EL PASO COUNTY DEPARTMENT OF HEALTH AND ENVIRONMENT
301 South Union Boulevard
Colorado Springs, Colorado 80910

ANNUAL REPORT
Sexually Transmitted Diseases/HIV Programs
January 1, 1999 - December 31, 1999

Never be afraid to try something new.
Remember: amateurs built the Ark;
Professionals built the Titanic.

Anonymous

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INTRODUCTION

This Report consists principally of numbers and percentages bounded by brief editorial comments. For the first time, it sports some graphics---nothing fancy, but perhaps an effective antidote to boring sequences of numbers (numbers provide rigor, but also mortis!). The Report is intended as a comprehensive repository of program data and trends spanning nearly 30 years, not simply as a summary of 1999 accomplishments. It should be used as a rear view mirror: to know where you're going, it helps to know where you've been. During 2000, we will transfer highlights from this Report to our Health Department website.

We arrange the infectious diseases that our programs are charged with controlling in order of epidemiologic importance. The overall impression distilled from the available data is that sexually transmissible and blood-borne infections are declining in incidence in El Paso County, and that our control initiatives have contributed to this desirable trend (Self-praise is no scandal). Gonorrhea rates have declined nearly 90% since inception of our control program in 1970, from 667 cases per 100,000 population to 88/100,000 in 1998. Although chlamydia rates have increased since we initiated a formal control program in 1987 (from 307 cases per 100,000 population to 364 in 1999); increases are shown to be mostly artifactual. Vastly superior tests and greatly expanded contact tracing account for three-quarters of observed "incidence" increases. In reality, chlamydia incidence is stable (and probably declining) though at hyper-endemic levels. The observed rate of new HIV infection has declined nearly 90%, from 43 cases per 100,000 population in 1986 (the first full year of testing) to 5.4/100,000 in 1999. Infectious syphilis cases have virtually disappeared, declining from19 cases per 100,000 population in 1973 to none in 1999. Lastly, trends for non-reportable STD argue for notable incidence declines during the 1990s.

STD/HIV transmission occurs, but at greatly diminished levels, in the socio-sexual networks of high-risk teens and adults, a small subset of these populations. Vigorously sustained control efforts must therefore continue, to prevent the infections from re-seeding the community at large. Eternal vigilance and all that. Comments, criticisms or suggestions are encouraged (To: John Potterat [719] 575-8608 or e-mail: jjpotterat@uswest.net). Happy reading!

PART I

HEPATITIS-C PROGRAM

Responsibility for Hepatitis-C surveillance and control was assumed by our program in Spring,1998.. Prodded by Dr. L.T. Kircher (Penrose Hospital Pathology Dept), we began efforts to raise Hepatitis-C awareness and obtain funding. The existing Hepatitis-C database, maintained by Nursing Division's Epidemiology section, contained about 3,500 skeletal reports dating from the late 1980s; these were imported into our program databases to serve as the nucleus for a more detailed surveillance database. Many grant proposals have been submitted for consideration but, as of the end of 1999, only modest funding has been secured (mostly for data entry and for targeted screening). Attempts to fund an F.T.E. position for case follow-up and outreach have not yet met with success.

Initial efforts have focused on:

1) Database architecture: to accommodate integration of demographic, epidemiologic and clinical data, and to move from a DOS to a Windows environment.
2) Coordination with the private and military medical sectors to improve case- and clinical data-reporting.
3) Development of extra-mural sites for testing, counseling, and patient support-referral (Penrose Learning Center, County Jail, Red Cross Shelter, Juvenile Detention,, and Teller County).
4) Implementing targeted screening.

During 1999, we screened more than 1,000 individuals for eligibility (risk factors) and tested nearly three-fifths. Of 558 persons tested, 129 (23%) were positive for Hepatitis-C. Of the 129 positives (77 men and 52 women), 115 provided a history of injecting drug use, 9 of transfusion, 1 of drug use via the nasal route, and 4 had no risk identified. Thus at least 90% were apparently infected via illicit drug use. (Approximately one-half of persons providing a history of injection drug use locally are positive for hepatitis-C and roughly 15% of persons providing a history of blood transfusion before the 1990s are positive.) In addition to the 129 positives identified through our screening initiative during 1999, 363 new reports of Hepatitis-C were received from private doctors. (Reporting from the military sector is in development.)

In summary, resources commensurate with the need to develop an accurate sense of local Hepatitis-C incidence (freshly acquired cases); of disease prevalence (active cases acquired long ago), and of incidence of serious health outcomes (cirrhosis, cancer, death), and resources to prevent untoward outcomes, are not yet available.

PART II

CHLAMYDIA CONTROL

A Brief History

Chlamydia control was born in mid-1987 - an event occasioned by availability of affordable (but modestly accurate) tests. Initial efforts focused on screening in our clinics. During 1988, we initiated contact tracing for cases reported from health department and military clinics. By mid-1995, we significantly increased contact tracing efforts by adding cases from the private medical sectors. Most importantly, starting on 1 July 1996, we implemented PCR testing in all

health department clinics; this DNA-amplification method has the advantage of being virtually twice as accurate as first generation tests. (The military sector, which contributes about one-third of cases in the County, implemented PCR technology in mid-1998.) Enhanced diagnostic accuracy and (nearly) saturation contact tracing account for most of the substantial increase in reported chlamydia cases recorded since the mid-1990s: from about 1200 cases per year (in both 1995 and 1996) to 1871 cases during 1999. Many of the data we present support this interpretation.

Our county's largest producer of positive chlamydia diagnoses is the Health Department (STD, Family Planning, Prenatal, and Pap clinics), followed closely by military installations. Together they contribute more than three-quarters of all local diagnoses (about 40% of all county cases are diagnosed at the Health Department and about 35% at military clinics).

The Table below provides support for our epidemiologic interpretation, which "blames" superior technology and enhanced contact tracing, rather than enhanced chlamydia transmission in El Paso County. Comparing 1995 (as baseline year) to 1999, we see that the medical venues registering sharp increases are precisely those where PCR testing was eventually implemented. (Note, for example, the increase in Fort Carson and Air Force cases after 1997, keeping in mind that they switched to PCR in mid-1998. Note as well the sharp increase in reports from the STD Clinic, where the impact of both superior testing and enhanced contact tracing is most acutely felt.) The sharp increase in cases from the private sector during 1999 reflects recent implementation of PCR testing. Our prediction is that when the masking effects of enhanced test sensitivity and enhanced contact-tracing wear off, chlamydia morbidity will decline suddenly and substantially.

Reported chlamydia cases: 1992-1999

	Private Doctor		STD Clinic		FPC/PNC/ CHC*		Planned Parenthood		Fort Carson		Air Force		Detention/ Zeb Pike		Totals	
1992	309	(19.4)	401	(25.2)	186	(11.7)	22	(1.4)	566	(35.6)	108	(6.8)	N/A	N/A	1592	(100)
1993	348	(22.1)	456	(29.0)	199	(12.6)	51	(3.2)	451	(28.6)	70	(4.4)	N/A	N/A	1575	(100)
1994	369	(21.8)	487	(28.9)	201	(11.9)	82	(4.9)	481	(28.5)	67	(4.0)	N/A	N/A	1687	(100)
1995	332	(27.1)	313	(25.6)	177	(14.5)	52	(4.3)	284	(23.2)	60	(4.9)	N/A	N/A	1223	(100)
1996	238	(19.8)	385	(32.0)	219	(18.2)	40	(3.3)	276	(22.9)	46	(3.8)	N/A	N/A	1204	(100)
1997	250	(18.3)	460	(33.7)	229	(16.8)	17	(1.2)	322	(23.6)	35	(2.6)	54	(4.0)	1367	(100)
1998	290	(17.9)	554	(34.2)	156	(9.6)	32	(2.0)	489	(30.2)	59	(3.6)	40	(2.5)	1620	(100)
1999	407	(21.7)	589	(31.5)	184	(9.8)	20	(1.1)	557	(29.8)	95	(5.1)	19	(1.0)	1871	(100)

*Family Planning, Prenatal, Community Health Center, clinics

Another way of sensing the impact of superior testing and contact tracing is to compare "reason for testing" trends. We compare 1996, when both enhanced contact tracing and testing were implemented, with the current report year. First, an explanation of categories. STD cases are generally detected via one of 3 mechanisms: the patient has genital symptoms ("volunteer"); or is tested for other reasons, such as routine gynecologic or obstetric care ("screenee"); or because they are a contact to a confirmed case ("contact"). Volunteers can serve as a surrogate for incidence since genital symptoms argue for recent infection. Screenees tend to represent historically infected cases (prevalent cases in the reservoir). Contacts can be incident or prevalent cases but, in any event, represent active (public health) identification of cases.

The table below suggests that about 70% of the increase in case reports (from 1225 cases in 1996 to 1871 in 1999, or plus 646 cases) resides in the superior testing/contact tracing categories (plus 507 cases) and roughly 30% in fresh incidence (plus 136 cases).

Community-wide chlamydia cases: Reason for test
(1996 compared to 1999)

		MEN		WOMEN	
		Cases	%	Cases	%
1996	Volunteer	187	47.1	298	36.6
	Screenee	34	8.6	414	50.8
	Contact	176	44.3	103	12.6
	Unknown	0		13	
Total cases: 1225					
1999	Volunteer	260	36.7	361	31.5
	Screenee	122	17.2	624	54.4
	Contact	326	46.0	162	14.1
	Unknown	2		14	
Total cases: 1871					

Another way to look at trends is to focus only on public and military clinics. These venues test (and screen) for chlamydia consistently, unlike the private sector. The important sentinel indicator in the Table below is the column on the right. Note that, since enhanced testing and contact tracing, reported cases double, from 657 in 1995 to 1376 in 1999. The longer-term (i.e., since 1988) interpretation is: control efforts caused an initial rise in reported cases, through 1991, which stabilized for the next 3 years. These initial control efforts probably contributed to the sudden drop in cases observed in 1995, by which time we were able to obtain more resources to expand contact tracing (we hired 2 contact tracers in mid-1995) to really try and give this disease the coup de grace. We are confident that our control efforts will defeat this community burden, once reservoir depletion (through superior screening and contact tracing) reaches a critical threshold. (Only continuous case importation --about one-third of all local cases -- will keep us from eradicating chlamydia locally; we thus aim for substantial reduction in cases.)

Chlamydia cases by selected report source and gender
1988-1999 (excludes private sector cases)

	H.D. Clinics		Fort Carson		Air Force		Total
Year	Men	Women	Men	Women	Men	Women	
1988	243	268	250	197	84	150	1192
1989	144	217	289	263	Unknown		N/A
1990	195	443	213	222	151 (both)		1224
1991	253	436	288	256	118 (both)		1351
mandatory reporting begins							
1992	185	327	277	289	45	63	1186
1993	264	299	212	239	32	38	1084
1994	264	332	226	255	20	47	1144
1995	163	150	114	170	13	47	657
1996	223	162	120	156	8	38	707
1997	261	324	158	164	7	28	942
1998	324	379	214	275	12	47	1251
1999	337	387	270	287	29	66	1376

Trends in health department clinics that tend to diagnose prevalent rather than incident cases (Family Planning, Prenatal, Pap clinics), unlike the STD Clinic (which probably sees more incident than prevalent cases), show steady declines during the 1990s. Note the very low number of positives in the Prenatal/Pap category (Prenatal alone accounts for 9 positive diagnoses from 1212 tests, for a 4.2% rate). These low rates must also be considered in light of our using tests whose sensitivity nearly doubled since their inception in mid-1996.

Chlamydia screening in Women's Clinics
(1988-1999)

	Family Planning			Prenatal & PAP		
Year	Tests	Pos	(%)	Tests	Pos	(%)
1988	772	61	(7.9)	573	75	(13.1)
1989**	259**	30	(11.6)	410	30	(7.3)
1990	1379	121	(8.8)	471	50	(10.6)
1991	1559	114	(7.3)	537	39	(7.3)
1992	1701	65	(3.8)	586	45	(7.8)
1993	1812	70	(3.9)	531	31	(5.8)
1994	2058	66	(3.2)	512	41	(8.0)
1995	1789	44	(2.5)	420	12	(2.9)
1996	1946	68	(3.5)	508	51	(10.0)
1997	1753	82	(4.7)	418	16	(3.8)
1998	1780	62	(3.5)	355	6	(1.7)
1999	1780	78	(4.4)	386	11	(2.8)

** Only high-risk clients were tested in 1989

Chlamydia cases in STD Clinic

The following Table suggests the impact of both superior testing technology (mid-1996) and enhanced contact tracing efforts (mid-1995). As was explained above, the large proportional and numerical increase in positives reflects superior testing and enhanced contact tracing.

