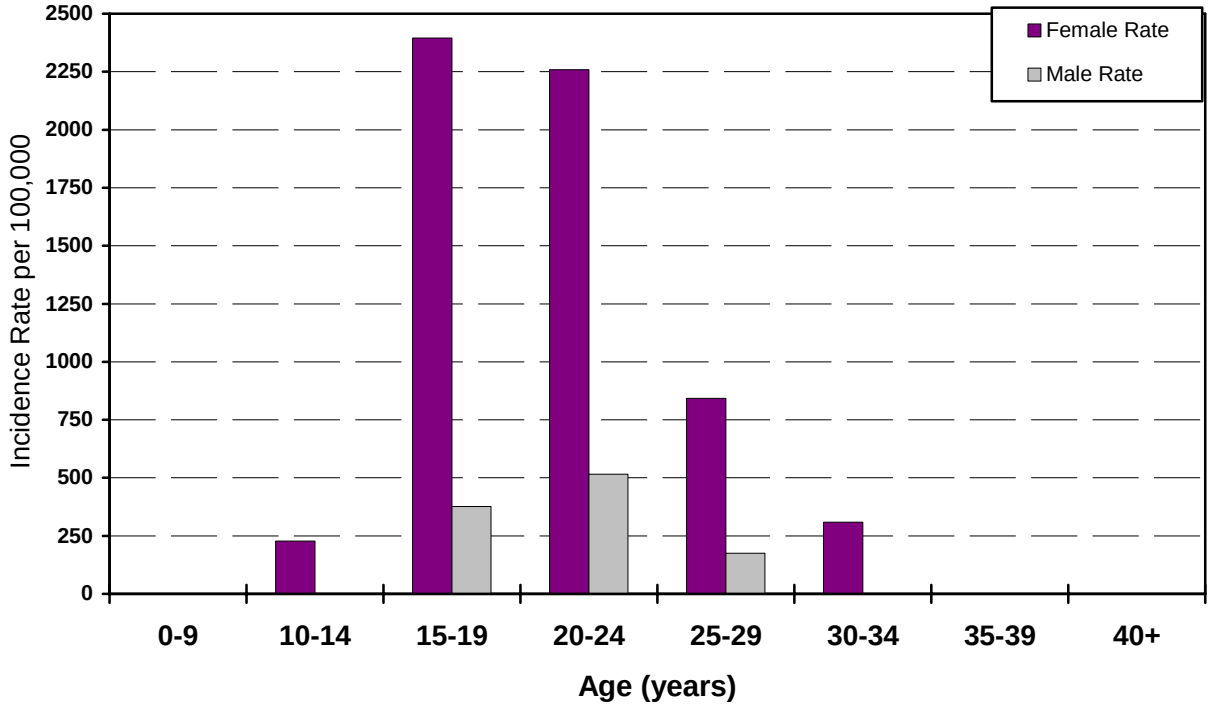
<u>2003 compared to 2002:</u>

- Chlamydia had a 18% increase in reported cases (270 vs. 229).
- Gonorrhea had a 47% increase in reported cases (25 vs. 17).
- Early syphilis had a 100% decrease in reported cases (0 vs. 1).
- Late/late latent syphilis had a 500% increase in reported cases (5 vs. 0).
- Initial infection herpes had a 17% increase in reported cases (41 vs. 35).

[1] Complete information on the HIV/AIDS epidemic in Washington can be found in <u>Washington State HIV/AIDS Surveillance Report</u>, Washington State Department of Health, IDRH, Assessment Unit.

Chlamydia

FIGURE 1: Chlamydia Incidence Rates by Age and Gender, Skagit County, 2003[λ]



Female Rate	0	228	2,395	2,259	842	309	*	*
Male Rate	0	*	377	516	175	*	*	*
Female Cases	0	9	93	70	24	10	4	4
Male Cases	0	1	16	17	5	3	1	4

[λ] *Denominator estimates for the calculation of incidence rates from Washington State Adjusted Population Estimates, OFM, February 2004. Incidence rates rounded to the nearest whole number.*
** Rates cannot be calculated for ages with fewer than five cases.*

