EL PASO COUNTY HEALTH DEPARTMENT
501 North Foote Avenue
Colorado Springs, Colorado 80909-4598

ANNUAL REPORT
Sexually Transmitted Diseases/AIDS Programs
January 1, 1990 - December 31, 1990

"It is certain that either wise bearing or ignorant carriage is caught, as men take diseases, one of another; therefore let men take heed of their company."

Shakespeare

Henry the Fourth
Part Two: V, 1, 83-86

"The crisis of today is the joke of tomorrow"
H.G. Wells

This Report is dedicated to Steve Muth and Elizabeth Mattas:

Steve, our system analyst, created the computer data bases from which most of Part I (HIV) data are derived. His elegant solutions have made data retrieval and presentation a snap. Even dummies (our case) can use his data bases successfully.

Elizabeth tirelessly (and cheerfully!) maintains and cleans up these databases- a relentless task. Thanks, guys...

INTRODUCTION

This document is principally a repository of dull numerical data. We like to have a lot of it in one place so that we don't have to look in a zillion places to find basic information. It is remarkable for its dearth of statistical analysis beyond the powerful percentage statistic. There are two reasons for that: 1) "If it ain't in the percentages, it ain't there", according to my statistics teacher; and 2) statistical analysis and graphic presentation take time and energy, neither of which is in abundant supply given our myriad projects. In consolation to the disappointed reader, we assure you that if there is something worthwhile pursuing, it'll be properly analyzed (with an eye to publication, as we've done so often in the past).

The strenghths of our program have traditionally been in data collection, trend interpretation, and fine disease control efforts, not in data presentation. Our presentations are on the Babylonian level (very antiquated), but at least they are comparable year after year.

Note: Our view of the future of the HIV epidemic (see conclusion of Part I) will explain the quote by H.G. Wells.

CONTENTS

I. AIDS/HIV Control.....pp 1-10

II. Gonorrhea Control.....pp 11-18

III. Chlamydia Control.....pp 19-22

IV. Miscellaneous STD.....pp 22-26

V. The Tables.....p 26ff

Part I

AIDS Proper: A brief profile

At least 124 persons (120 adults, 1 adolescent, and 3 children) with full-blown AIDS have lived in El Paso County since the first reported case in the summer of 1982. Two-thirds (83/124) are known to be dead. One hundred AIDS cases were counted locally, while 24 were diagnosed and counted elsewhere in the U.S.

The Pikes Peak region, comprising about 12 percent of the State's population, has recorded about 6 percent (100 of 1598) of overall cases counted in Colorado.

AIDS Cases Having Resided Locally
(1982 through 1990)

	Counted Locally			Counted Elsewhere			Grand Total		
	Cases	Dead	Mortality	Cases	Dead	Mortality	Cases	Dead	Mortality
'82	1	1	100%	0	0	100%	1	1	100%
'83	0	-	-	3	3	100%	3	3	100%
'84	0	-	-	0	-	-	0	-	0%
'85	6	6	100%	1	1	100%	7	7	100%
'86	14	12	86%	3	1	33%	17	13	76%
'87	10	8	80%	6	5	83%	16	13	81%
'88	22	19	86%	7	6	86%	29	25	86%
'89	30	15	50%	1	0	0%	31	15	48%
'90	17	6	35%	3	0	0%	20	6	30%
T:	100	67	67%	24	16	67%	124	83	67%

Thus, no case diagnosed before 1986 is alive and about two-thirds (63.7%) diagnosed since are known to be dead (right column).

The low number (17) of AIDS cases reported during 1990 is probably a pretty good indicator that we don't have a huge burden of HIV infection locally and may also reflect the effect that anti-HIV drugs have in postponing the onset of clinical AIDS.

The overall AIDS death burden is relatively small; during the same time interval (1982-1990), deaths attributed to suicide were 6.5 times more common in El Paso County.

AIDS (Full-blown) Cases: Risk Factor Classification ('82-'90):

	Men	Women	Total
Gay/Bi-sexual	83	n/a	83
Gay/I.V.User	12	n/a	12
I.V. User	10	4	14
Sex with IV User/Hetero	0	6	6
Hemophiliac	2	0	2
Transfusion	2	2	4
Other/Unknown	2	1*	2
Total	111 (89.5%)	13 (10.5%)	124 cases(100%)

* Newborn, infected by mother with high risk behaviors.

Thus about 77% of all cases (but 86% of male cases) are in men who provide histories of sex with men.

AIDS Cases by Race/Ethnic Group

Full-blown cases roughly mirror our County's ethnic distribution (Blacks are over-represented): 97 (78%) white; 19 (15%) black; 8 (7%) Hispanic.

AIDS-virus Control Program

The AIDS-virus Control Program consists of two parts: the Counseling/Testing Site (Clinic facility) and the Control (Outreach) Program. What follows is a potpourri of data and observations that help paint an impressionistic picture of what is happening with AIDS-virus infection County-wide.

Surveillance Information:

Of the (estimated) 600-800 persons in our County with HIV infection, we have identified more than three-quarters (570). An additional 10-15% know that they are HIV infected, but are not known to us (e.g., they were tested elsewhere). Thus, probably 90% of HIV-infected persons locally (estimated) know they have the virus.

The above is impressionistic, intended to convey the sense that most people with HIV infection know they have it and that we know most of them. We do not have a good sense of the flow into, and out of, our region of HIV positive persons. For example, 119 HIV positives have been identified by the military; most are eventually reassigned to medical facilities elsewhere or eventually get out of the service and return home (We guess that less than 15% remain here). Another hundred HIV positives are transients, identified during the donor process (chiefly plasma); most are neither local residents nor remain here for long (Others, of course, take their place, but we don't know how many). Another 95 HIV positives are dead. Thus, at least 50% of

the 570 HIV positives identified since the beginning of the epidemic are no longer here. When we try to get a sense of in-migration and its counterweight, out-migration (including death), and take into account how low incidence (newly infected people) is, we guess that there are actually fewer than 400 HIV positive people in any given year here, and that this burden will probably decrease in the next few years, as few people get newly infected and as more people die with HIV. Only substantial in-migration of HIV infected people would make liars of us; we see no reason to expect such migration into our area.