Chlamydia cases in VD Clinic
(1988-1999)

	Men			Women			Total		
	Tests	Pos	(%)	Tests	Pos	(%)	Tests	Pos	(%)
1988	921	230	(25.0)	812	175	(21.6)	1733	405	(23.4)
1989	1309	125	(9.5)	1393	151	(10.8)	2702	276	(10.2)
1990	1574	163	(10.4)	1707	195	(11.4)	3281	358	(10.9)
1991	1852	259	(14.0)	2155	275	(12.8)	4007	534	(13.3)
1992	1924	185	(9.6)	2210	216	(9.8)	4134	401	(9.7)
1993	1730	248	(14.3)	2044	203	(9.9)	3774	451	(12.0)
1994	1917	226	(11.8)	2224	207	(9.3)	4141	433	(10.5)
1995	1650	147	(8.9)	1880	136	(7.2)	3530	283	(8.0)
1996	1700	215	(12.6)	1998	171	(8.6)	3698	386	(10.4)
1997	1759	251	(14.3)	1907	208	(10.9)	3666	459	(12.5)
1998	1998	298	(14.4)	2043	231	(11.3)	4041	518	(12.8)
1999	2101	298	(14.2)	2316	255	(11.0)	4417	553	(12.5)

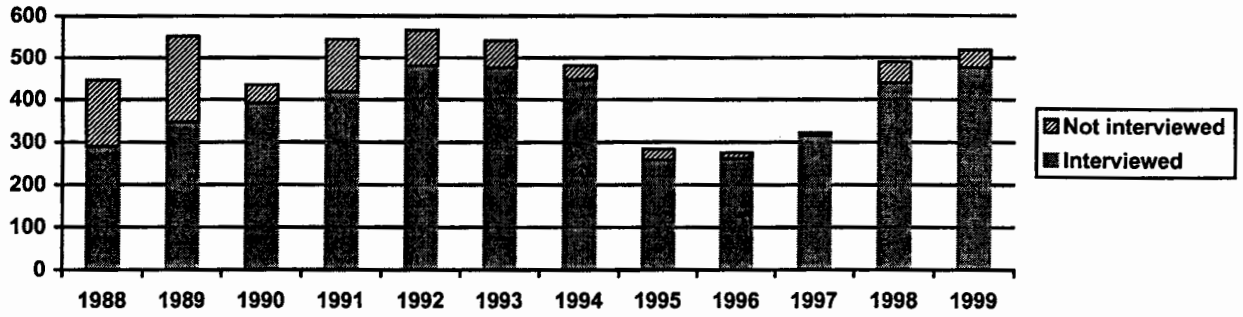
Civilian chlamydia contact interviews (1988-1999)

We have interviewed 6863 civilian cases of chlamydia in the last 12 years, and obtained 11,562 contacts, with a consistent contact index of about 1.7 for both men and women. The number of interviews has roughly doubled since 1995, as has the number of contacts.

	MEN			WOMEN			TOTAL		
Year	interviews	Contacts	index	Interviews	contacts	Index	Interviews	contacts	Index
1988	190	321	1.69	229	379	1.66	419	700	1.67
1989	114	171	1.50	176	309	1.76	290	480	1.66
1990	159	262	1.65	364	659	1.81	523	921	1.76
1991	269	453	1.68	434	753	1.74	703	1206	1.72
1992	220	352	1.60	351	646	1.84	571	998	1.73
1993	186	267	1.44	331	515	1.56	517	782	1.51
1994	144	223	1.55	287	499	1.74	431	722	1.68
1995	107	162	1.51	288	461	1.60	395	623	1.58
1996	213	379	1.78	569	1047	1.84	782	1426	1.82
1997	239	433	1.81	433	764	1.76	672	1197	1.78
1998	302	506	1.68	421	670	1.59	723	1176	1.63
1999	349	555	1.59	488	776	1.59	837	1331	1.59

Fort Carson's Preventive Medicine folks have been doing a wonderful job of interviewing chlamydia cases starting (as we did) in 1988. For 1999, they interviewed 92% of cases (477/518)- a commendable result considering that implementation of PCR-based testing in May of 1998 was associated with large increases in diagnoses since then.

Proportion of chlamydia cases interviewed
(Fort Carson)



Overall, they have reported 5455 cases since 1988 and interviewed 83.3% (4543/5455).

Chlamydia contact tracing

Intensified contact tracing since 1995, coupled with implementation of PCR-based testing, combined to substantially increase the number (from 80 to 467) and proportion (from 12.5% to 29.3%) of newly diagnosed chlamydia contacts. Note also the rapid *proportional* decline in contacts "not infected": it's an artifact of superior tests, which are less likely to produce false negative results. The high number and proportion of contacts who cannot be found ("not examined") reflects the sociology of this disease during the late 1990s: it occurs mostly in segments of the population that have unstable domiciles (because they are very young and tend to be disadvantaged minorities).

Local contacts to chlamydia: Outcomes

	New cases	%	Not Infected	%	Not Examined	%	Total
1988	97	18.5	279	53.3	147	28.1	523
1989	87	19.8	268	60.1	85	19.3	440
1990	118	15.2	553	71.2	106	13.6	777
1991	229	23.0	613	61.6	153	15.4	995
1992	184	21.1	564	64.6	125	14.3	873
1993	160	21.0	367	48.2	235	30.8	762
1994	115	15.4	384	51.5	247	33.1	746
1995	80	12.5	345	53.7	217	33.8	642
1996	202	18.3	373	33.9	526	47.8	1101
1997	252	20.1	352	28.0	651	51.9	1255
1998	319	26.2	292	24.0	607	49.8	1218
1999	467	29.3	427	26.8	698	43.8	1592

Thus, 10924 contacts have been sought locally in 12 years, of whom 2310 (21.1%) were newly identified cases; 4817 (44.1%) others were treated preventively but had negative tests.

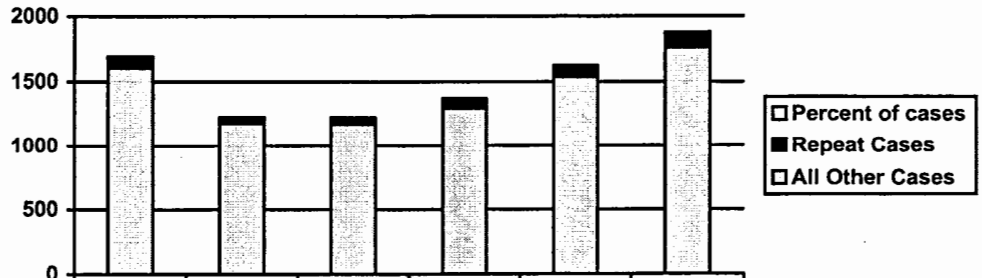
Proportion of Chlamydia Cases in Teens

The first full year of mandatory chlamydia reporting was 1992; thus the data are reasonably reliable since then. The trend shows that teens contribute a stable proportion of overall cases (in the mid to high thirties), with absolute numbers of cases in teens increasing during the late 1990s. Our feeling is that had we used superior tests in the early 1990s, the absolute numbers would be similar or greater than those of 1999. Hence we do not feel that chlamydia is truly increasing among teens locally. Incidentally, teen females are 3-4 times more likely to have chlamydia than males principally because they are histologically (tissues) more susceptible, because men are likelier to undergo spontaneous cure, and because they are more successful (at getting partners) in the sexual marketplace than men in that age group.

Year	Total cases	Cases in teens	% in teens	Male	Female
1992	1592	567	35.6	107	460
1993	1575	585	37.1	132	453
1994	1687	658	39.0	128	530
1995	1223	478	39.1	79	399
1996	1203	444	36.9	74	370
1997	1367	526	38.5	110	416
1998	1620	590	36.4	128	462
1999	1871	677	36.2	165	512

Chlamydia cases in repeaters
(data available only since 1994)

Another indicator of good chlamydia control efforts is the low number and proportion of cases accounted for by repeaters. Enhanced contact tracing, (seeking and treating infected partners), reduces the probability of an infected case being reinfected by untreated partners.



	1994	1995	1996	1997	1998	1999
Percent of cases	4.9	3.7	3.9	4.9	5.1	5.7
Repeat Cases	82	45	48	67	83	107
All Other Cases	1607	1183	1177	1305	1537	1764

Chlamydia and Gonorrhea Coinfections

Persons who are diagnosed with chlamydia belong to sexual networks that are different from persons who acquire gonorrhea. Typically, only 8 percent of chlamydia patients, for example, have concurrent gonorrhea infection. It is thus interesting to look at the characteristics of patients with coinfection, since these persons presumably straddle both (distinct) sexual networks. Such data are only available on computer since 1996. The dually-infected poster person is most often a teen-age female of African-American or Hispanic background. The notable increase (during the last 4 years) in the proportion of dually-infected persons who are teen-aged minority females suggests transmission in highly bounded, focal (gang or drug affiliated?) networks. These persons are accorded priority intervention efforts.

CT/GC Coinfection, by selected characteristics
(1996-1999)

	Female		Non-White		In Teens	
Year	#	%	#	%	#	%
1996	51	52.6	66	68.8	32	33.3
1997	60	56.6	73	68.6	51	48.1
1998	78	57.4	104	77.6	64	47.1
1999	111	57.2	149	76.8	77	39.7

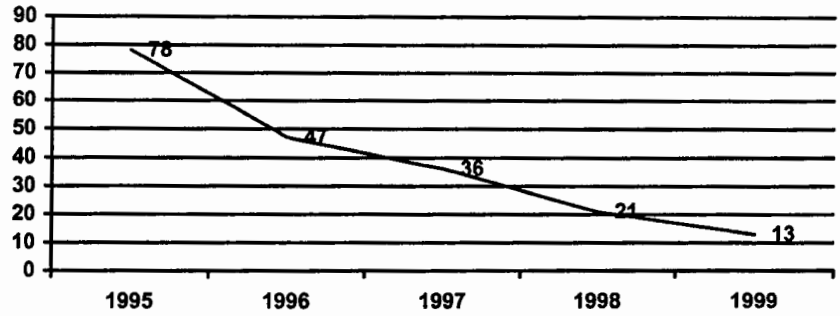
Part III

HUMAN IMMUNODEFICIENCY VIRUS INFECTION

In El Paso County, the news about HIV is very good: not only are those who are infected dying at a dramatically lower rate than heretofore, but few people are getting infected each year. The combination of "miracle drugs" with improved behavioral self-defense by high-risk folks (men who have sex with men and drug injectors) has markedly contributed to the reductions in new transmission and mortality we happily report.

We record a spectacular 83% decrease in HIV/AIDS deaths since 1995, our base year because miracle drugs were introduced late that year. We surmise two reasons: a survivor effect and miracle drugs, especially protease inhibitors. In brief, "survivor effect" refers to a phenomenon common in epidemics: those whose immune defenses against the infectious agent are strong tend to survive longer, while those with less effective defenses tend to die early. Thus, slowing of mortality was a predictable event - even in the absence of efficacious medications. We suspect - and this is only a guess - that *most* of the reduction in HIV/AIDS mortality can be attributed to better medications and *much* to a survivor effect.

AIDS Deaths (1995-1999)



Not all HIV/AIDS deaths reported herein occurred locally. Patients who reside locally at time of diagnosis or at time of report may subsequently move elsewhere; should they die elsewhere, we record these events in our database. (We search national death databases such as the Social Security Death Index [<www.ancestry.com>])

This phenomenon - retarding death - is reflected in CD-4 count gains during the 1990s. (The data are soft in that not all HIV patients are CD-4 tested and, of those tested locally, obligatory reporting did not start until mid-1993.) The table below shows the mean CD-4 count as of the end of the reporting year for those alive (i.e., not known to be dead) as of the end of that year, by major risk category: men who have sex with men and/or injecting drug users. We have CD-4 counts on about half of all living patients each year. We exclude women with HIV because the numbers are very small (mercifully). Note the generally steady increase over the 9-year period and the fact that counts, on a population level, are well above the danger point of about 200 cells. The second Table below shows the declining proportion of HIV-infected persons with counts below the dangerous level of 200.