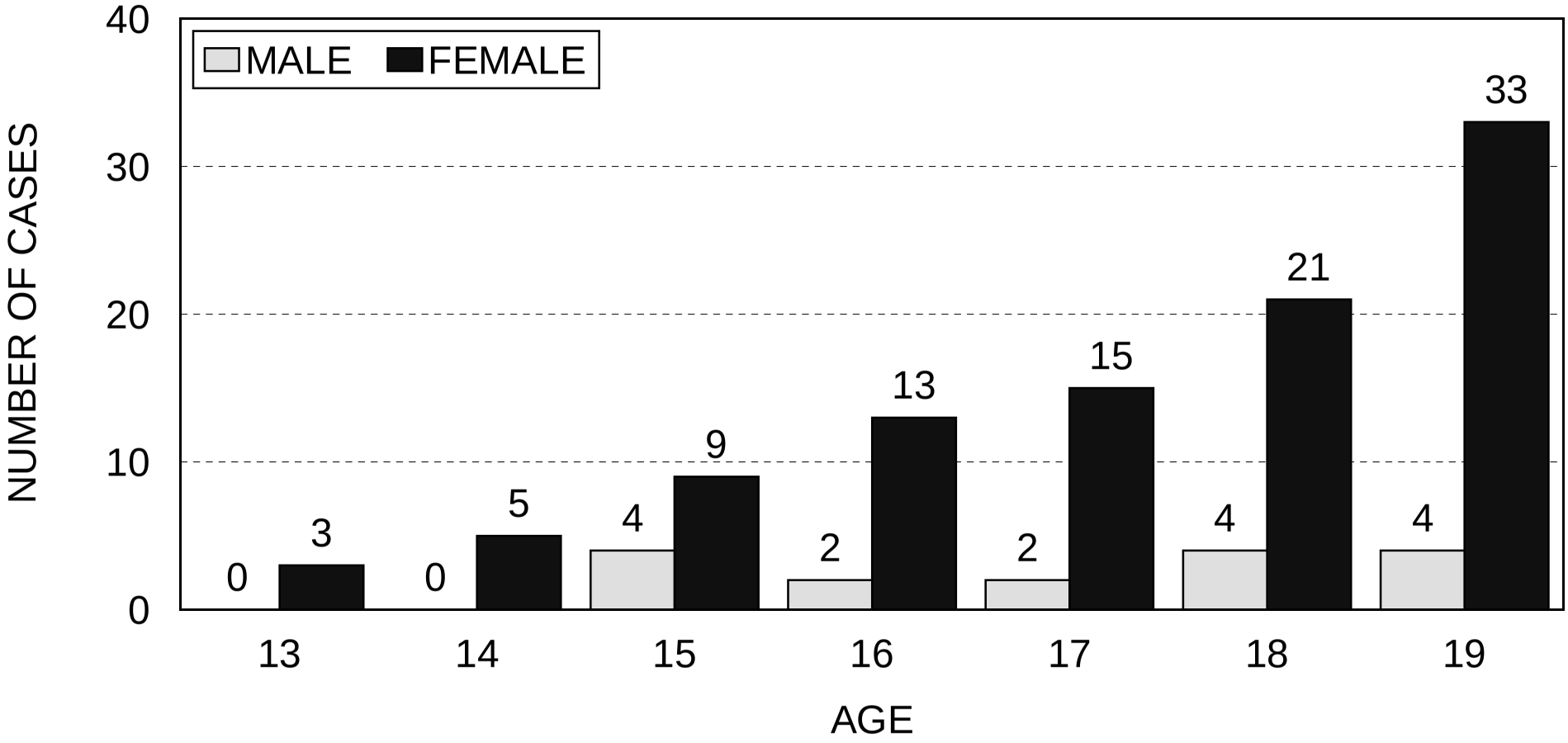
In 2003, the female chlamydia incidence rate peaked among the 15-19 year old age group, at 2,395 cases per 100,000. After this peak, chlamydia incidence among females progressively declined with increasing age. Among men, the 2003 chlamydia incidence rate peaked among 20-24 year olds at 516 cases per 100,000, then declined with increasing age.

Only women are routinely screened for chlamydia. Because active case-finding is preferentially limited to women, the incidence of chlamydia in men may be under-reported by comparison. Caution should be used in interpreting comparisons of chlamydia rates between genders.

The 2002 STD Treatment Guidelines from CDC recommends that all women diagnosed with chlamydia be re-screened three to four months after treatment. This was suggested because of the high prevalence of chlamydia found in women diagnosed with the disease in the preceding months, presumably as a result of re-infection.