AIDS-virus infection by source of report and gender
(1982-1990)

HIV-antibody testing has been available since June of 1985. The following represents the distribution of all 570 infected persons (including full-blown AIDS cases) thus far reported in El Paso County and where they were identified. Note that fully 70% are detected outside of the Health Department clinics.

	Cases/ (%)	Men	Women
1. Counseling/Testing Site (Health Department):	136 (23.9)	131	5
2. V.D. Clinic	25 (4.4)	22	3
3. VSR (prostitution)	8 (1.4)	2	6
4. Drug Clinic	2 (0.3)	2	0
5. Donor Centers:	96 (16.8)	90	6
6. Military*	106 (18.6)	94	12
7. Doctors/Hospitals/Other:	197 (34.6)	174	23
Total:	570 (100)	515	55

*Military= persons in uniform. Actually, military doctors have reported 119 cases, of whom 106 are in uniform and 13 are retired or dependents; the latter 13 are recorded in category 7 above.

Notes: 1) Of the 570 cases, 95 (16.6%) are known to be dead, not all of HIV infection.

2) The low number of positives identified in the drug clinic is one of several rough indicators of the low prevalence of HIV in local IV drug users.

AIDS-virus Infected Persons by Risk Factor/Gender (1982-1990)

(Excludes the 119 military cases)

Category	Male	Female	Total
Homosexual Man	241 (30=also IV)	n/a	241(58.6%)
Bisexual Man	69 (15=also IV)	n/a	69(16.8%)
I.V. User	44	22	66(16.1%)
Transfusion	11	6	17(4.1%)
Sex with High-risk	4	14	18(4.4%)
Undetermined	38	2	40 **
	407(90%)	44(10%)	451

** Denominator used for percentages is 411, not 451 (i.e., the 411 with known risk factors).

Risk factors for military cases (ascertained since early 1987 by the military rather than civilian health workers) are reliably known for only about half (58/119) of their HIV positives; 44 (76%) cases are in men who have sex with men; 10 (17%) in IV drug users; and 4 (7%) are transfusion-associated. Five of the 58 with known risk factors are women. Thus, risk classification for military cases virtually mirror that of the civilian arena.

For the remaining 61 military cases, risk factors are not available to us, but we can predict them: virtually all will have the classic risk factors, with men having histories of bi-sexuality (as opposed to homosexuality) and/or IV drug use being the most likely.

Of the 40 cases classified in the Table as "Undetermined", most (32) are plasma donors we never located (very transient population), 4 were interview failures (i.e., they probably lied to us), and 4 were out-of-state residents.

HIV Antibody Testing: Prostitutes (1985-1990)

A total of 327 women with histories of prostitution have been seen at our department since the summer of 1985, of whom 317 have been tested for HIV antibody. With 6, we were unable to obtain blood (collapsed veins) and 4 slipped through our Drug Clinic testing program; none of the 10 is a current prostitute.

Twelve (3.8%) are infected with HIV. Of the dozen HIV-infected prostitute women, nine have "worked" locally (The other 3 had worked elsewhere and have not been observed working here).

Testing is periodic and frequent on prostitute women who remain in our area. Of the 317 ever tested, 195 had one test only, 46 had 2; 29 have had 3 tests each; 18 had 4 tests;10 have had 5; 8 have had 6 and 11 have had between 7 and 13 (!) tests each, for a grand total of 641 tests since mid-1985 (roughly ten percent of all HIV tests done by our Department).

Importantly, no positive test has been obtained on a prostitute woman in two years (since February of 1989); this is yet another marker of low HIV incidence in our region.

Only one prostitute who was negative on the initial test has seroconverted: on her fifth test (1987) in two years (risk factor: sharing needles).

AIDS-virus infection: Reason for presentation:

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 ("Reason for Presentation")?

The following percentages are derived from civilian cases (451 total); excluded are 40 men and 5 women on whom the data are not available. Thus the final population is 406 civilian cases, 367 men and 39 women.

	Men	Women
1. Volunteer	24%	5%
2. Screen	64%	80%
3. Contact	12%	15%
	100%	100%

This Table illustrates the importance of public health measures (screening and contact tracing) in identifying HIV infection. Were we to wait for HIV-infected people to volunteer to find out their status, only one in twenty infected women would be detected and only a quarter of the men. Contact referral yields roughly one in eight HIV-infected person identified. Screening, which always has some component of involuntariness, is the major mode of identifying HIV carriers. Surprised? Not us!

Viewed annually since testing became available (civilians only):

	Before 1986	1986	1987	1988	1989	1990
1. Volunteer	29%	23%	27%	15%	19%	24%
2. Screen	60%	54%	70%	78%	66%	65%
3. Contact	11%	23%	3%	7%	15%	11%
			100%			

HIV Cases : Year of Detection

(Excludes 119 military cases)

It is interesting to note that the number of persons being currently identified as HIV positive is stable-to-declining (far right column), another good indicator that the disease is not spreading out of control. (This is true for all categories shown below.)

Year	Men			Women	Total
	Gay/Bisexual	I.V.	Undeterm.	All	
1985**	39	5	6	5	56
1986	78	6	6	7	97
1987	43	4	5	4	56
1988	57	6	11	9	83
1989	53	7	13	11	84
1990	41	8	3	8	60
				Total:	436

** Half-year data only (testing started mid-1985)
Data are missing on 15 civilian cases; we'll work out the bugs in the computer by next year's report. (Idiotic machines!)

Control Efforts/Case-finding:

Most health jurisdictions in the U.S. do not interview AIDS-virus infected patients for sexual/needle-sharing partner information; they consider the procedure ineffectual. Our view differs; we've conducted interviews on positive clients since the late fall of 1985.