Mean CD-4 Counts for men with HIV or AIDS
not known to be dead as of the end of the reporting year
(by major risk factor, 1992-1999)

	Gay/Bisexual		Injectors		Gay injectors	
Year	mean CD-4	N*	Mean CD-4	N*	mean CD-4	N*
1991	284	54	327	11	265	18
1992	188	62	186	11	266	21
1993	241	106	387	31	227	27
1994	276	121	230	25	220	41
1995	229	129	253	34	249	41
1996	232	116	333	36	205	36
1997	306	97	346	26	257	38
1998	341	99	363	26	301	28
1999	378	89	354	17	296	25

*N= the number of patients with CD-4 count data in that year.

AIDS proper: a brief profile

At least 766 adults with full-blown AIDS have lived in the Pikes Peak region since the first reported case in August 1982. About three-fifths (63%) are known to be dead. Roughly equal numbers of cases have been counted locally (408) compared to those diagnosed elsewhere (358) who moved (and were reported) here after their AIDS diagnosis.

Note: all data in this Report refer to adult HIV/AIDS cases. Pediatric cases (N= 15) are discussed in the last section of Part III.

AIDS cases having resided locally

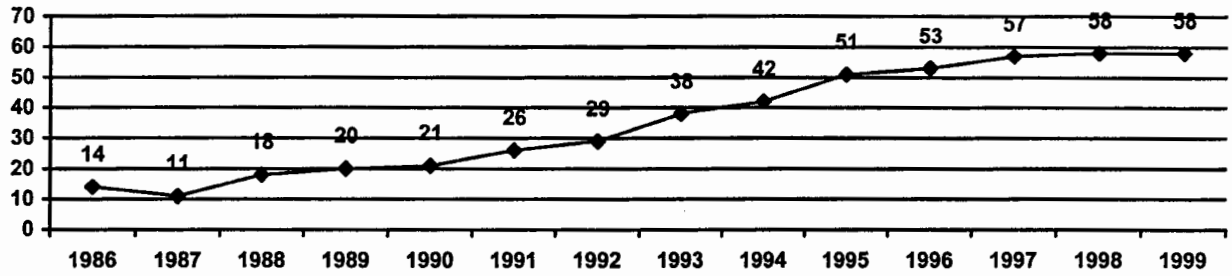
	Counted locally			Counted elsewhere			Total		
Year	#	Dead	%	#	Dead	%	#	Dead	%
1982	1	1	100				1	1	100
1983	2	2	100	3	3	100	5	5	100
1984	1	1	100	1	1	100	2	2	100
1985	7	7	100	1	1	100	8	8	100
1986	13	12	92	7	5	71	20	17	85
1987	9	9	100	12	12	100	21	21	100
1988	24	23	96	14	11	79	38	34	90
1989	32	30	94	33	29	88	65	59	91
1990	33	30	91	27	21	78	60	51	85
1991	33	30	91	31	26	84	64	56	88
1992	29	20	69	56	41	74	85	61	72
1993	45	25	56	47	34	72	92	59	64
1994	50	30	60	46	24	52	96	54	56
1995	44	17	39	36	11	31	80	28	35
1996	35	9	26	16	7	44	51	16	31
1997	19	3	16	9	4	44	28	7	25
1998	17	2	12	14	1	7	31	3	10
1999	14	2	14	5	1	20	19	3	16
Total	408	243	62	358	223	65	766	485	63

1.4:1
1.6:1
1.8:1
2.85:1
3.2:1
4.0:1

The above table shows year of diagnosis and whether the person diagnosed that year is known to be dead (the person may NOT have died in that specific year. For death by year in which it occurred, look at the *Table* below)

Thus, nearly three-fifths of all HIV/AIDS-infected adults (N=1318) have so far progressed to AIDS (766/11318= 58%). The line flattens after introduction of "miracle drugs" in 1995.

Percentage of Adult HIV Cases Having Progressed to AIDS



HIV/AIDS cases by age at report and clinical status
(1982-1999)

It is instructive to examine the data by 1) age at report and by 2) age at clinical diagnosis. (The numbers in parentheses in the Table below represent the AIDS subset. Thus, for example, 51 (40) means that 51 persons with HIV were identified, of whom 40 are known to have AIDS.) Age at Report refers to age at report to **our** health department. Death refers to the actual year in which the person died.

Because many HIV positive people move to El Paso County from elsewhere where they may have initially been diagnosed, it is possible for someone to be older at time of report than at time of initial diagnosis. The difference is illustrated in the following two tables. The first table records mean age at report to us; the second, mean age at initial diagnosis (the more informative Table).

Year	Age at report		Totals		
Reported	Mean	S.D.	HIV	(AIDS)	Deaths
1982-1985	30.6	7.4	51	(40)	8
1986	30.1	8.5	127	(81)	9
1987	29.7	7.8	93	(60)	12
1988	32.6	10.6	101	(65)	31
1989	32.0	9.8	96	(56)	20
1990	32.5	9.8	99	(64)	37
1991	32.4	8.7	84	(49)	52
1992	33.1	9.3	98	(62)	55
1993	32.6	7.1	98	(61)	54
1994	33.6	7.0	110	(57)	66
1995	36.3	9.7	81	(44)	78
1996	36.7	9.7	101	(59)	47
1997	35.5	9.0	66	(25)	36
1998	35.4	8.6	57	(24)	21
1999	35.8	9.4	56	(19)	13
Total			1318	(766)	539

Note the steadily increasing age, which argues for a prevalent cohort (historically, rather than recently, infected people progressing to disease and - more slowly presently - death). Note that roughly 100 persons with HIV have been reported each year (1986-1996) and that, during the last 3 years, half as many were reported per year. This notable decrease since 1997 supports the idea of an imploding epidemic.

HIV/AIDS cases by age at first diagnosis
(1982-1999)

Year Diagnosed	Mean Age	S.D.	All HIV/AIDS Cases
1982-1985	30.5	8.0	104
1986	29.6	8.1	163
1987	29.1	7.4	129
1988	32.4	10.3	128
1989	30.8	9.4	128
1990	30.7	8.7	123
1991	31.7	8.8	99
1992	31.9	8.3	83
1993	30.0	7.3	64
1994	33.4	7.5	75
1995	35.8	10.9	65
1996	36.0	10.8	60
1997	34.1	9.1	34
1998	35.6	9.1	36
1999	34.7	10.8	27

In comparing the two tables we note that there are declining numbers of persons newly being diagnosed as having HIV each year (especially during the 1990s; column at right) and that people are increasingly older at time of first diagnosis. These data support neither idea that 1) lots of folks or/and 2) lots of young people are newly becoming infected. To record an average of about 32 new diagnoses annually in each of the last 3 years is remarkable (and elegant) evidence that the HIV epidemic is imploding, as we predicted 10 years ago (We had a lucid crystal ball during the late 1980s!)

HIV/AIDS Cases By Ethnicity

Until recently, there were too few HIV/AIDS cases in minorities to attempt meaningful comparisons by sex, risk category, and HIV stage: asking detailed questions produced cells with small numbers. Although the cumulative numbers are now large enough for men, this is still not the case for women (thus: please interpret data concerning women with circumspection).

HIV/AIDS Cases in MEN by Ethnicity and Disease Stage

Note: Here, as elsewhere in this report, missing observations are not counted as part of the denominator.

Ethnicity	AIDS (N=696)	%	HIV (AIDS-Free) (N=456)	%
White	510	73.3	283	64.6
African American	95	13.6	91	20.8
Hispanic/Other	91	13.1	64	14.6

We thus infer that HIV infection is "moving" into minority populations (as it is nationally), since AIDS-free HIV infection presumably represents "recent" virus acquisition, while AIDS

presumably represents "historical" acquisition. The shift is less pronounced among men classified as Hispanic/Other than it is among African-Americans –As for women, the burden seems stable-to-increasing in white and black women and substantially decreasing among Hispanic/Other women. Caution: small numbers (We're not complaining!).

HIV/AIDS Cases in WOMEN by Ethnicity and Disease Stage

Ethnicity	AIDS (N=67)	%	HIV (AIDS-Free) (N=88)	%
White	38	56.7	53	60.2
African American	19	28.4	28	31.8
Hispanic/Other	10	14.9	7	8.0

If we examine cases by risk category and ethnicity, by gender, we see that white men are likelier to report homosexuality as a risk factor, while non-white heterosexual men are likelier to report drug injection. (Percentage totals are on horizontal axis.) As for women, about 60% provide a history of injecting drug use and about one-third, of heterosexual contact. (Note that "heterosexual contact" is poorly represented in transmission risk for men – 2 cases.).

HIV/AIDS Cases in MEN by Ethnicity and Risk Category

Risk	White	%	African American	%	Hispanic/ Other	%	Total	%
Gay/Bisexual	553	72.6	105	13.8	104	13.6	762	100.0
Injecting Drugs (Gay)	138	75.6	26	14.1	21	11.4	185	100.0
Injecting Drugs (Hetero)	74	55.6	32	24.1	27	20.3	133	100.0
Heterosexual Sex	0	0.0	2	100.0	0	0.0	2	100.0
Transfusion	15	83.3	2	11.1	1	5.6	18	100.0
Unclassified	22		25		5		52	

HIV/AIDS in WOMEN by Ethnicity and Risk Category

Risk	White	%	African American	%	Hispanic/ Other	%
Injecting Drug Use	56	63.6	19	21.6	13	14.8
Transfusion	6	85.7	1	14.3	0	0.0
Sex	26	50.0	24	46.2	2	3.8
Unclassified	3		4		1	

Risk Category By Stage of Disease: MEN

Homosexuality and injecting drug use continue to account for the vast majority of HIV/AIDS cases in men; yet a modest shift over time toward a larger proportion being contributed by (heterosexual) injectors is noted. This shift is also associated with the shift toward greater representation by minorities noted above.

Risk	AIDS (N=699)	%	HIV (AIDS-Free) (N=465)	%
Gay/Bisexual	478	68.9	296	70.5
Injecting Drugs (Gay)	138	19.9	59	14.1
Injecting Drugs (Hetero)	66	9.5	60	14.3
Heterosexual Sex	1	0.1	1	0.2
Transfusion	11	1.6	4	1.0
Unclassified	5		45	

Risk Category By Stage of Disease: WOMEN

If we examine risk over time, we note an increase in women reporting injecting drug use and a modest decrease in sexual transmission. Since women injectors tend to shoot drugs with heterosexual injectors, this observation dovetails nicely with the (above) observation of the increasing proportion of HIV among heterosexual male injectors:

Risk	AIDS (N=66)	%	HIV (AIDS-Free) (N=83)	%
Injecting Drug Use	35	53.0	52	65.0
Sex	25	38.0	26	32.5
Transfusion	5	8.0	2	2.5
Unclassified	1		8	

We thus surmise two distinct transmission universes: 1) networks involving men who have sex with men and 2) networks of heterosexual injectors. As a risk factor, heterosexual sex (whatever that means) is either poorly represented (men) or proportionally declining (women).

HIV/AIDS Control Program

This program consists of two parts: the Counseling/Testing site (CTS) and the Control Program proper (e.g., outreach efforts). What follows is a potpourri of data and observations that paint an impressionistic picture of what is happening locally with HIV infection.

