EL PASO COUNTY HEALTH DEPARTMENT
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ANNUAL REPORT
Sexually Transmitted Diseases/AIDS Program
January 1, 1988 - December 31, 1988

"Progress is the mother of problems"
Chesterton

INTRODUCTION

What a difference a person makes (especially if she is Helen P. Zimmerman!).

What emerges from the ensuing analyses of our 1988 control efforts are the impressive Program outcomes; these easily justify our 1987 request to expand the staff by one more "shoe-leather" case-finder.

A global view reveals that nearly 2000 case-interviews on infected (HIV, gonorrhea, chlamydia, syphilis) patients were conducted; 1600 local investigations of named contacts were performed; and an additional 600 persons sought for follow-up of positive or equivocal STD/HIV tests.

As for care, 6400 clinic visits were recorded in 1988, including about 200 by prostitutes.

Many time- and energy-consuming presentations were offered. Much was also accomplished in records-management, with the computerization of several large data bases.

A careful reading of the data herein (however inelegantly) presented reveals that quantity is not the only salient feature of our work in 1988: its quality is apparent in virtually all recorded indices.

If it is to our small (five case-finders and support people) and dedicated staff that our gratitude and recognition should be extended, it is in no small measure to our clients that the true credit should be awarded. We are constantly amazed at the high level of cooperation given to our staff by our patients. We relentlessly query them about the most intimate aspects of their lives: with whom they have sex or share drugs, in what ways, and how frequently. And they tell us!

This Report is therefore dedicated to unsung heroes: our patients. It is they who make our public health partnership truly effective (and our jobs exciting). Thank you, dear clients. We wish you safer sailing in 1989.

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(If you are unhappy with what
you read, lower your expectations.)

Part I

AIDS Proper: A brief profile

Fifty-eight persons (56 adults and 2 young hemophiliacs) with full-blown AIDS have lived in El Paso County since the first reported case in the summer of 1982. Two-thirds (39/58) are known to be dead. Forty-seven were counted locally, while eleven 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 5 percent of overall cases (47 of 874).

AIDS Cases Having Resided Locally
(1982 through 1988)

	Counted Locally			Counted Elsewhere			Grand Total		
	Cases	Dead	Mortality	Cases	Dead	Mortality	Cases	Dead	Mortality
'82	1	1	100%	2	2	100%	3	3	100%
'83	0	-	-	1	1	100%	1	1	100%
'84	0	-	-	0	-	-	0	-	-
'85	9	9	100%	0	-	-	9	9	100%
'86	12	9	75%	4	3	75%	16	12	75%
'87	8	4	50%	4	2	50%	12	5	50%
'88	17	8	47%	0	-	-	17	8	47%
Tot	47	31	66%	11	8	73	58	39	67%

Thus, no case diagnosed before 1986 is alive and more than half diagnosed since are known to be dead.
It helps put the burden in perspective to mention that, during the same period, ten times more suicide deaths occurred than AIDS deaths.

AIDS cases: Deaths by Year of Death

	1982	1983	1984	1985	1986	1987	1988	TOTAL
AIDS Death:	1	1	2	5	5	9	16	39
Suicide Death:	48	61	53	51	83	66	69	431

AIDS deaths have virtually doubled in each of the last two years; although the numbers are small, the trend is discouraging. Only the development of more powerful virucidal drugs will brake this trend. Should these drugs not become available, about half of the estimated 700 HIV-infected persons in El Paso County can be expected to die between now and 1995.

AIDS (Full-blown) Cases: Risk Factor Classification ('82-'88):

	Men	Women	Total
Homo/Bi-sexual	44	n/a	44
Homo/I.V.User	5	n/a	5
I.V. User	3	2	5
Sex with I.V. User	0	2	2
Hemophiliac	2	0	2
Total	54 cases(93%)	4 cases(7%)	58 cases(100%)

Thus 85% of all cases (but 91% of male cases) are in men who provide histories of sex with men. So far, all AIDS cases in women are connected to IV drug users, directly or indirectly.