AIDS-virus Contact Interviews:

(Excludes 119 military cases)

	1985		1986		1987		1988	
	Inter-view	Cts./ Index	Inter-view	Cts./ Index	Inter-View	Cts./ Index	Inter-View	Cts./ Index
Cases	37	77 (2.1)	73	156 (2.1)	41	64 (1.6)	56	113 (2.0)

	1989		1990	
	Inter-view	Cts./ Index	Inter-view	Cts./ Index
Cases	58	121 (2.1)	45	105 (2.3)

Thus, since the beginning of our partner notification program in the fall of 1985, 307 interviews of civilian HIV cases have been performed, with 629 at-risk partners being named (2 per interview). These 307 interviewed cases represent 68% (307/451) of all civilian cases identified (570 HIV cases overall minus 119 military).

Why were 144 (451 minus 307) civilian HIV cases not interviewed by us? Reasons are listed below:

1. 63 were not located (mostly transients)
2. 25 were dead at the time of report or shortly after
3. 16 were diagnosed before we started the interviewing program (and were not subsequently located)
4. 17 were interviewed in other jurisdictions (mostly Denver)
5. 18 were missed due to staff shortage (and not subsequently located)
6. 5 are currently being worked

In a word, we have contact-interviewed 93% (307/330) of HIV positive persons that were alive and that we could find.

No data are being provided by the military on their cases; it is their policy, however, to do interviews and to forward information on named civilian partners to the Health Department.

A Brief Note on Seroconverters

(Excludes 8 military seroconverters)

Persons who initially test negative on the blood test and are found on subsequent (weeks to months later) testing to be positive are classified as seroconverters.

Since the inception of blood testing for AIDS-virus markers in June of 1985, 25 tested persons have seroconverted - all men who have sex with men , except for one I.V.-using prostitute woman and one heterosexual male I.V. drug user. All 23 gay men continued unprotected high-risk (i.e., passive anal intercourse) sexual behavior despite counseling efforts. The prostitute continued sharing needles, despite numerous counseling sessions, The male I.V. user shared needles and had unprotected sex with his steady, a former Eastern seaboard HIV-infected prostitute who sociopathically let him use her needles.

The stereotypic civilian seroconverter is a man that has sex with men (23 of 25); is between 25 and 35 years old (17 of 25, with a mean and median age of 32; range 21-52 years); is white (21 of 25); and probably acquired the disease locally (23 of 25), surprisingly enough.

Most discover the fact of seroconversion actively: 12 volunteered for testing (periodic testing or having worrisome symptoms), 8 were contacts to positive partners, and 5 were detected as a consequence of screening.

If we scrutinize these incident cases by estimated year of seroconversion, we notice that people were paying much more attention to safer behaviors in 1987 and 1988. Something happened in 1989 to make some people relax their vigilance and in 1990 also (Remember that 1990 data are incomplete because we won't find out for a year or more about recent seroconverters).

Seroconverters by Year of Conversion

Year	Cases
1986	7
1987	4
1988	3
1989	7
1990	4
	25

And yet, the observation of "only" 25 civilian sero-conversions in 2000 days suggests that new transmission of HIV in our community is very low and provides powerful evidence for the idea that AIDS-virus, even under the classical conditions of sex and needles, is difficult to transmit. After all, many gay men and IV drug users continue to use unsafe practices a good deal of the time in a community that hosts several hundred infected persons.

A word about the 8 recorded military seroconverters:

Gender: 8 men

Race: 6 white, 1 black, and 1 Hispanic
Age: Mean= 26.25, Median: 23; range: 19-40
Risk factor: sex with men in 6, and 2 not given
Service: 6 Army, 1 Navy, 1 Air Force.

The military seroconverters' race distribution alone supports homosexual behavior as the likeliest reason for infection. The younger age reflects that of military populations generally (The 40-year old is a Navy reservist). Nothing is relayed to us from the military to give us an idea of whether seroconversion occurred locally; we assume, because Army personnel are usually in our area for a short time,that they acquired the disease elsewhere (as is preponderently true for syphilis and gonorrhea).

Health Department Antibody Testing:

HIV testing began to be offered in other clinics during 1988, principally the VD Clinic and, to a lesser degree, the Family Planning and Prenatal Clinics. Heretofore, testing had been confined to our Counseling/Testing clinic and our Drug Abuse Clinic. The data below are aggregated to reflect total Health Department activity, irrespective of clinic. About one-third of all HIV(Ab) testing is done in VD Clinic.

We have performed about 6800 tests for serologic evidence of AIDS-virus infection since June 1, 1985. About 1800 of these tests were done in 1990, with approximately 4.5% being positive.

To develop a sense for trend in positivity, it is best to simply look at tests done in the CTS (Counseling and Testing Center) alone, since this is where the high risk people are likeliest to seek the test.

HIV (Ab) Testing In the CTS (1985-1990)

	up to 1986	1987	1988	1989	1990
No. of tests	878	764	784	658	835
No. positive	68	18	19	14	17
Percent positive	7.7	2.4	2.4	2.1	2.0

Note: Ninety percent of the positives in the CTS are in men who have sex with men.

During the initial testing period (last 6 months of 1985, through 1986), 7.7% (68 of 878 tested) were positive for HIV antibody, versus 2% currently (Calendar 1990); this decline is another rough indicator that transmission has slowed to a trickle.

AIDS-virus infection in children:

Seven children are known to have suffered AIDS-virus infection in El Paso County since the beginning of the epidemic; three are known to have died. Some descriptive information is offered below: ("Age" means age at diagnosis, not current age.)

Gender	Age	Status	Route of infection	Year reported
Male	3 yrs	Alive**	Infected mother (IV); at birth	1988
Male	10 yrs	Dead	Transfusion (Hemophiliac)	1985
Male	17 yrs	Alive*	Transfusion (Hemophiliac)	1986
Male	Newborn	Dead	Inf. mother (transfusion); birth	1985
Male	3 yrs	Dead	Inf. mother (transfusion); birth	1985
Female	Newborn	Alive	Inf. mother; birth	1990
Male	13 yrs	Alive**	Transfusion (Hemophiliac)	***1990

* Alive as of last report; not attending school.
** Attending school locally
*** Provisional information: not yet formally reported

Note: The two children diagnosed in 1985 are not in our database because diagnosis occurred before mandatory reporting (11/1/85); the family has left our region.