HIV infection by source of report and gender
(1982-1999)

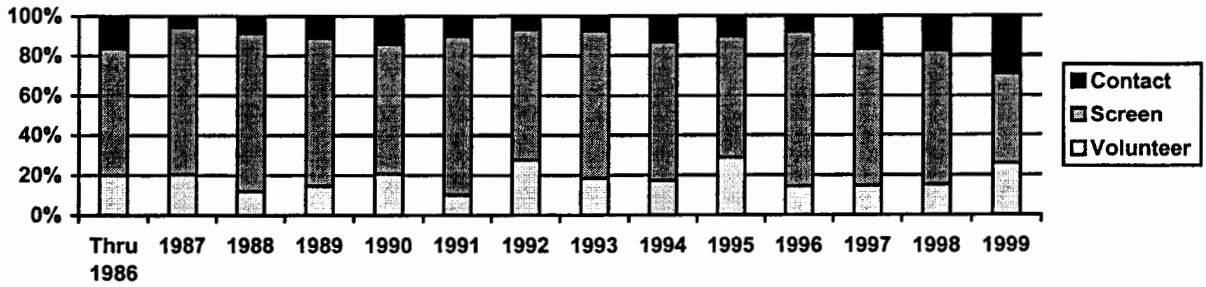
The following represents the distribution of adults with HIV (including full-blown AIDS cases) reported, and where they were first identified. Note that nearly four-fifths are detected outside of health department clinics. In recent years, the relative contribution of Donor Centers and the Military has been declining. Note also the low number and proportion identified from our Drug Clinic (not an artifact of testing levels).

	Total Cases	%	Men	Women
Health Dept Testing Site	218	16.5	203	15
STD Clinic	56	4.2	42	14
Drug Clinic (McMaster's)	5	0.4	3	2
Donor Centers	150	11.4	136	14
Military	150	11.4	138	12
Doctors/Hospitals/Other	740	56.1	642	98
Total	1319	100.0	1164	155

HIV infection by reason for presentation
(1982-1999)

A person's infection status is ordinarily detected via screening, or spontaneous presentation with symptoms (or curiosity), or contact tracing. Monitoring changes in presentation trends is important to assess the usefulness of screening or contact tracing efforts. The question we ask is: how did the HIV-infected person initially find out about his infection status ("Reason for presentation")? These data are based on the 1138 (86% of cases) with known information. Note the increasing proportion of cases identified by contact tracing during the last 3 years (since we've been provided funds from the State Health Dept. specifically earmarked for contact tracing.)

viewed annually (percentages):



	Total Persons	%
Volunteer	208	18.3
Screen	799	70.2
Contact	131	11.5

Thus, overall (1982-1999), every 9th case is detected as a consequence of contact tracing, 70% as screens, and about 18% as volunteers.

HIV contact interviews
(1985-1999)

Many health jurisdictions in the United States are reluctant to interview HIV patients for sexual and needle-sharing partner information; they consider the procedure ineffectual or politically delicate. We've successfully conducted such "partner notification" (contact tracing) interviews on positive clients since the late fall of 1985.

Declining numbers of persons with a first diagnosis of HIV also means that fewer persons receive formal contact interviews.

Year	No. Interviews	No. Contacts	Contact Index
1982	1	2	2.0
1985*	14	34	2.4
1986	90	158	1.8
1987	47	82	1.7
1988	57	132	2.3
1989	61	128	2.1
1990	65	133	2.1
1991	49	97	2.0
1992	52	87	1.7
1993	44	75	1.7
1994	55	93	1.7
1995	23	40	1.7
1996	37	78	2.1
1997	32	123	3.8
1998	22	66	3.0
1999	18	41	2.3
Total	667	1369	2.1

Last quarter of 1985 only (when we officially began)

There are many reasons for our not having conducted contact-interviewing on 651 cases (1318 adult cases ever reported; 667 interviewed by us). Those not interviewed were not successfully located (N=164 cases), or were not eligible for contact interview because counseled or interviewed in the jurisdiction of original diagnosis (N=408), or we botched the opportunity (N= 28), or the client refused (N=16), or died (N= 18) before we were able to interview them. Lastly, some cases are in progress (N=17). Thus our Program has interviewed three-quarters of all eligible HIV/AIDS cases (667/893).

For the first time, this document reports key data graphically.

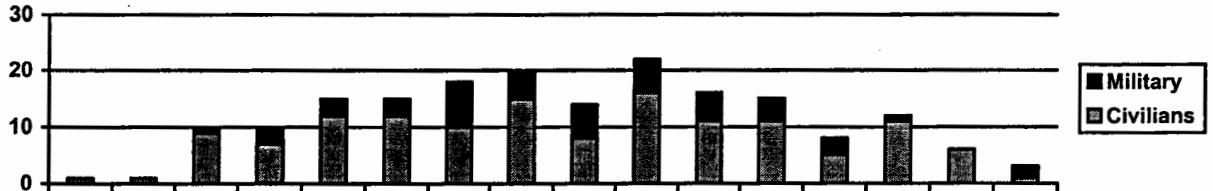
About one-fifth (132/667) of interviewed cases name no identifiable partners and one-third (241/667) name only one; about half 44% (294/667) name two or more partners (range 2-18).

HIV seroconverters

Persons who initially test negative for HIV antibody and who are subsequently (weeks to months later) positive are classified as seroconverters - true public health failures, because it is easy, with modest effort, to avoid getting infected. Under most circumstances, HIV is very

difficult to acquire. Just as AIDS cases represent the old face of the epidemic, so seroconverters represent the new - hence their importance as sentinel cases.

Seroconverters by year of conversion
(Report13)



	1981	1982	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Military	0	0	1	3	3	3	8	5	6	6	5	4	3	1	0	2
Civilians	1	1	9	7	12	12	10	15	8	16	11	11	5	11	6	1

	Civilians	%	Military	%	Total	%
Total	136	72.7	51	27.3	187	100.0

Not all seroconversions are observed; these data are mainly useful as a trend indicator. [Caveat on recent data: it usually takes a year or two to "observe" recent seroconversions; hence recent (i.e., last two years or so) data are artifactually low.

Much of the reason for the disproportionate representation of military cases (they're about one-tenth of our adult population) is artifactual: their population is frequently tested and those who are newly positive are repatriated from overseas. When repatriated locally, they're reported to us. Four-fifths of military seroconversions occur in soldiers (as opposed to air force, navy, or marine personnel.)

Seroconverters are not very young, contrary to the propaganda in media reports; the average (mean) age at seroconversion is 29.3 years (Range 17 to 57 yrs). Only 6 (3%) of the 187 seroconverters are teens: 17 years old (one) and 19 (five). Half convert in the 20-26 age interval and another third convert at ages 30-36. Thus, the distribution is bimodal, with excessive risk in the first half of both the twenties and thirties. (Average age at seroconversion has not changed during the last decade: it's always very late twenties.)

Seroconverters tend to be men (170/187) who have sex with men or drug injecting men who have sex with men (96%). Only about 3.5% are heterosexual drug injectors. Whatever little new transmission has been occurring seems to be occurring in homosexual sexual-drug networks, and a very small amount in heterosexual injector networks. Nearly half of women seroconverters (8/17) are drug injectors.

Health Department HIV antibody testing
(1985-1999)

HIV testing began in the summer of 1985 in the Counseling/Testing Site (CTS) and to be offered in other clinics, principally the STD clinic, in 1988. (Drug clinic clients were tested via the generic testing site since the fall of 1985.) The data below are aggregated to reflect total H.D. activity, irrespective of clinic.

We have collected more than 30,000 specimens for testing from all health department venues since mid-1985 (a little over 2,000 tests per year); 2384 were done in 1999.

To develop a sense for trend in positivity, it is best to simply look at tests done in the CTS alone, since this is where the high-risk people are likeliest to seek testing. **(These are first tests and therefore exclude repeat testing.)** The trend is: high-risk (gay) men seek testing (1985-1990), followed by increasing numbers of heterosexuals (particularly women), starting in the late 1980s. Then came Magic Johnson's revelation in the late fall of 1991, which deeply affected attendance levels for about 2 years (1992-1993). Then followed a period of sustained concern by heterosexuals, but at much lower levels (1994-1999).

HIV testing in the CTS: 1985-1999

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Tests	191	322	732	757	675	801	1284	2056	1726	1342	1374	1328	926	858	881
No. +	25	52	22	13	22	32	13	13	19	14	11	14	7	12	5
% +	13.0	16.0	3.0	1.7	3.3	4.0	1	0.6	1.1	1	0.8	1.0	0.8	1.4	0.6

Thus, 15,253 tests in CTS yielded 274 positives (1.8%) in the 14.5 years since the test became available (July 1985); the CTS alone has served to identify only 1 positive per month during the last 12 years.

In the STD Clinic proper, we see that while the number of folks accepting testing increased appreciably since 1987, the positivity rate has steadily declined. (All positive persons revealed recognized risk factors.) Overall, 7518 tests have been collected in STD Clinic, with 46 positives identified (less than 1%). As for the Drug Clinic (McMaster's), 691 tests have been collected since 1985, with 4 positives being identified (4/691 - or 0.6% - also less than 1%!).

HIV (Ab) testing in STD Clinic
(1985-1999)

	1985-86	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Tests	12	73	231	320	418	644	893	614	673	649	550	698	890	853
No. +	8	3	3	5	9	4	5	0	3	3	1	1	1	0
% +	75.0	4.1	1.3	1.6	2.2	0.6	0.6	0.0	0.4	0.5	0.2	0.1	0.1	0

HIV Testing in Adult Detention Centers

Although we have provided jail-based testing services on demand for at least 10 years, specially tagged computer data are only available starting in 1998.

Year	Metro Jail & CJC Facility	# positive
1998	189	1
1999	115	1

AIDS-virus infection in children:

Since the beginning of the epidemic, 15 children have been reported to us as being AIDS-virus infected; half are known to be alive, virtually all of whom are recently diagnosed (since 1993). "Age" means age at diagnosis, not current age.

(IDU = injecting drug user)

Year Reported	Gender	Age	Status	Route of Infection
1985	M	10 yr.	Dead	Transfusion (Hemophiliac)
1985	M	Newborn	Dead	Inf. Mother (Transfusion); Birth
1985	M	3 yr.	Dead	Inf. Mother (Transfusion); Birth
1988	M	3 yr.	Alive*	Inf. Mother (IDU); Birth
1990	F	Newborn	Dead	Inf. Mother (Ct. to IDU); Birth
1991	M	13 yr.	Dead	Transfusion (Hemophiliac)
1991	M	Newborn	Dead	Inf. Mother (Sex with HIV+); Birth
1992	F	6 mos.	Dead	Inf. Mother (Sex with HIV+); Birth
1993	M	10 yr.	Alive	Transfusion (Hemophiliac)
1993	F	Newborn	Alive	Inf. Mother (Sex with IDU)
1994	M	20 mos.	Alive	Inf. Mother (Risk Unknown: Arizona)
1994	F	3 mos.	Alive	Inf. Mother (Risk Unknown: Germany)
1995	F	9 yr.	Alive	Inf. Mother (Risk Unknown: as of now)
1996	F	9 yr.	Alive	Child Sexual Abuse (Infected by Dad?)
1998	F	1 yr.	Alive	Inf. Mother (IDU/Prostitute)

(Funny how there's about an equal number of males and females, yet the gender distribution clusters at the beginning (males) and at the end (females) of the Table!)

Passive maternal HIV antibody (not virus) transfer:

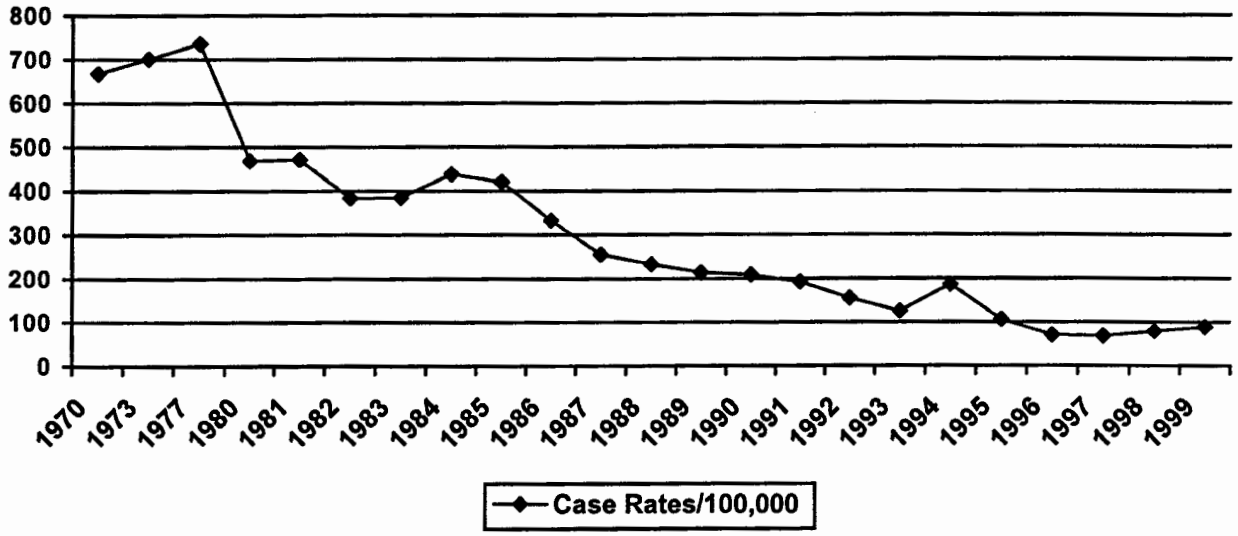
We also have records on 26 newborns whose mothers had HIV during their pregnancy. Of the 26, two are (temporarily) lost to follow-up, while the other 24 are not infected.