SKAGIT COUNTY

TEEN (13-19) CHLAMYDIA CASES - 2003



Repeater Infection (Person having more than one infection in a 12-month period prior to being treated.)
Recurrent infection is common and associated with increased risk of PID and other serious outcomes. Data suggest that young age and incomplete therapy increases the risk for a persistent/recurrent infection. Studies also suggest that women's current male sex partners are not receiving treatment for chlamydia and that women are being re-infected by resuming sex with preexisting (and infected) sex partners. Careful interviewing and prompt, concurrent treatment of all partners is important. People should be coached to ask health care providers for re-screening if risk behavior occurs.

Table 2: **Chlamydia** Repeater Infections, Skagit County, 2003.

	MALE	FEMALE	TOTAL
Reported Cases	49	221	270
Repeaters Identified	1	16	17
% Repeaters	2%	7%	6%
Age			
0-9			
10-14		1	1
15-19	1	5	6
20-24		8	8
25-29		1	1
30-34			
35-39		1	1
40+			
Unknown			

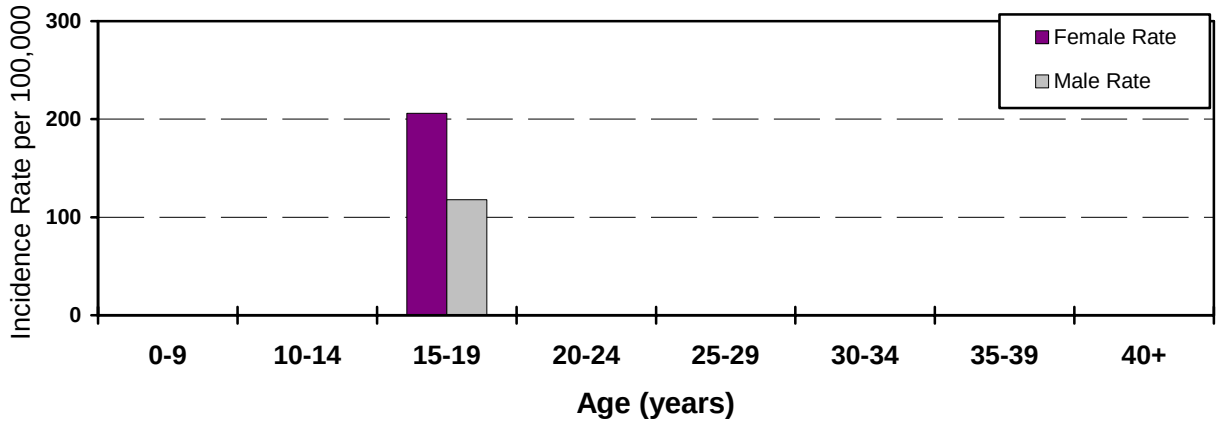
Asymptomatic Infection
STD infections often lack signs and symptoms. Additionally, signs of severe complications may not appear until long after infection, reducing the likelihood that the patient will associate complications with the initial time of infection. Screening sexually active adolescents (19 years and younger) for chlamydia should be routine during annual examinations even if symptoms are not present. Screening women and men aged 20-24 is also suggested, particularly those who have new or multiple sex partners and who do not consistently use barrier contraceptives. Careful interviewing and treatment of all partners is important.

Table 3: Reported Cases of **Chlamydia** by Diagnostic Category, Skagit County, 2003.

	Private		**Public**		**Total**		**Total**
Diagnosis	Male	Female	Male	Female	Male	Female	Cases
Asymptomatic	**6**	**139**	**16**	**26**	**22**	**165**	**187**
Symptomatic-Uncomplicated	14	37	10	5	24	42	66
Pelvic Inflammatory Disease		2				2	2
Other							
Unknown	2	10	1	2	3	12	15
TOTAL	22	188	27	33	49	221	270

Gonorrhea

FIGURE 1: Gonorrhea Incidence Rates by Age and Gender, Skagit County, 2003[λ]



	0-9	10-14	15-19	20-24	25-29	30-34	35-39	40+
Female Rate	*	0	206	*	0	*	0	0
Male Rate	0	0	118	*	*	0	0	*
Female Cases	1	0	8	3	0	1	0	0
Male Cases	0	0	5	4	1	0	0	1

[λ] *Denominator estimates for the calculation of incidence rates from Washington State Adjusted Population Estimates, OFM, February 2004. Incidence rates rounded to the nearest whole number.*
** Rates cannot be calculated for years with fewer than five cases.*

In 2003, the female gonorrhea incidence rate peaked among the 15-19 year old age group at 206 cases per 100,000. After this peak, gonorrhea incidence among females progressively declined with increasing age. Among men, the 2003 gonorrhea incidence rate peaked among 15-19 year olds at 118 cases per 100,000, and declined with increasing age.