In summary:

We have a small AIDS-virus burden in El Paso County and the above indices suggest that it is a barely growing burden. This is a disease whose reproductive rate is and will remain low because it is a tough virus to transmit and because, at least in the developed world, behavior changes and medications will reduce the reproductive rate even further (way below unity, which is where equilibrium is reached).

Instead of exploding, the HIV burden will likely implode in the United States during the 1990s. This implosion process is probably well under way here. As a very rough indicator, we can take the seroconversion data (25-33 cases) and the death data (95 known dead) and get a sense for reproductive rates. Although deaths are likelier to be known to us than seroconversions, there is no way we are missing a large pool of seroconverters. We currently observe 3-4 deaths for each seroconversion; even if the true rate is half of that, the HIV burden is clearly imploding as long as more deaths are occurring than seroconversions. For El Paso County, only in-migration of lots of HIV-infected people can slow this process. We don't see any indication of such in-migration.

In brief, we have a moderate burden of prevalent cases and are witnessing a trickle of incident cases; this spells curtains for the future of HIV. This outcome is not in doubt; only the amount of time it will take for its demise is.

Part II

Gonorrhea Control

Sustained behavior changes in our community are continuing to decrease gonorrhea's reproductive success; for calendar 1990, we report yet another, if very modest, decline, from 861 in 1989 to 840 (-2.4%) in 1990. Gonorrhea morbidity has been in the three-digit category three years in a row now. The last time it was in the three-digit range was in the 1960s.

A. Case-finding highlights: Gonorrhea

1990 was another good year from the contact interviewing point of view. Case reduction cannot be attributed to inadequate interviewing efforts.

Contact Interviewing Activity

	'77-'79 (Averages)	'80-'82	1983	1984	1985	1986	1987	1988	1989	1990
Interviewed	70%	93%	97%	94%	89%	90%	91%	90%	90%	93%
Contacts per Case	1.35	1.87	1.8	1.8	1.7	1.8	1.7	1.5	1.6	1.65

Much of the modest decline in the quality of interviews since 1987 (we should be getting 1.8 per interview, as opposed to 1.65) can be attributed to the military, where contact interviews do not yield as many contacts (because soldiers have fewer sexual opportunities than civilians). The military's share of the gonorrhea burden continues to climb from 41% of all cases in the County in 1987 to half in 1990. (In the 1970s and early 1980s, it was usually 35-40%).

The shift is easily seen in the Table below:

Gonorrhea Case Distribution
(El Paso County 1987-1990)

Cases	1987	1988	1989	1990
Civilian	592	477	449	425
Fort Carson	385(38.4%)	428(46.2%)	394(45.8%)	397(47.3%)
USAF	25(2.5%)	22(2.4%)	18(2.1%)	18(2.1%)
Total:	1002	927	861	840

Gonorrhea Contact Tracing

A total of 239 gonorrhea cases were identified in 1990 as a consequence of contact tracing. The indices in the awkward Table below reflect the high quality of contact tracing efforts: a high percentage of newly identified cases per contact sought and the lowest "unable to find" rate on record (21%, which is extraordinarily low for gonorrhea contacts).

Local Contacts to Gonorrhea: Outcomes

	1980-1982 (Average)	1983	1984	1985
Infected (New Cases)	380 (29.6%)	357 (25.9%)	475 (29.8%)	375 (23.5%)
Not Infected	500 (38.9%)	567 (41.1%)	637 (40%)	593 (37.2%)
Not Examined	405 (31.5%)	456 (33%)	481 (30.2%)	627 (39.3%)
Total Sought	1285 (100%)	1380 (100%)	1593 (100%)	1595 (100%)

CONTINUED...	1986	1987	1988	1989
Infected (New Cases)	276 (22.4%)	226 (25.6%)	197 (30.1%)	150(23.7%)
Not Infected	490 (39.7%)	427 (48.3%)	269 (41.1%)	312(49.3%)
Not Examined	468 (37.9%)	231 (26.1%)	188 (28.8%)	171(27.0%)
Total Sought	1234 (100%)	884 (100%)	654 (100%)	633(100%)

CONTINUED...	1990
Infected (New Cases)	239 (30%)
Not Infected	389 (49%)
Not Examined	166 (21%)
Total Sought	794 (100%)

That the quality of GC case-finding remains high is illustrated in the following Table: a continually strong proportion of cases are actively identified (Contacts).

Gonorrhea: Reason for Presentation (Epidemiologic category)

	1984	1985	1986
Volunteer	838 (55%)	870 (56.9%)	680 (53.8%)
"Screenee"	170 (11.1%)	210 (13.7%)	192 (15.2%)
Contact	517 (33.9%)	450 (29.4%)	393 (31%)
Total Cases	1525 (100%)	1530 (100%)	1265 (100%)

CONTINUED...	1987	1988	1989	1990
Volunteer	537 (53.6%	502 (54.2%)	485(56.3%)	498 (59.3%)
"Screenee"	159 (15.9%)	140 (15.1%)	133(15.5%)	118 (14%)
Contact	306 (30.5%)	285 (30.7%)	243(28.2%)	224 (26.7%)
Total Cases	1002 (100%)	927 (100%)	861 (100%)	840 (100%)

And, historically (percentages only):

	1976	1977	1978	1979	1980	1981	1982	1983
Volunteer	63.1	62.2	61	62.8	57.3	51.7	58	55.6
"Screenee"	11.4	10.7	11.7	10.1	9.9	8.3	8	11.9
Contact	25.5	27.1	27.3	27.1	32.8	40	34	32.5

CONTINUED...	1984	1985	1986	1987	1988	1989	1990
Volunteer	55	56.9	53.8	53.6	54.2	56.3	59.3
"Screenee"	11.1	13.7	15.2	15.9	15.1	15.5	14
Contact	33.9	29.4	31	30.5	30.7	28.2	26.7

Urethrally Asymptomatic Men

Men with inapparent infection have traditionally been vigorously pursued in El Paso County, and 1990 was a good year: the consistency in the trend is best viewed from the column at the far right.