One was born in 1980, 1 in 1987, 1 in 1988, 1 in 1990, 4 in 1991, 4 in 1992, 1 in 1993, 3 in 1994, 2 in 1995, 2 in 1996, 4 in 1997, and 2 in 1999.

Part IV
GONORRHEA CONTROL

We report 442 cases of gonorrhea for calendar 1999, a 15% increase over 1998 (384 cases). This increase reflects intensified contact tracing: a little more than half (plus 48 cases) of the increase from 1998 to 1999 can be accounted for by superior contact tracing outcomes; the other half is unaccounted for but is not likely to represent intensified transmission because: 1) the male-to-female ratio is "improving" (fewer men, more women) and because we record the lowest proportion on record of "volunteers" (see 4 *Tables* below, 50.4%), who tend to represent incident cases.

Gonorrhea Case Rates Per 100,000



Contact interviewing activity
(1977-1999)

Contact interview levels nearly reached the 90 percent benchmark and the contact index (average number of contacts elicited per case) is at the expected level.

Year	Averages 77-79	Averages 80-82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
% Intrvwd	70	93	97	94	89	90	91	90	90	93	95.2	92.1	89.2	73.6	81	85.5	81.5	90.1	88.7
Ct Index	1.35	1.87	1.8	1.8	1.7	1.8	1.7	1.5	1.6	1.65	1.73	1.81	1.55	1.52	1.54	1.61	1.53	1.77	1.5

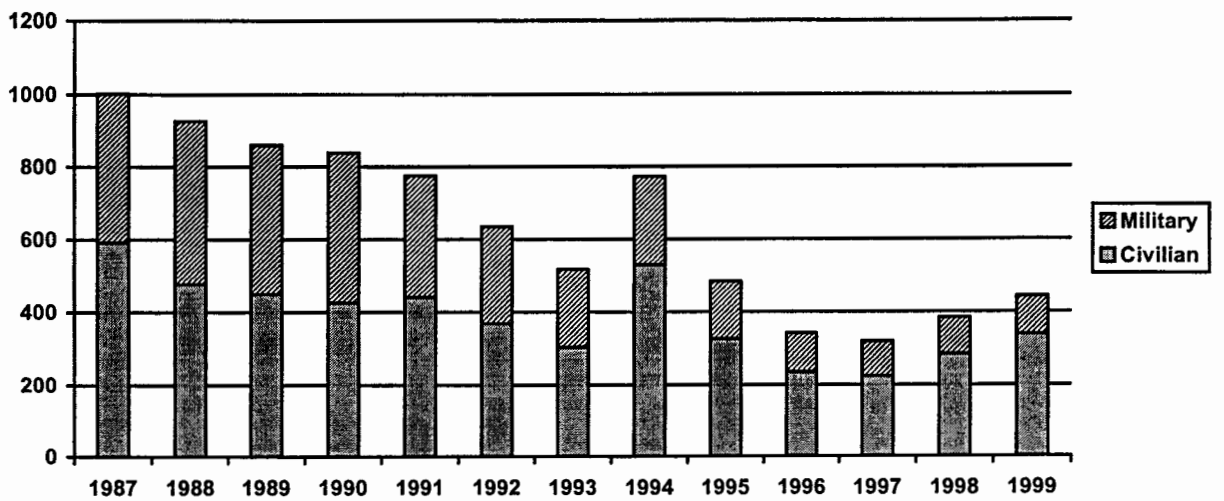
Gonorrhea contact tracing (1980-1999)

One hundred seventeen (plus 48 cases over 1998's 69) cases were newly identified as a consequence of contact tracing during 1999, a strong numerical and proportional improvement in new cases identified compared to the previous few years (1995-1998). The high number of unlocated ("Not examined") contacts may reflect the epidemiology of the disease as it becomes more focal in the community: concentrating in the most difficult to reach folks. Remember that (see graph directly above) gonorrhea has been, for a few years, at record low levels.

Local Contacts to Gonorrhea: Outcomes

Year	New Cases	Percent	Not Infected	Percent	Not Examined	Percent	Tot. Sought	Percent
1980-82	380	29.6	500	38.9	405	31.5	1285	100.0
1983	357	25.9	567	41.1	456	33.0	1380	100.0
1984	475	29.8	637	40.0	481	30.2	1593	100.0
1985	375	23.5	593	37.2	627	39.3	1595	100.0
1986	276	22.4	490	39.7	468	37.9	1234	100.0
1987	226	25.6	427	48.3	231	26.1	884	100.0
1988	197	30.1	269	41.1	188	28.8	654	100.0
1989	150	23.7	312	49.3	171	27.0	633	100.0
1990	239	30.0	389	49.0	166	21.0	894	100.0
1991	214	29.7	361	50.1	145	20.1	720	100.0
1992	222	31.1	347	48.5	146	20.4	715	100.0
1993	136	35.0	150	38.5	103	26.5	389	100.0
1994	157	33.1	152	32.1	165	34.8	474	100.0
1995	78	22.5	143	41.2	126	36.3	347	100.0
1996	47	21.8	82	38.0	87	40.2	216	100.0
1997	44	22.2	77	38.9	77	38.9	198	100.0
1998	69	35.2	83	42.3	44	22.5	196	100.0
1999	117	26.4	132	29.8	194	43.8	443	100.0

Gonorrhea case distribution
1987-1999



Gonorrhea morbidity is increasingly a civilian phenomenon. For the last quarter century, the military gonorrhea burden tended to dominate the local scene, with 40-45% of cases being reported from the military sector. During the last few years, a notable decline has occurred; the military now accounts for about a quarter of cases, with Fort Carson reporting one third the burden it reported during the late 1980s.

The number and proportion of gonorrhea cases diagnosed in teens has been stable for 2 years -- a bit higher than we like to see it, but not really troublesome.

Gonorrhea in Teens
(Since AIDS)

Year	Total Gonorrhea	Total in Teens	%
1981	1537	336	21.9
1982	1263	281	22.2
1983	1280	246	19.2
1984	1525	350	23.0
1985	1530	341	22.3
1986	1265	304	24.0
1987	1002	229	22.9
1988	927	214	23.1
1989	861	248	28.8
1990	840	247	29.4
1991	776	237	30.5
1992	635	207	32.6
1993	517	150	29.1
1994	773	246	31.8
1995	484	135	27.9
1996	342	92	26.9
1997	319	104	32.6
1998	384	145	37.8
1999	442	146	33.0

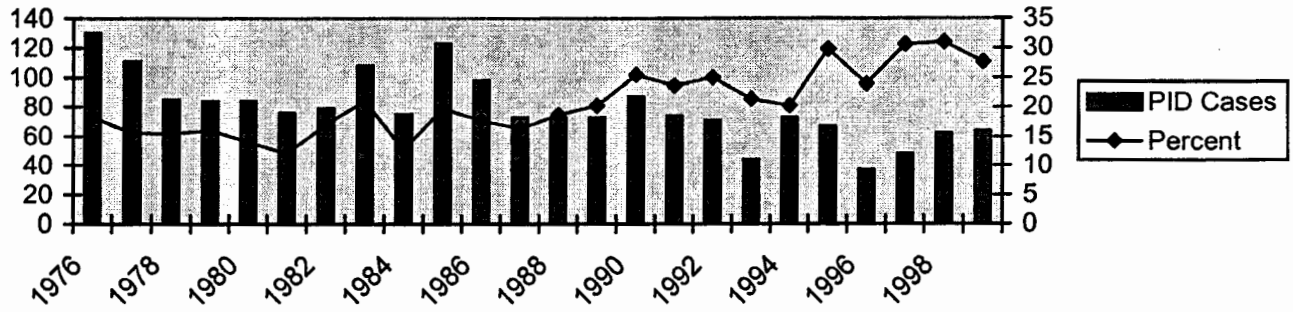
Gonorrhea: Reason for Presentation (Epidemiologic category)

The following data reinforce our assertion that weaknesses in control efforts are not related to observed increase in case reports.

Year	Volunteer	Percent	Screen	Percent	Contact	Percent	Total Cases	Percent
1984	838	55.0	170	11.1	517	33.9	1525	100.0
1985	870	56.9	210	13.7	450	29.4	1530	100.0
1986	680	53.8	192	15.2	393	31.0	1265	100.0
1987	537	53.6	159	15.9	306	30.5	1002	100.0
1988	502	54.2	140	15.1	285	30.7	927	100.0
1989	485	56.3	133	15.5	243	28.2	861	100.0
1990	498	59.3	118	14.0	224	26.7	840	100.0
1991	426	54.9	122	15.7	228	29.4	776	100.0
1992	344	54.2	107	16.8	184	29.0	635	100.0
1993	269	52.0	125	24.2	123	23.8	517	100.0
1994	409	52.9	148	19.1	216	28.0	773	100.0
1995	292	60.3	72	14.9	120	24.8	484	100.0
1996	212	61.9	43	12.5	87	25.6	342	100.0
1997	192	60.3	49	15.3	78	24.3	319	100.0
1998	215	56.0	71	18.5	98	25.5	384	100.0
1999	223	50.4	103	23.3	116	26.2	442	100.0

Gonoccocal pelvic inflammatory disease

The notable datum is the percentage recorded for the last dozen years: between 20-30% of all women with gonorrhea have signs or symptoms of PID. We suspect this has to do with the kind of woman who is currently getting GC: living a rough life.



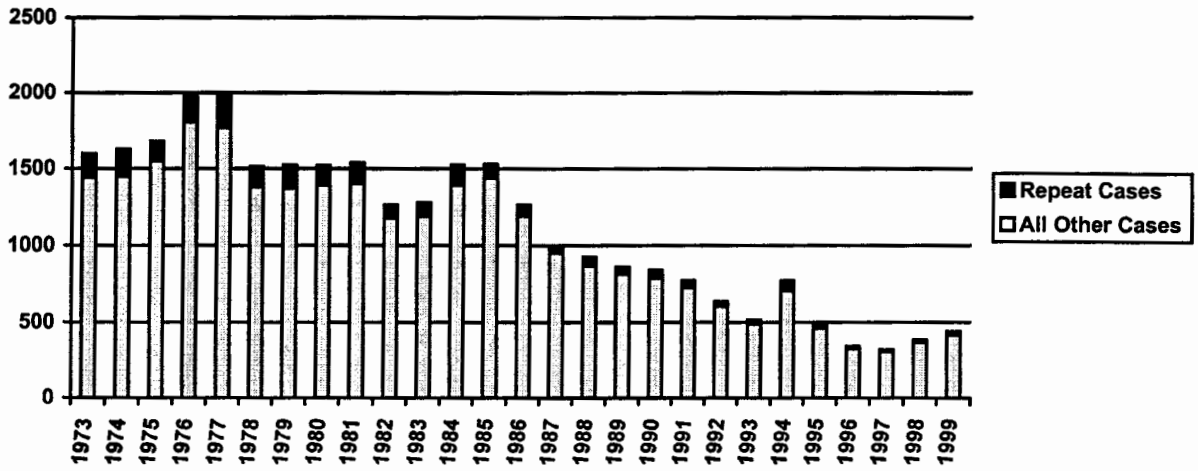
Urethrally asymptomatic men

Men with inapparent infection have traditionally been vigorously pursued in El Paso County: the consistency in the trend is best viewed from the column at the far right. The large increase noted during 1999 probably reflects superior contact tracing, since most asymptomatic men are identified this way rather than by screening.