Note on AIDS-related Deaths:

An encouraging datum is the lengthening interval between AIDS diagnosis and death. As of the end of the previous year (1987), the median time from diagnosis to death locally was a miserly four months; it is now about a year.

Interval From Diagnosis to Death

(Cumulative data on 38 deaths since 1982; data on one death are not available)

	This Report	Last Year's Report
Range:	1 week to 33 months	1 to 19
Median:	12 months	4
Mode:	5 months	2

There are two probable explanations: persons infected early in the epidemic were probably less healthy than those subsequently infected ("Fast-lane people got hit first" idea) and presumably had lower resistance to disease progression. The more important reason may be the availability of Retrovir (AZT) and other AIDS complications-fighting drugs.

AIDS in the Local Military

About 10 percent of all full-blown AIDS cases have stricken persons in uniform: 5 men and a woman (4 Army; 2 Air Force). All had the classically described risk behaviors. In addition a young hemophiliac (dependent son) was diagnosed by the military. Overall, then, the military have diagnosed 12% (7/58) of all AIDS cases residing in our County.

AIDS Cases by Race/Ethnic Group

Full-blown cases roughly mirror our County's ethnic distribution (Blacks are a bit over-represented): 47 (81%) white; 7 (12%) black; 4 (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 about half. An additional 10-15% know that they are HIV infected, but are unknown to us (e.g., they were tested elsewhere). Thus, roughly two-thirds of HIV-infected persons locally (estimated) know they have the virus. A major part of our task is to let the other third know that they are infected, because we believe that to know is to diminish the probability of further transmission and disease progression.

Note: The following data exclude full-blown AIDS cases. Readers who wish to derive the global view have to add the data on the 58 AIDS cases to the data presented below.

AIDS-virus infection by source of report and gender (1985-1988)*

HIV-antibody testing has been available since the late spring of 1985. The following represents the distribution of the 304 infected persons detected by such testing thus far:

	Male	Female	Total(%)
1. Counseling/Testing Site (Health Department):	114	12	126 (41.5)
2. Blood/Plasma Donation Centers:	60	1	61 (20)
3. Military Installations:	56	4	60 (19.7)
4. Private Physicians:	16	3	19 (6.25)
5. Civilian Hospitals:	32	6	38 (12.5)
	278	26	304 (100%)

(* Excludes AIDS cases)

The proportion of cases detected annually by each group has remained stable since 1985.

This Table has gender-specific data because of the increasing representation by women in the HIV burden: they are now 8.5 percent of infected persons (7.5% in 1987 Annual Report).

AIDS-virus Infected Persons by Risk Factor/Gender
(1985-1988)
(Note: Excludes 58 AIDS cases)

Self-report information on 247 (of the 304 persons) reached by us.

Category	Male *	Female *	Total
Homosexual Man	171 (16)	n/a	171
Bisexual Man	26 (6)	n/a	26
I.V. User	21 (2)	15 (0)	36
Transfusion	2 (0)	3 (1)	5
Hemophilia	3 (0)	n/a	3
Sex with High-risk	0 (0)	6 (1)	6
Undetermined	55 (32!!!)	2 (2)	57
	278	26	304

* Numbers in parentheses represent military cases (they are already included in the total to their left).

We published our observations on risk factors for HIV-infected military personnel in the early spring of 1987. The military establishment, especially in Colorado, was deeply wounded by our report (needlessly, we might add). Subsequently, our public health efforts have received a less than cordial reception in military circles. The military continues to cooperate, but on a strictly pro forma basis. This information helps the reader interpret the (32!!!) datum in the above Table: 24 of the 32 male military persons on whom we have no risk factor information were diagnosed and reported to us after we published our report in the Journal of American Medical Association.

Of the 57 cases classified in the Table as "Undetermined", 34 are military (60 percent). Of the remaining 23 cases, 15 are plasma donors we never located for interview (very transient population), and 8 were interview failures (i.e., they probably lied to us).

If we examine the Table by risk factor for those persons whom we were able to interview (255, if you include the 8 interview failures), then 77% are men who had sex with men (197/255) and 14% (36/255) used I.V. drugs. The rest belong to the "minor" (and undetermined) categories.