Findings from the Gonococcal Isolate Surveillance Project (GISP) in Seattle have indicated that Washington State is now an area with increased prevalence of quinolone-resistant *Neisseria gonorrhoeae* (QRNG). Based on these findings, the Washington State Department of Health recommends that health care providers in the state should no longer use fluoroquinolones (ciprofloxacin, levofloxacin and ofloxacin) as first line therapy for gonorrhea. The antibiotics of choice are ceftriaxone (Rocephin™) or cefpodoxime (Vantin™) followed with either azithromycin or doxycycline to treat possible coexisting chlamydial infection.

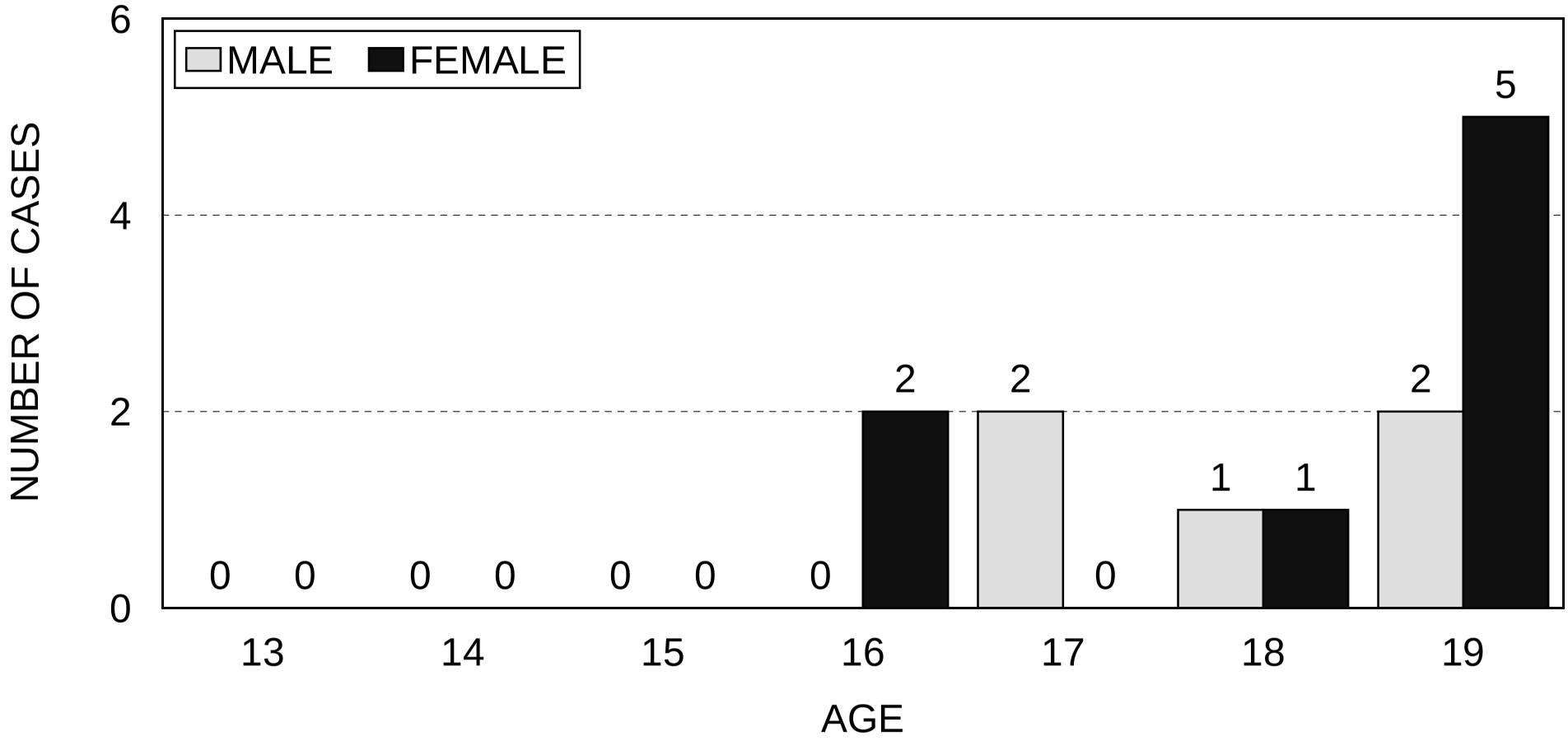
Because most gonorrhea cases are symptomatic and seek medical care, reported cases are considered to be an accurate reflection of true disease incidence in the overall population. Providers in Washington State who reported gonorrhea cases in 2003 indicated that 83% of the men were symptomatic for gonorrhea; 47% of the women were symptomatic.