Year	Asymptomatic	All Men	Pct. Asymptomatic
1981	143	927	15.4
1982	116	814	14.3
1983	131	777	16.9
1984	139	936	14.9
1985	126	907	13.9
1986	106	712	14.9
1987	101	554	18.2
1988	92	534	17.2
1989	82	500	16.4
1990	78	513	15.2
1991	57	451	12.6
1992	61	354	17.2
1993	38	310	12.3
1994	70	412	17.0
1995	34	262	13.0
1996	24	187	12.8
1997	27	162	16.7
1998	28	184	15.2
1999	52	211	24.6
	1505	9707	

Gonorrhea repeat cases

The contribution to the gonorrhea burden made by repeaters is very low and in keeping with the substantial declining recorded trend. (Can't blame the 1998-1999 case increase on repeaters or the poor control efforts such data would imply.)



Gonorrhea cases in African-Americans

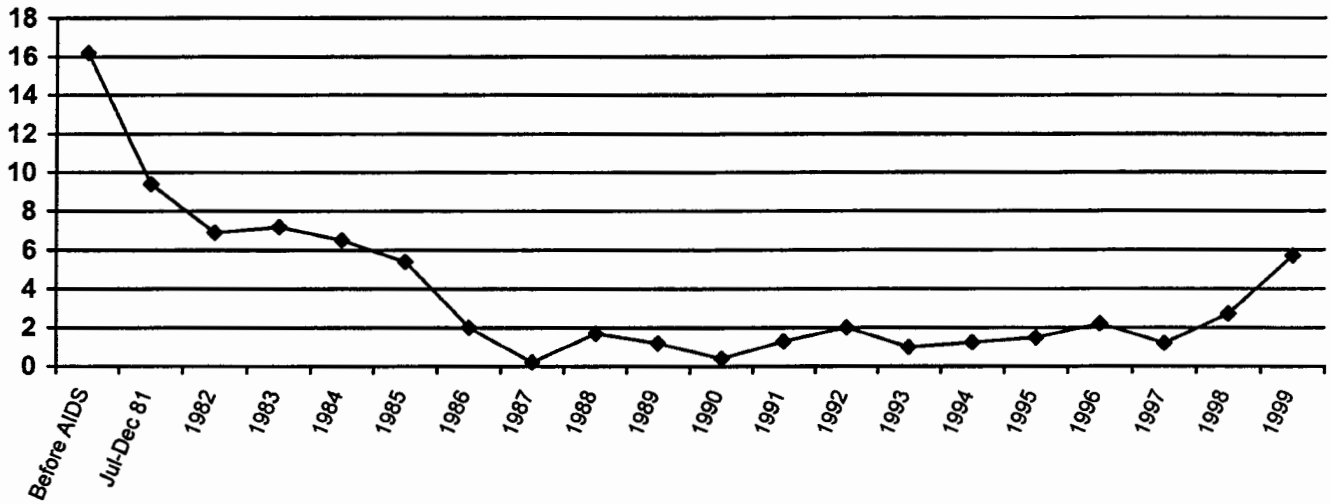
About 60% of all GC cases affect African-Americans, although the actual numbers have declined by a factor of 2 or 3 since the mid-1980s.

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Number	743	637	519	542	532	576	546	381	326	484	288	194	204	249	256
Percent	48.6	50.4	52.0	58.5	61.8	68.6	70.3	60.0	63.0	66.0	61.0	60.0	64.0	64.8	60.4

Gonorrhea in homosexual men (since AIDS)

Twelve of 211 GC episodes in men were acquired homosexually during 1999. This represents a potentially worrisome increasing trend. Perhaps gay men worry about HIV less than since the mid-1980s. In any event, the background low (between zero and 2 percent of all male cases) rate is heading north again, reaching nearly 6% in 1999. Not a good sign even though the numbers are small.

Percent of male gonorrhea cases in gay men



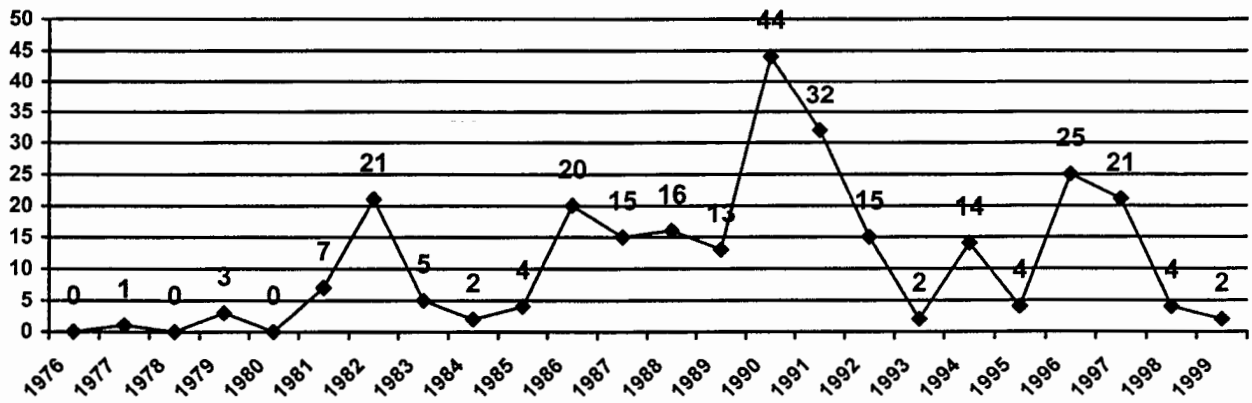
PPNG (penicillinase-producing N. gonorrhoeae) cases:

During 1999 we recorded 2 cases of PPNG. And although the number of cases is modest, the trend is for an increasing proportion by ten-year period (PPNG was discovered in 1976 and the first local case diagnosed in 1977). The graph below illustrates the vicissitudes of this trend; fluctuations may have a great deal to do with small numbers (shown on graph).

PPNG By 10-Year Period and Recently

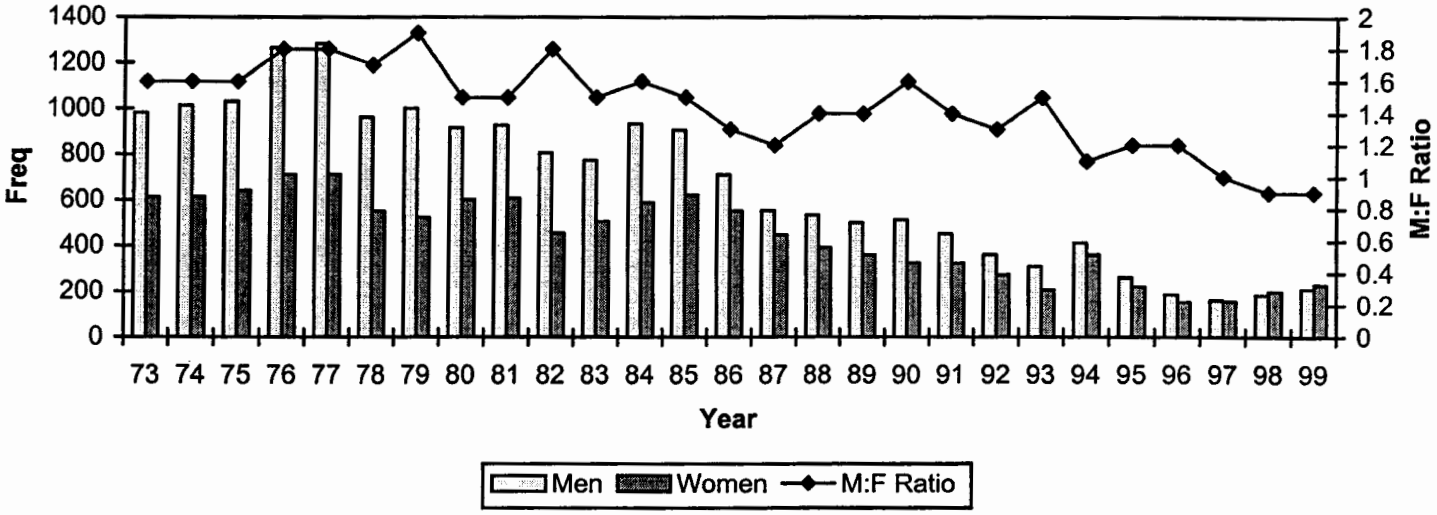
Years	PPNG Cases	Total Gonorrhea	Percentage of all GC
1977-1986	63	16,939	0.37
1987-1996	180	8,100	2.2
1997-1999	27	1,145	2.4

PPNG cases By Year (since their discovery)



Male-to-female ratio: Gonorrhea

This ratio is not only at all-time low levels it is, for the second year in a row, below parity! This argues for both diminished incidence (infected men, because they tend to show symptoms are good indicators of fresh transmission) good control efforts (women are being detected through good screening and contact tracing).



Part V

OTHER STD PROGRAM DATA/MISCELLANEOUS

Juvenile Detention Centers: Screening Program

As part of our effort to concentrate STD control resources on high-risk populations, we initiated an STD screening program at local juvenile detention centers in April 1997. Note that although the number of females screened more than doubled, the number of chlamydia (CT) cases remained the same, as did gonorrhea (GC) -- a finding essentially true for men as well. The fact that, in these very high-risk teens, the number of cases is essentially stable, while the rate of positivity is declining (especially for women), provides additional evidence that substantial local transmission of chlamydia and gonorrhea is not really occurring.

Juvenile Detention Gonorrhea & Chlamydia Screening

	Males					Females				
	Tests	CT Pos.	Percent	GC Pos.	Percent	Tests	CT Pos.	Percent	GC Pos.	Percent
1997	285	24	8.4	4	1.4	86	19	22.1	3	3.4
1998	320	27	8.4	6	1.9	160	20	12.5	2	1.3
1999	550	38	6.9	4	0.7	195	18	9.2	2	1.0

STD contact interviews: 1973-1999

We (along with our military colleagues) have conducted nearly 36,000 contact interviews since 1973. Notice the large increases in total interviews during the last few years.

Year	Civilian Gonorrhea	Ft. Carson Gonorrhea	Syphilis (All)	Civilian Chlamydia	Military Chlamydia	HIV/AIDS	Total
1973	339	420 Est.	48				807
1974	316	400 Est.	41				757
1975	334	404 Est.	35				773
1976	309	554 Est.	26				889
1977	424	520 Est.	14				958
1978	382	570	22				974
1979	693	645	18				1356
1980	759	574	18				1351
1981	843	635	19				1494
1982	617	620	17			1	1255
1983	693	552	15				1260
1984	780	644	27				1451
1985	749	619	29			14	1411
1986	671	467	30			90	1258
1987	556	355	13			47	971
1988	442	395	9	419	234	57	1556
1989	418	358	17	290	355	61	1499
1990	424	357	21	523	336	65	1726
1991	445	294	27	703	421	49	1939
1992	339	246	13	571	481	52	1702
1993	267	194	28	517	475	44	1525
1994	336	233	12	431	449	55	1516
1995	248	144	15	355	359	23	1144
1996	206	99	9	742	301	37	1394
1997	189	86	3	715	329	32	1354
1998	259	95	1	757	502	22	1636
1999	296	94	1	838	577	18	1824
Total	12305	10571	528	6861	4819	667	35780

Outreach: field investigations

More than 60,000 client-tracing investigations have been completed since 1973. The nearly 65% increase since 1995 is due almost entirely to intensified case-finding surrounding chlamydia and gonorrhea infections (because of additional case-finders since mid-1995).

Note: The categories "Gonorrhea, Syphilis, and Chlamydia" include only contacts (sexual partners) to these diseases.