Of interest is the shift in risk-factor classification since the 1987 Annual Report (Remember: all data are cumulative since the epidemic's beginning). Broadly speaking gay men's representation is declining (from 80% to 77%), I.V. user representation is increasing (from 11% to 14%). Note that the total burden between the two groups has not changed: 80% + 11% = 91%; 77% + 14% = 91%.

As the proportion accounted for by gay men declines and the I.V. users' increases, we should expect more women to be infected (through stable sexual partnerships with male drug abusers and/or through I.V. drug use itself). This is what explains the rising proportion of infected women noted above.

Of the 26 women (excludes 2 AIDS cases in women) in the Table, it is noteworthy that most were probably infected by needles (includes transfusion cases). Of the 6 women infected sexually, three practiced anal intercourse.

Of the 26 women in the Table, 9 (one-third!) provided histories of prostitution, at least seven of whom were also I.V. drug users (we say "at least", because one was never located for interview).

Since the inception of antibody testing in local prostitutes (late summer of 1985), seven HIV infected prostitutes are known to have "worked" in our area, all for short periods. All but one (a Denver prostitute, not yet located) have been notified and prohibited from practicing their craft or other unsafe behaviors. Surveillance for compliance is not foolproof, but excellent.

HIV Antibody Testing: Prostitutes
(1985-1988)

A total of 237 prostitutes (220 female; 17 male) have been seen at our department since the summer of 1985. At least 74 (34 percent) of the 220 females provide histories of I.V. drug use, a remarkable decline since 1985-1986, when almost one-half admitted to I.V. drug use. (Both the fear of viruses and the use of "crack" account for much of the observed change in I.V. use.)

Of the 17 male prostitutes, three (18%) admit to I.V. drug use.

	Tested		Not tested	Total
	Positive	Negative	(Collapsed veins)	
Female	7	207	6	220
Male	4	13	0	17

Thus, 3.3 percent of all female prostitutes (7/214) have been HIV

antibody positive on testing since 1985. Testing is periodic and frequent on those who remain in our area. Of the 214 female prostitutes ever tested, 143 had one test only, 34 had 2; 16 have had 3 tests each; 9 had 4 tests; 7 have had 5; and 5 have had 6 or more tests.

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

Note: As I.V. drug use continues to decline among local female prostitutes, newly identified cases among prostitutes will likely result from in-migration (circuit prostitutes, or simply peripatetic ones) rather than from sero-conversion among "our" ladies. Our surveillance efforts should thus put a premium on testing new arrivals to our prostitution areas.

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.

		For Comparison:	
Reason	Cases	Cumulative thru 1987	...thru 1988
Volunteer	132	28.6%	43.4%
Screening	140	63.3%	46%
Contacts	32	8.1%	10.5%
Total	304	100%	100%

In short, fewer cases are proportionally detected by screening and more by contact tracing and persons wanting to know their status.

(Note: almost all "screening" detections are accounted for by blood/plasma donor initiatives and by screening in the military.)

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.

Of the 84 positive clients identified in 1988, 69 (82%) were interviewed. Of the 15 not interviewed, 3 died before we reached them, 2 refused, 5 were not located (due to paucity of information) and 5 are being sought presently.

AIDS-virus Contact Interviews:

	1985		1986		1987		1988	
	Inter-view	Cts./ Index	Inter-view	Cts./ Index	Inter-View	Cts./ Index	Inter-View	Cts./ Index
Men	12	34 (2.8)	90	163 (1.8)	43	55 (1.3)	56	122 (2.2)
Women	0	0	7	5 (0.7)	5	14 (2.8)	13	28 (2.2)
Total	12	34 (2.8)	97	168 (1.7)	48	69 (1.4)	69	150 (2.2)

The substantial improvement in our contact index (2.2 per interview) is directly related to our expanded staff. (The data were lousy in 1987 because of staff shortage.)