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

Gonorrhea Repeat Cases

Although the contribution to the gonorrhea burden made by repeaters is now low, its composition shows that of all people, minorities (especially young Black soldiers) have not practiced safer sex as much as whites have since the turning point year of 1985. This is worrisome because Black heterosexuals are at elevated risk for AIDS-virus infection to begin with and because VD probably facilitates infection with HIV once exposure occurs.

Year	Repeat cases	Percent of all cases
1973	159	9.9
1974	180	11.0
1975	129	7.7
1976	170	8.6
1977	229	11.5
1978	138	9.1
1979	156	10.2
1980	129	8.5
1981	136	8.8
1982	86	6.8
1983	89	6.9
1984	132	8.6
1985	92	6.0
1986	73	5.8
1987	48	4.8
1988	61	6.6
1989	47	5.6
1990	51	6.1

In terms of bodies, 46 persons were repeaters; 42 had 2 episodes, 3 had 3 each, and 1 had 4 cases. Thus these 42 persons generated 97 cases in all.
Ethnically, an astounding 39 (85% --the highest ever!) of the 46 repeaters are Black; occupationally, 30 (65%) are in the Army.

Year	Original Visits*	Gonorrhea Cases	% Positive
'70-'75(Avg)	133(Average)	39	29.3(Average)
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
1988	195	21	10.8
1989	192	24	12.5
1990	157	4 !!!	2.5
21-yr total:	4226	743	17.6%

*Original visits excludes "follow-up" visits.

Screening for chlamydia in prostitute women started June 1, 1987 and was not universally applied until mid-1989. In addition, until early 1989, there were some diagnostic ("indeterminate" results) problems. Specimen collection is also affected by menstruation. The following data, then, are not as rigorous as the gonorrhea data, but they are pretty good trend indicators.

Chlamydia in Prostitute Women

	Visits	Tests(%)	Positive (% Pos)
Second Half of 1987	86	65 (76)	4 (6.2)
1988	195	145 (75)	19 (13.1)
1989	192	141 (73)	14 (10)
1990	157	144 (92)	7 (4.9)

Chlamydia screening was performed on about three-quarters of women (visits) from June 1987 through 1989, and on about 92% in 1990. The positivity rate was 2-2.5 times lower during 1990 than during the previous two years. Condoms again, we believe. Incidentally, the current positivity rate for non-prostitute women in VD Clinic is 2.3 times the 4.9% rate of prostitute women!

As we look at gonorrhea case distribution since 1985, we see that the absolute number of cases in Blacks has remained very high even though the overall gonorrhea burden has dramatically declined, from 1530 cases in 1985 to 840 in 1990:

Gonorrhea Cases in Blacks

	1985	1986	1987	1988	1989	1990
Number	743	637	519	542	532	576
% of all cases	(48.6)	(50.4)	(52)	(58.5)	(61.8)	(68.6)

The trend is clear (bottom line): Gonorrhea is becoming a disease of Black socio-sexual networks. For a fine review explaining this nation-wide phenomenon, see the lead article in Scientific American (Feb, 1991).

Gonorrhea in Street Prostitutes

During the last two decades, almost 1300 prostitute women have worked locally; about 80% have been examined at our clinic since 1970 (the other 20% did not stay in the area long enough to become guests of our clinic!).

The relatively low number of visits in 1990 reflects the trend since the mid-1980s: the fear of viruses has reduced demand for prostitution and, consequently, fewer ladies are in the trade. The astonishingly (and wonderfully) low gonorrhea rate in 1990 DEFINITELY reflects the impact of relentless safer-sex initiatives: we're distributing condoms continuously where and when they work; the ladies are increasingly getting accustomed to using them; and the customers are likelier now than ever to accept their use. And so you don't think we make a difference, huh, Dr. Muth? (You owe me lunch for that one!)

Gonorrhea in Homosexual Men

Although many gay men may not adhering to safer sex practices, generally, things are going well. Of the 513 gonorrhea cases in men, 2 were in gay men (as opposed to 6 in 1989), the lowest rate ever.

Percent of male gonorrhea cases in gay men

Before AIDS (1-6/'81)	16.2%
AIDS reported (7/'81-12/'81)	9.4%
1982	6.9%
1983	7.2%
1984	6.5%
1985	5.4%
1986	2.0%
1987	0.2%
1988	1.7%
1989	1.2%
1990	0.4%

Gonorrhea Case Rates:

(Assumes a 1990 population of about 404,000): We have the lowest rate ever. Nice.

Gonorrhea Rates (cases/100,000)

1970	1973	1977	1980	1981	1982	1983	1984
667	700	735	468	471	383	385	438

CONTINUED...	1985	1986	1987	1988	1989	1990
	420	333	255	232	213	208

These data are nothing short of spectacular, and provide the most persuasive evidence for the sustained sexual habit changes noted in previous reports and for the efficacy of our gonorrhea control measures over time. The 1990 rate is 28% of the 1977 rate, the highest recorded; this is the same thing as saying that we have a quarter of the gonorrhea burden in our community as we used to have in the mid-seventies (per 100,000 population).

PPNG (penicillinase-producing N. gonorrhoeae) cases:

For the first time since the appearance of penicillin resistant strains (1976), our County recorded a genuine local epidemic during 1990, as opposed to sporadic cases. It took a decade and a half for its occurrence and it came in tow of the crack cocaine epidemic. The main actors are very young black men

and their racially diverse sexual partners, mostly teen-aged (women) crack addicts. The 1990 data are presently being entered into a special database to permit social-network analysis of its dynamics (with an eye to publication, naturally).

In the present Report, we simply record the trend. Since the introduction of PPNG into the USA in the spring of 1976, 155 cases have been diagnosed in El Paso County. They occurred in context of 20,566 gonorrhea cases, a .075% rate (155 cases divided by 20,566):

PPNG Cases

1976	1977	1978	1979	1980	1981	1982	1983	1984
0	1	0	3	0	7	21	5	2

1985	1986	1987	1988	1989	1990
4	20	15	16	11	40

Containing this 1990 outbreak required much energy, including the tracing of more than 200 contacts. More on that in a subsequent report...