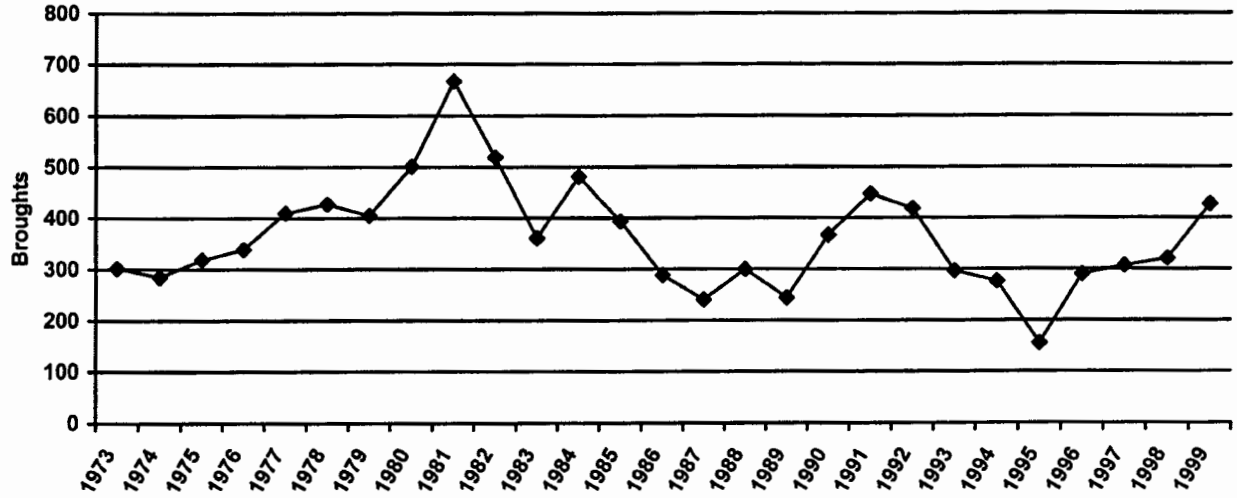
Year	Gonorrhea	Syphilis	Chlamydia	Other*	HIV**	Total
1973	892	114	N/A	405	N/A	1411
1974	805	114	N/A	441	N/A	1360
1975	719	124	N/A	633	N/A	1476
1976	979	78	N/A	718	N/A	1775
1977	1199	53	N/A	530	N/A	1782
1978	870	92	N/A	580	N/A	1542
1979	1032	33	N/A	583	N/A	1648
1980	1256	46	N/A	572	N/A	1874
1981	2205	41	N/A	483	N/A	2729
1982	1307	29	N/A	446	N/A	1782
1983	1754	41	N/A	449	N/A	2244
1984	2078	45	N/A	472	N/A	2595
1985	2038	49	N/A	532	25	2644
1986	1519	59	N/A	538	307	2423
1987	1042	24	7	456	96	1625
1988	757	32	570	577	246	2182
1989	792	36	498	446	320	2092
1990	1051	37	946	716	331	3081
1991	916	66	1148	921	419	3470
1992	854	68	979	900	249	3050
1993	445	59	836	603	239	2182
1994	611	25	777	841	242	2496
1995	400	18	720	614	185	1937
1996	370	28	1438	626	304	2766
1997	311	17	1255	815	202	2600
1998	433	26	1218	827	239	2743
1999	574	9	1592	787	211	3173
Total	27209	1363	11984	16511	3615	60682

* Follow-up for positive syphilis serologies, positive GC and chlamydia tests, and test-of-cure follow-ups.

** Contacts to HIV and positive ELISA test follow-ups

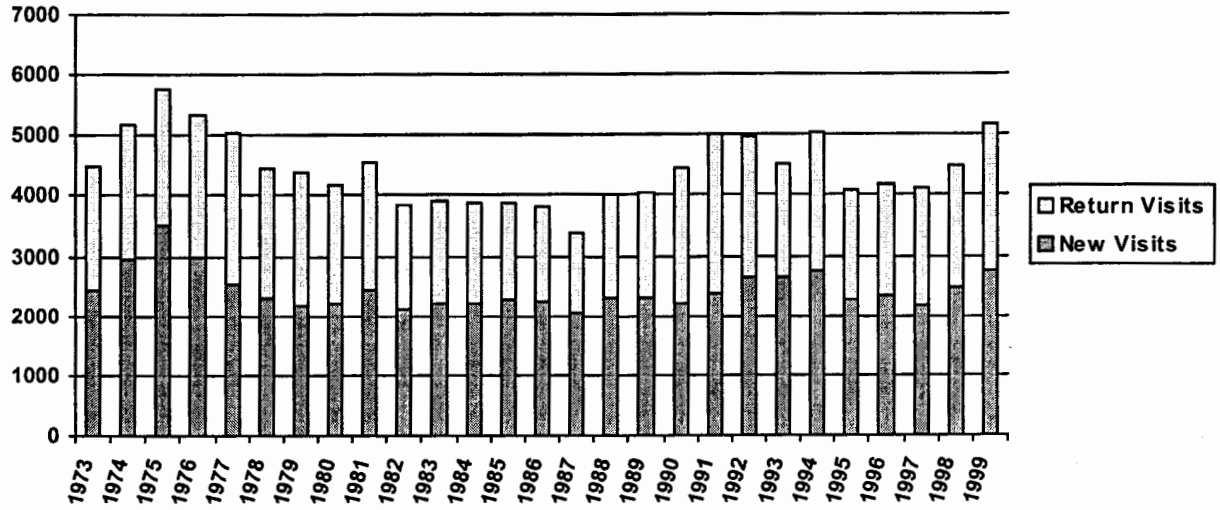
Newly identified STD cases
(1973-1999)

STD patient interviewing and the tracing of named partners occasioned the identification of 9786 new cases (called "broughts", short for brought-to-treatment in jargon) since 1973, or about one per calendar day. The large increases since 1995 can be attributed to increased staff (since mid-1995) to fight chlamydia and to superior chlamydia tests, introduced in mid-1996.



STD Clinic Attendance

STD Clinic attendance has been pretty stable for years, with between 4,000 and 5,000 annual visits (Mean= about 4,400). The notable increase in clinic attendance during 1999 is directly related to superior contact tracing efforts, since most contacts to STD are referred to our clinic for medical examination.



27 Year Total	Mean Per Year
120,129	4449

Non-reportable STDs in STD Clinic

Non-reportable STDs were first systematically recorded in 1982. These data are not catholic, because only STD Clinic information is included. In addition, they are soft, because neither diagnostic nor surveillance criteria are rigorous. They are presented mainly as rough trend indicators.

MEN: Note the decline in urethritis ("NGU/Chlamydia") since the mid-1990s, despite increased contact tracing and superior tests for chlamydia (from mid-1996 on).

WOMEN: The best (not influenced by testing artifacts) indicator is trichomoniasis. Note the spectacular decline since the early 1980s, when AIDS was first reported.

Infection: MEN

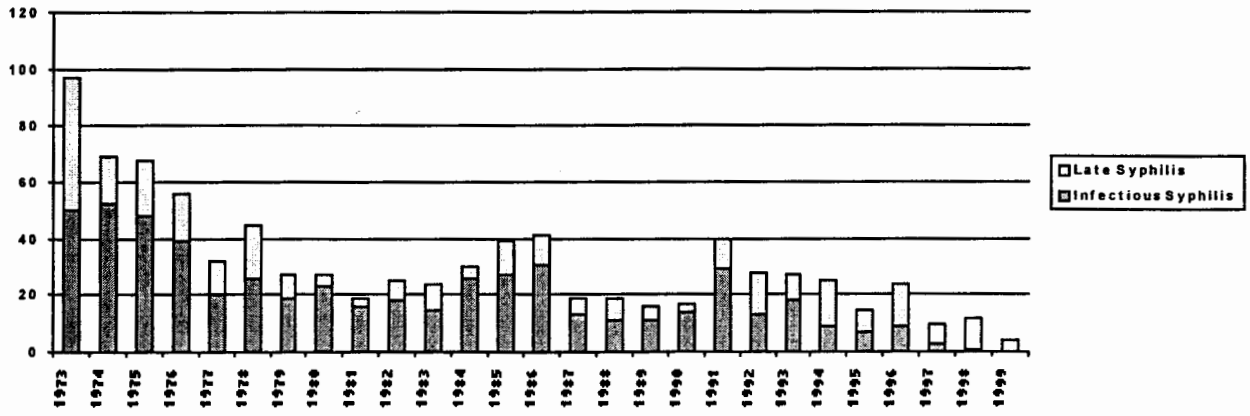
	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
NGU/Chlamydia	569	552	512	447	419	416	489	383	477	667	696	675	766	436	484	498	520	469
Herpes	70	83	34	32	59	49	42	28	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Venereal Warts	131	185	127	132	172	119	244	252	310	228	292	256	303	157	102	84	97	190
Scabies	17	21	15	10	19	21	15	25	10	20	29	23	25	35	25	17	12	7
Phithirus Pubis	56	59	44	50	41	54	40	43	38	43	43	40	24	19	22	13	15	8
Totals	843	900	732	671	710	659	830	731	838	958	1060	994	1118	647	633	612	644	674

Infection: WOMEN

	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
Chlamydia	N/A	N/A	N/A	N/A	N/A	N/A	175	151	195	275	216	203	206	136	171	208	254	255
Trichomoniasis	461	492	390	275	112	115	103	99	79	101	97	103	116	89	103	92	107	116
Monilia	456	463	391	318	110	188	231	284	279	315	320	271	242	235	243	175	185	157
NSV	250	279	257	233	297	240	337	435	474	633	685	548	551	408	487	531	688	681
Herpes 1st (Episode)	51	59	25	18	38	33	35	25	13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Venereal Warts	55	62	49	76	72	61	117	88	112	115	181	195	207	84	73	53	37	79
Scabies	4	4	3	4	9	4	10	11	6	13	11	8	11	17	11	7	5	6
Phithirus Pubis	29	31	22	17	29	24	22	36	31	30	31	29	31	20	17	2	7	5
Totals	1306	1390	1137	941	667	665	1030	1129	1189	1482	1541	1357	1364	989	1105	1068	1283	1299

Syphilis

In the early 1970s, the rate was about 22 cases/100,000; the current (infectious syphilis) rate



is nearly 100 times lower: 2 cases per million! For the first time on record, NO case of infectious syphilis was recorded in 1999. FAR OUT! (And good riddance!)

Part VI
STD/HIV and Prostitute Women (1970-1999)

Conscientious measures to control STD among local prostitute women began in June, 1970 with the introduction of mandatory gonorrhea and syphilis testing for arrested prostitutes (the so-called "Health Hold Order") and the application of contact tracing and street ethnography. The Health Hold Order was relinquished after a quarter of a century of use, effective 1/1/95 (because positivity rates and other epidemiologic information no longer supported the idea that much transmission of STD or bloodborne infections could be attributed to these women). The notable decline in clinic visits by prostitutes is attributable in largest measure to abandonment of the Health Hold Order system and, in some measure, to declining numbers of prostitutes locally (by about 40% during the 1990s).

As the following (inelegant but informative) Table shows, the proportion of positive tests for gonorrhea was typically about 24% during the 1970s, 13% during the 1980s, and 4% (or lower) thereafter. As for chlamydia, the initial yearly prevalence of 6% reached a temporary high of 12% the following year, and stabilized at about 5% annually during the 1990s.

As for HIV infection (data not shown), 732 (95%) of 768 women with histories of prostitution (here or elsewhere, currently or formerly) have been tested for HIV at our facilities since the summer of 1985 (when the test became available) and 28 (3.8%) have been positive. The positivity rate for women who ever practiced prostitution locally (3.8%) is lower by a factor of nearly two compared to women who practiced elsewhere (6.8%).

As for risk factors, 24 (86%) of the 28 HIV-infected women admitted to a history of injecting drug use and 4 didn't (we feel that at least two lied).