Table 4: Reported Cases of **Gonorrhea** by Diagnostic Category, Skagit County, 2003.

	Private		**Public**		**Total**		**Total**
Diagnosis	Male	Female	Male	Female	Male	Female	Cases
Asymptomatic	1	3		6	1	9	10
Symptomatic-Uncomplicated	**6**	**3**	**4**	**1**	**10**	**4**	**14**
Pelvic Inflammatory Disease							
Other							
Unknown		1				1	1
TOTAL	7	7	4	7	11	14	25

SKAGIT COUNTY

TEEN (13-19) GONORRHEA CASES - 2003



Conclusion

Table 5: Reported Cases of Chlamydia and Gonorrhea by Provider Type, Skagit County, 2003.

	Chlamydia			Gonorrhea		
Provider Type	No. of Providers	No. of Cases	Percent of Total Cases	No. of Providers	No. of Cases	Percent of Total Cases
Alcohol/Substance Abuse						
Blood Bank/Plasma Center						
Community Health Center	1	1	0%			
Emergency Care (excl. hosp.)	1	1	0%	1	2	8%
Family Planning	5	67	25%	2	3	12%
Health Plan/HMOs						
HIV/AIDS						
Hospitals	6	16	6%	2	3	12%
Indian Health	1	10	4%	1	2	8%
Jail/Correction/Detention	2	3	1%	1	1	4%
Job Corps	1	20	7%	1	4	16%
Migrant Health	1	29	11%	2	2	8%
Military	1	1	0%			
Neighborhood Health						
OB/GYN	3	10	4%	1	1	4%
Other	16	79	29%	2	3	12%
Private Physicians	5	6	2%			
Reproductive Health						
STD Clinics	1	25	9%	1	4	16%
Student Health	2	2	1%			
TOTAL	**46**	**270**	**100%**	**14**	**25**	**100%**

In Skagit County, the Other providers reported the highest number of chlamydia cases. These providers reported 29% of the total. Family Planning reported the second highest number of chlamydia cases (25%). Gonorrhea cases (16% each of the total) were most frequently reported by Job Corps and STD Clinic providers.

The Healthy People 2010 national objectives for chlamydia incidence are:
Females aged 15-24 attending family planning clinics: 3%. There is 1 Region X Infertility Prevention Project* Family Planning clinic in Skagit County. The 2003 positivity rate for females was:

	Male			**Female**		
Site	# Tests	# Pos	% Pos	# Tests	# Pos	% Pos
Mt. Baker PP – Mt Vernon	9	3	33.3	107	21	19.6

Females aged 15-24 attending STD clinics: 3%.
Males aged 15-24 attending STD clinics: 3%.
There is 1 Region X Infertility Prevention Project* STD/Reproductive Health clinic in Skagit County. The 2003 positivity rate was:

	Male			Female		
Site	# Tests	# Pos	% Pos	# Tests	# Pos	% Pos
Skagit Co. HD	79	13	16.5	33	7	21.2

Other Region X Infertility Prevention Project Sites in Skagit County include:

	Male			Female		
Site	# Tests	# Pos	% Pos	# Tests	# Pos	% Pos
Skagit County Juvenile (Mt. Vernon)	1	0	0.0	0	0	0.0
John King Recovery (Mt. Vernon).	4	0	0.0	9	0	0.0

The year 2010 Healthy People 2010 national objective for gonorrhea incidence is 19 cases per 100,000. Skagit County is working toward this goal with the 2003 rate of 23 cases per 100,000.

The Aptima test used to diagnose chlamydia is a combined test that will also diagnose gonorrhea. Gonorrhea positives from the Region X Infertility Prevention Project (IPP) sites include:

	Male			Female		
Site	# Tests	# Pos	% Pos	# Tests	# Pos	% Pos
Mt. Baker PP – Mt Vernon	9	0	0.0	106	1	0.9

	Male			Female		
Site	# Tests	# Pos	% Pos	# Tests	# Pos	% Pos
Skagit Co. HD	79	1	1.3	33	0	0.0

	Male			Female		
Site	# Tests	# Pos	% Pos	# Tests	# Pos	% Pos
Skagit County Juvenile (Mt. Vernon)	1	0	0.0	0	0	0.0
John King Recovery (Mt. Vernon).	4	0	0.0	9	0	0.0

*For Region X Infertility Prevention Project Screening Criteria see page 11.