Since the fall of 1985, then, we have cumulatively interviewed 226 (85%) of the 267 civilian HIV-infected persons identified locally and obtained 421 contacts (roughly 2 per interview). No data are being provided by the military on their cases; it is their policy, however, to do interviews.

HIV Contact Tracing

During 1988, 246 contacts to HIV infection were sought in El Paso County (the remainder, about 40% of named contacts reside elsewhere). Seventy percent were located (174/246) and offered counseling and testing.

That 40 percent of named contacts live elsewhere and that 30 percent of local contacts are not successfully found says a good deal about the at-risk populations: they are peripatetic.

A Brief Note on Seroconverters

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

Only one person, a gay man, converted to positive during 1988.

Since the inception of blood testing for AIDS-virus markers in June of 1985, eight tested persons have seroconverted - all gay men, except the prostitute. All seven gay men continued unprotected high-risk (i.e., passive anal intercourse) sexual behavior despite our counseling efforts. The prostitute continued sharing needles despite numerous counseling sessions.

These data suggest that (new) transmission of HIV in our community is extremely low. The growing AIDS-proper burden reflects historical transmission, before 1985 or 1986, at which time the safer behavior messages began to genuinely influence people's behaviors. HIV transmission, in a word, remains at the trickle level.

These data are also powerful evidence for the idea that AIDS-virus, even under the classical conditions of sex and needles, is difficult to transmit.

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.

We have performed 3574 tests for serologic evidence of AIDS-virus infection since June 1, 1985. About 1400 of these tests were done in 1988, with 84 positives being identified (6%). About 40 percent of clients requesting the test have no recognized risk factor, while 60 percent have one (35%) or multiple (25%) risk factors.

The number of tests has increased only modestly since the "heterosexual scare" of 1987, with most of the 16% increase due to testing in VD Clinic.

	1986	1987	1988
No. of tests	664	1203	1392

Women, a very low risk group, continue to seek the test in disproportionate fashion, as the following data reveal:

Health Dept. Antibody Testing by gender:

	June/1985-1986	1987	1988
Men	70%	56.6%	50%
Women	30%	43.4%	50%

It is ironic that a disease principally affecting men (about 92 percent of all infected persons) should attract women's interest in being tested! (We now know who really cares.)

Health Dept. Antibody Testing by Ethnic Group

Persons seeking the test reflect the ethnic composition of El Paso County, with Blacks being a bit over-represented and Hispanics a bit under-represented.

White: 82% Black: 9.5% Hispanic: 6.6% Other: 2%

AIDS-virus infection in children:

Six 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
Female	Newborn	Alive	Infected mother; at birth	1988
Male	3 yrs	Alive	Infected mother; at birth	1988
Male	10 yrs	Dead	Transfusions (Hemophiliac)	1985
Male	17 yrs	Alive*	Transfusions (Hemophiliac)	1986
Male	Newborn	Dead	Inf. mother (transfusion); birth	1985
Male	3 yrs	Dead	Inf. mother (transfusion); birth	1985

* Alive as of last report; not attending school.

In summary:

We have a small AIDS-proper burden in El Paso County; yet the numbers will get much larger during the next five years unless more effective drugs are found. There is very little new transmission occurring, which means that from about 1993, very few new full-blown AIDS cases will occur and many if not most of the currently infected patients will be dead or not good at transmitting (because sick, or getting old, or on transmission-inhibiting drugs, or...). 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). We've been accused of over-optimism in the past, but we stick to our scenario. Much of the scientific evidence is on our side. So, there!

Part II

Gonorrhea Control

Sustained behavior changes in our community are continuing to decrease gonorrhea's reproductive success; for calendar 1988, we are happy to report yet another decline, from 1002 in 1987 to 927 (-8%) in 1988. This is the first time gonorrhea morbidity has been in the three-digit category since accurate records have been kept (1969).

A. Case-finding highlights: Gonorrhea

1988 was another solid year from the contact interviewing point of view. Case reduction cannot be attributed to inadequate interviewing efforts.