Gonorrhea & Chlamydia in Local Prostitutes

Year	Original Visits (#)	Gonorrhea Cases (#)	Percent Positive	Chlamydia Cases (#)	Percent Positive
1970	105	42	40.0		
1971	164	52	31.7		
1972	226	53	23.5		
1973	154	42	27.3		
1974	142	34	23.9		
1975	171	51	29.8		
1976	341	119	34.9		
1977	311	57	18.3		
1978	348	32	9.2		
1979	204	36	17.6		
1980	228	21	9.2		
1981	186	35	18.8		
1982	197	27	13.6		
1983	214	31	14.5		
1984	258	23	8.9		
1985	254	27	10.6		
1986	174	33	19.0		
1987	169	19	11.2	4 of 66	6.0

1988	195	21	10.8	17 of 138	12.3
1989	192	24	12.5	15 of 150	10.0
1990	157	4	2.5	9 of 144	6.3
1991	148	7	4.7	11 of 148	7.4
1992	150	4	2.5	7 of 148	4.7
1993	114	6	5.2	3 of 112	2.7
1994	133	10	7.5	7 of 130	5.4
Totals for the 25 Years of the Health Hold Order System					
Total	4935	810	16.4	73 of 1036	7.0
1995	99	1	1.0	4	4.0
1996	115	3	2.6	8	7.0
1997	82	0	0.0	6	7.3
1998	65	0	0.0	1	1.5
1999	77	3	3.9	4	5.2
Totals for 5 Years Since End of Health Hold System					
Total	438	7	1.6	23	5.3

The above data are clinic-based and representative of community-based incidence between 1970 and 1994. With fewer prostitutes being required to attend our clinic after 1994, STD diagnoses are increasingly likely to be made in private or hospital based practices. To develop a community-based sense of chlamydia and gonorrhea incidence among women known to be prostitutes, we examined disease reports from all report sources (public, private, military) since 1995. This procedure involves matching names in our prostitution database (N=2000) with corresponding patients in our global STD database.

Years 1995 through 1999

Gonorrhea		Chlamydia	
Cases in Prostitutes	Overall cases	Cases in Prostitutes	Overall cases
20	1971	34	7285

Thus, about 1% of all community gonorrhea and 0.5% of chlamydia cases are known to be diagnosed in prostitute women. These data support our impression that prostitutes have virtually nothing to do with sustaining STD/HIV transmission locally.

Part VII
Presentations, medications & condom distribution

Presentations

In 1999, 39 formal presentations were recorded, with a total audience of 1118 (excluding radio/television audiences). Demand for such presentations was highest during the late 1980s and early 1990s, when concern about HIV ("AIDS Hysteria") was at its peak.

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Talks	110	132	127	113	117	128	95	69	101	58	44	63	39
Audience	3683	6847	5462	5165	5065	5358	4778	2334	3558	1761	1026	2022	1118

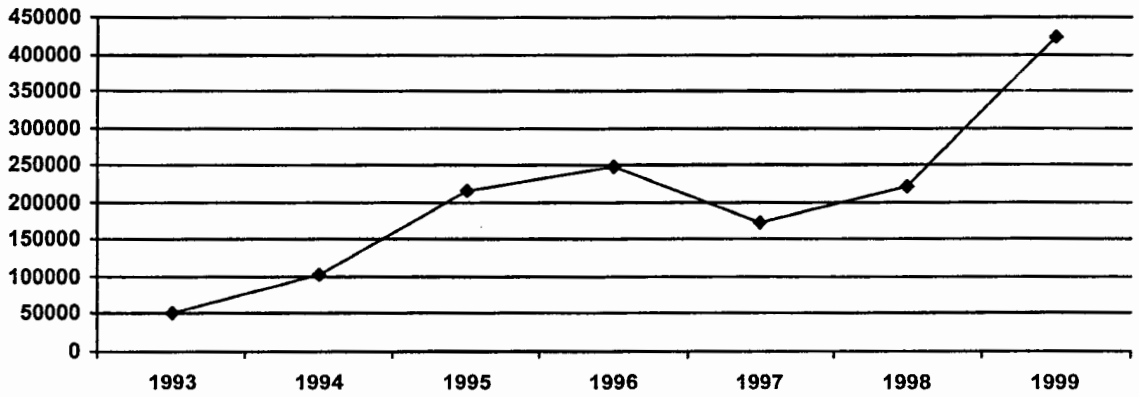
Summary of medications used in STD Clinic

All medications are provided by our State health department, except metronidazole and benadryl.

	1995	1996	1997	1998	1999
Bicillin (1.2 m.u.)	48 Syringes	88	47	34	46
Spectinomycin (2g)	2 Vials	0	3	1	0
Benadryl (50mg)	400 Capsules	0	0	unk	unk
Erythromycin (250mg)	10772 Tablets	7502	5948	5400	3526
Rocephin (250mg)	10 Vials	8	7	11	22
Doxycycline	25948 Capsules	21618	24244	20988	24734
Suprax (440mg)	666 Tablets	785	640	641	730
Metronidazole (500mg)	3640 Tablets	4260	860	1020	6148
Ofloxacin	274 Tablets	410	100	30 Est.	70
Zithromax	None	65	200	286	364

Condom Distribution Program

An active program of condom distribution in high risk settings was initiated in late 1987 (See: Morbidity and Mortality Weekly Report of 14 February 1992, pp 94-95, 101). Especially targeted were prostitutes on "the stroll" (streets), along with their customers; men patronizing gay bars; In-(Drug Clinic) and Out-(street outreach) -Of-Treatment injecting drug users; and folks affiliated with street gangs. Good records, as opposed to anecdotal guesses or estimates, have been maintained since 1993, when we moved into the new facilities on South Union.



There is a powerful temporal association between our assertive condom distribution efforts in targeted community settings and the pronounced, sustained declines in all STD/HIV in El Paso County during the 1990s. We estimate that, overall, we've distributed between 1,750,000 and 2,000,000 condoms (about 120,000 dollars) in 12 years. (Money to pay for condoms comes not from tax money but from client donations and fees.)

Reported Gonorrhea cases, 1973-1999

YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	Monthly Average	Annual Total
1973	175	150	102	93	122	122	134	149	188	124	146	93	133	1598
1974	110	79	108	133	138	143	203	198	127	155	101	134	135	1629
1975	133	138	122	145	116	126	191	186	171	124	82	146	140	1680
1976	140	119	154	138	158	155	185	174	246	131	213	165	165	1978
1977	193	117	133	182	161	215	134	193	149	145	212	164	167	1998
1978	143	124	107	128	112	134	119	136	129	137	137	118	126	1515
1979	161	106	97	106	105	117	130	175	166	117	136	109	127	1525
1980	164	149	73	118	109	122	156	170	98	118	126	117	127	1520
1981	117	120	126	118	140	174	137	148	99	144	128	86	128	1537
1982	95	96	98	83	94	127	115	149	118	97	94	97	105	1263
1983	113	97	108	97	87	98	118	110	128	148	90	86	107	1280
1984	96	115	161	127	105	113	153	142	113	133	131	136	127	1525
1985	98	96	98	138	132	127	179	155	127	157	97	126	128	1530
1986	97	96	96	98	94	99	99	148	119	124	97	98	105	1265
1987	79	80	98	93	98	98	99	92	73	67	58	66	83	1001
1988	92	75	72	58	79	79	59	86	86	88	94	58	77	926
1989	56	40	59	75	66	79	77	93	85	81	80	70	72	861
1990	69	35	39	67	76	62	68	97	71	87	85	84	70	840
1991	70	60	66	52	63	86	49	52	88	80	58	52	65	776
1992	54	65	72	40	53	35	52	60	39	78	32	54	53	634
1993	29	39	26	29	25	47	37	70	33	51	36	95	43	517
1994	74	27	56	50	43	65	102	100	63	74	55	64	64	773
1995	59	57	29	34	47	47	50	35	29	38	40	22	40	484
1996	30	24	34	18	20	27	38	44	23	25	28	31	29	342
1997	19	24	24	31	26	29	27	35	33	27	14	30	27	319
1998	24	25	32	37	26	27	30	33	45	34	28	42	32	384
1999	47	38	39	37	46	32	27	41	36	35	32	32	37	442

Monthly V.D. Clinic and Laboratory Report: El Paso County Department of Health & Environment, 1999

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	YEAR TOTAL	# Pos.	% Pos.
Testing:															
HIV (Ab)	179	208	256	257	156	210	223	222	165	176	155	177	2384		
HIV (cumulative)													30539		
RPR	330	277	395	315	319	313	307	310	289	332	295	273	3755	26	0.7
FTA	2	1	1	2	1	4	1	2	4	2	1	1	22	12	54.5
GC Culture:															
VDC Men	201	163	221	161	155	174	161	177	170	169	178	171	2101	103	4.9
VDC Women	183	163	237	197	200	184	190	196	181	221	190	177	2319	69	3
PNC Women													485	3	0.6
FPC Women													370	9	2.4
CHLAMYDIA: Men	201	163	221	162	155	174	162	176	170	168	178	171	2101	298	14.2
CHLAMYDIA: Women	183	163	237	197	200	185	190	195	180	221	189	176	2316	255	11
CHLAMYDIA TX/EPI	72	119	168	113	111	106	115	141	139	138	111	80	1413		
GC TREAT.	19	16	16	12	15	13	12	11	12	18	18	11	173		
GC PREV-TREAT.	43	40	70	29	26	25	32	28	35	39	27	27	421		
LUES TREAT.	0	3	0	1	2	2	1	2	0	2	1	2	16		
LUES PREV-TREAT.	0	2	0	0	0	0	0	0	1	0	1	0	4		
NON - V.D. TREAT.	74	32	79	25	15	37	54	50	73	111	100	81	731		
# of Clinics per month	12	12	14	13	13	13	13	13	13	13	12	12	153		

Chlamydia Cases by Source, Age and Race
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	AGECLASS							RACE							
	?	< 14	14-19	20-24	25-29	30-39	40+	W	H	B	AI	OPI	OTH	?	ALL
	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
RPTSRC															
Private Male	.	.	27	16	17	10	2	21	19	23	1	.	.	8	72
Private Female	.	2	170	117	31	13	2	155	65	71	1	3	.	40	335
VDC Male	.	.	83	146	56	25	13	105	55	155	5	3	.	.	323
VDC Female	.	2	115	91	38	17	3	118	49	83	4	11	1	.	266
Carson Male	1	.	45	148	59	15	2	88	27	144	1	4	1	5	270
Carson Female	1	.	95	116	55	19	1	127	28	104	2	8	.	18	287
Air Frc Male	.	.	4	21	1	3	.	12	1	13	.	.	.	3	29
Air Frc Female	.	.	26	27	9	2	2	29	3	18	.	2	1	13	66
FPC/PN Male	.	.	1	1	.	.	.	2	.	.	.	.	.	.	2
FPC/PN Female	.	.	57	40	12	4	1	40	34	35	2	3	.	.	114
CHC Male	.	.	1	.	.	.	.	.	.	1	.	.	.	.	1
CHC Female	2	.	36	19	7	3	.	19	15	19	.	1	.	13	67
Pl Prnt Male	.	.	1	.	.	.	.	1	.	.	.	.	.	.	1
Pl Prnt Female	.	.	7	8	3	.	1	9	1	5	.	3	.	1	19
Oth pub Male	.	.	3	7	2	.	.	.	1	11	.	.	.	.	12
Oth pub Female	.	.	6	1	.	.	.	1	.	5	.	.	.	1	7
ALL	4	4	677	758	290	111	27	727	298	687	16	38	3	102	1871

	AGECLASS							RACE								
	?	< 14	14-19	20-24	25-29	30-39	40+	W	H	B	B/H	AI	OPI	OTH	?	ALL
	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
RPTSRC																
Private Male	.	.	6	14	4	11	3	16	3	16	1	.	.	.	2	38
Private Female	.	.	35	35	9	8	4	30	8	41	.	1	2	1	8	91
VDC Male	.	.	30	43	13	20	5	14	10	86	.	1	.	.	.	111
VDC Female	.	2	33	16	9	8	1	26	13	28	.	1	1	.	.	69
Carson Male	.	.	7	33	14	3	.	10	4	42	.	.	.	.	1	57
Carson Female	.	.	18	13	6	1	.	12	1	22	.	.	.	.	3	38
Air Frc Male	.	.	.	2	.	.	.	.	.	2	.	.	.	.	.	2
Air Frc Female	1	.	1	2	2	.	.	.	.	4	.	.	.	.	2	6
FPC/PN Female	.	.	6	4	1	1	.	6	2	4	.	.	.	.	.	12
CHC Female	.	.	6	1	1	1	.	.	2	5	.	.	.	.	2	9
Pl Prnt Female	.	.	3	1	.	.	.	2	.	2	.	.	.	.	.	4
Oth pub Male	.	.	1	2	.	.	.	.	.	3	.	.	.	.	.	3
Oth pub Female	.	.	.	1	.	1	.	1	1	.	.	.	.	.	.	2
ALL	1	2	146	167	59	54	13	117	44	255	1	3	3	1	18	442