Appendix A: Data Sources, Analyses and Limitations

Cases: The number of cases identified and submitted by providers to local health jurisdictions and forwarded to the Washington State Department of Health, Office of Infectious Disease and Reproductive Health, STD/TB Services.

Population: Denominator population estimates for incidence rates are from Washington State Adjusted Population Estimates, Office of Financial Management (OFM), February 2004.

Incidence Rates: Incidence rates are calculated as the number of new episodes of a disease (not persons) in a given year divided by the total population (age and sex appropriate) for that year, expressed as a rate per 100,000. Incidence rates allow comparisons between two or more populations by standardizing the denominator and are the most appropriate statistic to use when investigating differences between groups. Rates should not be calculated for incident case totals fewer than five because the rates are unstable.

Data Reporting: Gonorrhea, chlamydia, syphilis, and herpes (initial infection) are reportable diseases to the local health jurisdictions and forwarded to the Department of Health. To be reported and included in surveillance data, disease definition must be met.

Disease Definitions:

- Gonorrhea - isolation of *Neisseria gonorrhea* from a clinical specimen or observation of gram-negative intracellular diplococci in urethral or endocervical smears, culture or non-culture methods.
- Chlamydia- isolation of *Chlamydia trachomatis* from a clinical specimen by culture or non-culture methods that detect chlamydia antigen or genetic material.
- Syphilis - a complex sexual transmitted disease with a highly variable clinical course. See CDC guidelines for surveillance definition.
- Herpes Simplex (initial infection only) - diagnostic criteria for reporting can be made through clinical observation of typical lesions and/or laboratory confirmation.
- Chancroid - an STD characterized by painful genital ulceration and inflammatory inguinal adenopathy.
- Granuloma Inguinale (GI) - a slowly progressive ulcerative disease of the skin and lymphatics of the genital and perianal area.
- Lymphogranuloma Venereum (LGV) - characterized by genital lesions, suppurative regional lymphadenopathy, or hemorrhagic proctitis.
- HIV – Human Immunodeficiency Virus is a retrovirus causing HIV disease and AIDS (Acquired Immunodeficiency Syndrome) in humans. This pathogen is transmitted from person to person through unprotected sexual contact, sharing of injection equipment and transfusion/transplantation with infected blood or tissue.
- AIDS – Acquired Immunodeficiency Syndrome is the advanced stage of HIV-disease in humans and is characterized by severe suppression of immune response. Persons with AIDS are at risk for increased susceptibility to opportunistic infections, degradation of major organ systems and eventual death.

The diagnosing practitioner is responsible for providing the case information which includes patient demographics, source of diagnosis, limited clinical information including site of infection and treatment, and date of diagnosis.

Data Strengths: Sexually transmitted disease data may provide more timely information on behavioral trends in the community than diseases with similar modes of transmission particularly HIV/AIDS. There is a high level of participation in the STD surveillance system by private providers of STD services.

Data Limitations: Clinically diagnosed cases of STDs (without laboratory confirmation) may be missed through this surveillance system. Depending upon diagnosing practices, completeness of reporting may vary by source of health care.

Data Biases: Biases could exist in the data due to under-reporting, inability of certain populations to access medical services, error in laboratory reporting, or differential reporting or screening by disease and source of care. However, it is assumed that the number of cases that would fall into these categories is small and normally distributed, thus not significantly impacting the calculated STD rates.

Assumptions: It is assumed that the cases reported from year to year are independent of each other. One violation of this assumption could be if a person who has an STD one year is more likely to have an STD the following year. Also, repeat episodes of the same STD by the same person are not excluded from the numerator count; it is felt that these numbers are not large enough to significantly impact the calculated incidence rates. Finally, we have assumed that all rates follow a chi-square distribution.

Female Selective Screening Criteria in Family Planning and Expansion Sites:

1. Women 24 and under should be tested at least annually when undergoing a pelvic exam.
2. All women 25 and older who meet one of the following criteria should be screened:
   a. Cervical findings of mucopurulent cervicitis, friable cervix, ectopy with inflammation or edema,
   b. PID (Pelvic Inflammatory Disease),
   c. Exposed to CT in past 60 days,
   d. Symptomatic sex partner during past 60 days,
   e. Pregnant,
   f. Seeking an IUD insertion,
   g. Prior chlamydial infection within the past 12 months.