Male-to-female ratio: gonorrhea

This ratio is a bit higher than last year, again due to the growing proportion of military GC cases, where about 80 percent of cases are in men.

Year	Males	Females	Ratio
1973	984	613	1.6:1
1974	1015	615	1.65:1
1975	1033	643	1.61:1
1976	1266	712	1.78:1
1977	1284	714	1.8:1
1978	964	551	1.75:1
1979	1002	523	1.91:1
1980	918	602	1.52:1
1981	928	609	1.52:1
1982	807	456	1.77:1
1983	775	505	1.53:1
1984	936	589	1.59:1
1985	907	623	1.46:1
1986	712	553	1.29:1
1987	554	448	1.23:1
1988	534	393	1.36:1
1989	500	361	1.38:1
1990	513	327	1.57:1

PART III

A. Chlamydia Control

Chlamydia Cases in VD Clinic

Screening for chlamydia is nearly universal in STD Clinic: more than 9 out of 10 patients (92.4%) was tested in 1990. This is a sharp increase in both the number and proportion of patients tested. (We started using the test in mid-1987.) During 1987 and 1988, every other patient (54.1%) was tested and in 1989, four out of five (83.2%). There are two reasons for our aggressive use of this test: our growing respect for the silent damage chlamydia can cause and, above all, the rapidly declining cost per test.

In the initial stages (1987) of implementation, the positivity rate was very high (about 25%); it is now about 10%. We propose two reasons for this steep decline: 1) population selection: during 1987 and 1988, we focused test use on the highest risk patients (very young people) and; 2) we feel that our substantial contact tracing efforts are breaking chains of transmission locally, so that overall community prevalence is probably much lower than during the mid-1980s. (You can count on us providing a self-serving explanation!) We do not feel that safer sex campaigns have had much impact, because the populations at highest risk for chlamydia, teen-agers, are not paying as much attention to safer sex as older adults.

Another datum that is supportive of our view that contact tracing is decreasing the chlamydia burden is that we are not noticing much of a decrease in Non-Chlamydia urethritis (NCU) in STD Clinic, a disease where formal contact tracing is not done.

In assessing the following data, remember that, unlike gonorrhea, chlamydia is not a reportable disease. Whereas the data on gonorrhea are universal (virtually all cases in the county are reported), data on chlamydia are confined to Health Department clinics (STD, Family Planning, and Prenatal). We review the available data mainly to impress the reader with the quantity and quality of our control efforts and to develop a sense for trends.

Chlamydia Testing in VD Clinic

	1988		1989		1990	
	Tests	Pos (%)	Tests	Pos (%)	Tests	Pos (%)
Men	921	230 (25)	1309	125 (9.5)	1574	163 (10.4)
Women	812	175 (21.6)	1393	151 (10.8)	1707	195 (11.4)
Total	1733	405 (23.4)	2702	276 (10.2)	3281	358 (10.9)

Thus the number of tests has doubled in two years, while the cost per test was halved. In 1990, it cost our Clinic 4 dollars for a chlamydia test; hence the 3281 tests cost about $13,000 and each positive, roughly $35 (i.e., about 18 cans of tennis balls). Not a bad investment to identify this insidious, but treatable, infection. Incidentally, we estimate that it costs about $25 to identify a new, untreated case of chlamydia via contact tracing (exclusive of diagnostic and treatment costs); thus one of the main reasons we conscientiously do contact interviews and partner tracing is its price: it's a bargain.

Chlamydia: Reason for Presentation

Patients find out they have chlamydia because they are sexual partners of infected persons or because they are concerned (symptoms, other VD, etc); the former are classifed as contacts, while the latter as volunteers or (awful word) screenees. The data below are preliminary and reflect STD, Family Planning, and Prenatal, Clinic patients.

Chlamydia Cases: Reason for Presentation:

MEN

Reason	1988	1989	1990
Volunteer	138 (56.8%)	93 (64.6%)	123 (63%)
Screen	24 (9.9%)	9 (6.2%)	9 (4.6%)
Contact	81 (33.3%)	42 (29.2%)	63 (32.3%)
	243 (100%)	144 (100%)	195 (100%)

WOMEN			
Volunteer/ Screen	205 (76.5%)	112 (51.6%)	313 (70.7)
Contact	63 (23.5%)	105 (48.4%)	130 (29.3)
	268 (100%)	217 (100%)	443 (100%)

The notable change is in the lower right hand column: 70.7% of women identified with chlamydia in health department clinics (not simply the STD Clinic) were passively detected. This reflects the large increase in screening for chlamydia in all our Health Department clinics during 1990. Because expanded screening in clinics like Family Planning and Prenatal is likely to yield passively detected cases ("Routine Discoveries", as Dr. Rothenberg dubbed them), the process distorts the data.

To develop a sense for the trend in reason for presentation (passive vs. active detection of cases) it is best to look at women with chlamydia in STD Clinic alone, since the STD Clinic is the site where women present as contacts and as volunteers or screenees. The Table below shows the trend towards active case detection (contacts are proportionally dominant). For example, twice as many women were identified as positive contacts in 1990 compared to 1988, while the number of passive detections were the same for those two years.

STD Clinic Women: Reason For Presentation

	1988	1989	1990
Volunteer/ Screen	100(63%)	60(39%)	95(46%)
Contact	59(37%)	95(61%)	113(54%)
	159(100%)	155(100%)	208(100%)

We have interviewed over 1200 cases of chlamydia in the last three years, and obtained over 2000 contacts:

Chlamydia Contact Interviews

	1988 #	1988 Contacts	1989 #	1989 Contacts	1990 #	1990 Contacts
Men	190	321 (1.7)	114	171 (1.5)	159	262 (1.65)
Women	229	379 (1.7)	176	309 (1.8)	364	659 (1.8)
Total	419	700 (1.7)	290	480 (1.7)	523	921 (1.76)

Since there were 638 chlamydia cases (195 men; 443 women) diagnosed in all Health Department clinics in 1990, and we interviewed 523, our interview rate is 82%, or 10% below the current rate for gonorrhea case-interviewing.

Proportion of Chlamydia Cases Interviewed

	1988	1989	1990
Reported Cases	511	361	638
Interviewed	82%	80%	82%

Note that we had almost twice as many cases reported in 1990 over 1989, in large measure due to the expanded screening program in all health department clinics. (Most of the excess reported cases are in women, as you would expect from expanded screening in Family Planning/Prenatal settings.)

Part IV

Other STD Program Data/Miscellaneous

Outreach: Field Investigations

During 1990 we performed 3368 field investigations in support of STD control, of which nearly 90 percent (2997) were successfully completed. An astonishing 83% were completed within a week of being assigned. None of the above, in any part of this Report, reflects the enormous amount of outreach energy invested to interview study subjects for CDC's Project 90, nor the energies expended to do continuous surveillance of street prostitutes.

VD Clinic attendance...increased about 10% during 1990, a probable consequence of increased contact tracing and referral activities (We acquired an additional case-finder, courtesy of

the State Health Department, in late 1989), and of increased attendance by clients with venereal warts (these require several return visits).

Year	New Visits	Return Visits	Total
1982	2135	1721	3856
1983	2218	1691	3909
1984	2234	1650	3884
1985	2301	1565	3866
1986	2250	1562	3812
1987	2042	1350	3392
1988	2323	1675	3998
1989	2319	1733	4052
1990	2223	2211	4434

Note: Table excludes the approximately 3000 (AIDS-virus) Counseling/Testing Center visits in 1990, a 25% (!) increase over the 2400 in 1989.

Non-reportable STDs in V.D. Clinic

Data for non-reportable STDs were first recorded in a systematic way during calendar 1982. These data are not catholic, because only STD Clinic information is included. They are presented mainly as a trend indicator. Please note the strong upward trend for venereal warts (data represent visits, not bodies, and the patient is usually symptomatic) since 1987, and the steady downward trend in Herpes. Note also the spectacular decline in trichomoniasis and the increase in NSV (Gardnerella) in women since the early 1980s.

Infection	Men								
	1982	1983	1984	1985	1986	1987	1988	1989	1990
NGU/Chlamydia	569	552	512	447	419	416	489	383	477
Herpes (1st Episode)	70	83	34	32	59	49	42	28	3
Venereal warts	131	185	127	132	172	119	244	252	310
Scabies	17	21	15	10	19	21	15	25	10
Phithirus pubis	56	59	44	50	41	54	40	43	38
Totals:	843	900	732	671	710	659	830	731	838

Infection	Women								
	1982	1983	1984	1985	1986	1987	1988	1989	1990
Chlamydia		Not	Available		here		175	151	195
Trichomoniasis	461	492	390	275	112	115	103	99	79
Monilia	456	463	391	318	110	188	231	284	279
NSV	250	279	257	233	297	240	337	435	474
Herpes (1st Episode)	51	59	25	18	38	33	35	25	13
Venereal warts	55	62	49	76	72	61	117	88	112
Scabies	4	4	3	4	9	4	10	11	6
Phithirus pubis	29	31	22	17	29	24	22	36	31
Totals:	1306	1390	1137	941	667	665	1030	1129	1189

Syphilis

We've never understood syphilis trends. No explanations offered.

Year	Infectious Syphilis	Late Syphilis	Total
1973	50	47	97
1974	52	17	69
1975	48	20	68
1976	39	17	56
1977	20	12	32
1978	26	19	45
1979	19	8	27
1980	23	4	27
1981	16	3	19
1982	18	7	25
1983	15	9	24
1984	26	4	30
1985	27	12	39
1986	31	10	41
1987	13	6	19
1988	11	8	19
1989	11	5	16
1990	14	3	17

Presentations

About 113 formal presentations were recorded, with a total audience of 5165 (excluding radio/television audiences). Thus, about 2.2 presentations a week, with an average audience of 46, were done in 1990. About 40% of audiences are students and about 25% are health-care workers. Although most presentations focus

on AIDS, an increasing proportion are generic in their focus (STD prevention rather than just AIDS prevention; the shift occurred sometime in 1988)

We estimate that our presentations have reached about half of the roughly 10,000 health care workers in the County. (If there are about 7 million health care workers in the U.S., then we can infer that there are about 10 or 11 thousand locally.)

	1987	1988	1989	1990
Total presentations	110	132	127	113
Total audience	3683	6847	5462	5165
Students	45%	38%	56%	39%
Health care workers	23%	23%	20%	25%
Employers	10%	5%	2%	4%
Trainers	10%	16%	7%	3%
General audience	11%	17%	8%	22%
High risk persons	3%	1%	6%	7%

Presentations by person

	1987	1988	1989	1990
Potterat	64	74	66	65
Muth	26	19	10	10
Woodhouse	0	17	20	8
Latimer	18	13	15	16
Castle	0	5	15	8
Drzewiczewski	2	2	0	2
Rogers	0	2	1	3
Bethea (New)				1

Presentations represent a substantial investment in Program energy: each requires an average of 2 hours for preparation, travel, and delivery. For example, in Potterat's case, about 130 hours were devoted to them, or almost a month of work-time (3.25 weeks).

Summary of Medications Used
(1990)

VD Clinic		Given to CHC
Bicillin (1.2 m.u.)	150 syringes	0
Spectinomycin (2g)	9 vials	0
Benemid (500mg)	280 tablets	0
Ampicillin (500mg)	2200 capsules	0
Benadryl (50mg)	230 capsules	0
Erythromycin (250mg)	8250 tablets	0
Rocephin (250mg)	384 vials	10

Doxycycline	31512 capsules	320
E-Mycin (333)	4468 tablets	500

PART V

The traditional Tables

Monthly Venereal Disease Morbidity Report — Calendar 1990

Reporting Source	Morbidity				Age Group										Race			Pro	EX
	Syphilis			Gon	14-19		20-24		25-29		30-39		40+		Cav	Blk	Hisp	Syph	Gon
Categories	P&S	E.L.	Other		Syph	Gon	Syph	Gon	Syph	Gon	Syph	Gon	Syph	Gon					
Private Physician Men	1	1		44		9		15	2	10		8		2	13	29	4		
Women		1	1	78		35		23	1	12		7	1	1	39	29	12		
V.D. Clinic Men	4	2		142	1	41	2	51	1	29	2	19		2	23	111	14	6	125
Women	1	3	2	130	1	67	2	42	1	11	2	8		2	49	60	27	10	190
CHC/Pren/Family P.				23		12		9		1		1			10	8	5		
Planned Parenthood				7		5		2							5	1	1		
Health Hold				1				1								1			
Fort Carson Men	1			313		46	1	194		57		14		2	24	285	5		
Women				84		26		40		15		3			29	53	2		
Ent Air Base Men				8		1		3		2		2			3	5			
Women				4		3				1					2	2			
Air Academy Men				6		2		3		1					2	4			
Women																			
Totals	7	7	3	840	2	247	5	383	5	139	4	62	1	9	199	588	70	16	315

Clinic Attendance: 4,434
New: 2,223
Return: 2,211

ER Males: 11
ER Females: 38

Treatment Failure None

Reported Gonorrhea Cases, By Month, 1973-1990

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	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	134	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

MONTHLY V.D. CLINIC AND LABORATORY REPORT: EL PASO COUNTY HEALTH DEPARTMENT, 1990

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	CY 90	POS.	PCT+
TESTING:															
HIV (Ab)	156	136	192	149	147	121	139	157	137	163	133	147	1777	80	4.5
HIV (CUMULATIVE)													6785	495	7.3
RPR	258	217	285	296	277	223	249	322	246	264	269	213	3119	64	2
FTA	4	4	4	2	8	5	5	1	3	4	2	4	46	25	54.3
DF	0	0	0	0	2	1	0	0	0	1	0	0	4	0	0
GC SMEAR	155	122	157	172	147	102	116	180	115	147	140	128	1681	89	5.3
GC CULTURE:															
VDC MEN	170	134	164	179	161	106	119	196	125	165	144	151	1814	137	7.6
VDC WOMEN	138	143	159	136	165	145	167	185	166	139	171	133	1847	111	6
PNC WOMEN	35	29	64	31	34	13	23	36	34	51	63	43	456	3	0.66
FPC WOMEN	81	104	129	126	78	101	105	131	113	93	107	87	1255	10	0.8
PMD WOMEN	114	100	111	82	20	0	0	0	0	1	2	2	432	2	0.46
TOC: ALL PTS	17	6	2	9	14	5	14	16	18	12	19	24	156	0	0
CHLAMYDIA: FE	136	121	130	140	142	149	148	191	145	132	142	131	1707	195	11.4
TREATMENT:															
GC TREAT	24	12	11	17	37	16	18	31	35	29	33	25	288	N/A	
GC PRO-TREAT	31	22	25	24	28	17	32	32	25	18	27	34	315	N/A	
LUES TREAT	3	3	6	2	2	6	8	2	5	10	1	7	55	N/A	
LUES PRO-TREAT	4	1	0	1	3	1	0	0	3	1	0	2	16	N/A	
NON-V.D. TREAT	324	240	206	266	264	188	250	254	219	247	259	209	2926	N/A	
CLINIC: NO.	14	12	13	14	13	13	12	14	12	14	12	12	155	N/A	

HIV TESTING EXCLUDES THE 119 MILITARY POSITIVES SINCE JULY 1985 AND 27 POSITIVE DONORS LOST TO FOLLOW-UP

add these

MONTHLY GONORRHEA INVESTIGATIONS REPORT: EL PASO COUNTY HEALTH DEPARTMENT, 1990

CONTACTS TO CHLAMYDIA: OUTCOME

Two months

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	CY 90	PCT/TL
NOT INFECTED	0	0	0	0	0	1	0	2	0		2	0	5	0.5
BROUGHT - TX	14	10	13	14	24	14	16	27	33		47	27	239	22.7
PREVIOUS TX	8	8	13	17	30	20	14	55	36		34	22	257	24.5
NOT FOUND	12	6	8	10	6	7	5	21	16		15	5	111	10.6
REFUSED EXAM	0	0	0	1	1	0	1	1	0		5	0	9	0.9
UNLOCATABLE	5	4	1	0	3	1	3	5	14		8	2	46	4.4
TRANSFERRED	1	1	0	0	3	1	1	1	1		0	0	9	0.9
EPI TREATED	27	23	16	23	41	38	27	38	55		60	27	375	35.7
OTHER	0	0	0	0	0	0	0	0	0		0	0	0	0
TOTAL	67	52	51	65	108	82	67	150	155		171	83	1051	100%

MONTHLY CHLAMYDIA INVESTIGATIONS REPORT: EL PASO COUNTY HEALTH DEPARTMENT, 19 90

CONTACTS TO CHLAMYDIA: OUTCOME

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	CY 90	PCT/TL
NOT INFECTED		1	0	1	1	0	0	1	0		Two months		0	4	0.4
BROUGHT - TX		4	10	12	11	13	10	17	14		14	13		118	12.5
PREVIOUS TX		3	14	20	23	16	13	21	27		25	8		170	18
NOT FOUND		9	2	4	4	3	4	5	5		7	2		45	4.8
REFUSED EXAM		0	0	2	1	2	2	1	2		5	1		16	1.7
UNLOCATABLE		0	4	5	7	2	2	5	3		11	2		41	4.3
TRANSFERRED		0	0	0	0	2	1	1	0		0	0		4	0.4
EPI TREATED		38	42	48	63	33	67	69	.77		86	26		549	58
OTHER		0	0	0	0	0	0	0	0		0	0		0	0
TOTAL		55	72	91	110	71	99	120	128		148	52		946	100