Contact Interviewing Activity

	'77-'79	'80-'82	1983	1984	1985	1986	1987	1988
	(Averages)							
Percent Interviewed	70%	93%	97.3%	94%	88.6%	90%	91%	90%
Contacts per Case	1.35	1.87	1.8	1.83	1.72	1.77	1.69	1.51

Part of the decline in the quality of interviews (we should be getting 1.7 to 1.8 per interview, as opposed to 1.5) 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 almost half in 1988. (In the 1970's and early 1980's, it was usually 35-40%).

The shift is easily seen in the Table below:

Gonorrhea Case Distribution
(El Paso County 1987-1988)

Cases	1987	1988	Case and % Change
Civilian	592	477	-115 (-20%)
Fort Carson	385	428	+43 (+11%)
USAF	25	22	-3 (-12%)
	1002	927	-75 (-8%)

Gonorrhea Contact Tracing

When we turn to gonorrhea contact tracing we see that productivity is high, with a comparable number of infected cases newly identified (obtained from a smaller case load and from fewer contacts elicited). The rise in productivity, from 25.6% to 30.1%, can be attributed to Fort Carson's greater representation in the GC burden: their cases usually lead to the identification of many new cases over time.

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
Infected (New Cases)	276 (22.4%)	226 (25.6%)	197 (30.1%)
Not Infected	490 (39.7%)	427 (48.3%)	269 (41.1%)
Not Examined	468 (37.9%)	231 (26.1%)	188 (28.8%)
Total Sought	1234 (100%)	884 (100%)	654 (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.

Gonorrhea: Reason for Presentation (Epidemiologic category)

Reason for presentation

	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
Volunteer	537 (53.6%)	502 (54.2%)
"Screenee"	159 (15.9%)	140 (15.1%)
Contact	306 (30.5%)	285 (30.7%)
Total Cases	1002 (100%)	927 (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
Volunteer	55	56.9	53.8	53.6	54.2
"Screenee"	11.1	13.7	15.2	15.9	15.1
Contact	33.9	29.4	31	30.5	30.7

Gonococcal Pelvic Inflammatory Disease (PID)

The number and proportion of gonorrhea cases involving serious reproductive tract involvement are stable for the last few years:

	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88
#	130	111	85	84	76	79	79	108	75	123	98	73	73
%	18.3	15.5	15.4	16	14	12.5	17.3	21	12.7	19.7	17.7	16.3	18.6

Urethrally Asymptomatic Men

Men with inapparent infection have been vigorously pursued for a dozen years in El Paso County, and 1988 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

*(97 percent are urethrally positive; the rest, rectally or/and pharyngeally)

Gonorrhea Repeat Cases

Although the contribution to the gonorrhea burden made by repeaters is low, its composition shows that of all people, minorities (especially Blacks) 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

In terms of bodies, 52 persons were repeaters; 44 had 2 episodes, 7 had 3 each, and 1 had 4 cases. Thus these 52 persons generated 113 cases in all.

Ethnically, 34 (two-thirds!) of the 52 repeaters are Black; occupationally, 30 (58%) are in the military.

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 927 in 1988:

Cases in Blacks

	1985	1986	1987	1988
Number	743	637	519	542
% of all cases	(48.6)	(50.4)	(52)	(58.5)

This stubborn endemicity in Blacks will be addressed in 1989, as we attempt to recruit leaders in the Black community to alert their members to the dangers of high-risk behaviors. A program to "sell" safer sex to minorities is the goal of our pilot project.

Gonorrhea in Street Prostitutes

We are completing a retrospective look at prostitution in our County during the last twenty years. We contemplate preparing a manuscript for publication. Preliminary information, being keypunched currently on a computer, reveals that about 1050 women have plied their trade locally and been examined at our clinic since 1970. Not much will be presented here, since it will be elaborated in our manuscript.

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
19 yrs total:	3878	716	18.5%

*Original visits excludes "follow-up" visits.

Gonorrhea in Homosexuals

Some gay men are not adhering to safer sex practices; we trust the following data does not harbinger a trend towards resuming the old ways. Of the 534 gonorrhea cases in men, 9(!) were in gay men, as opposed to one in 1987 (and in context of a generally declining contribution).

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%

Of the nine cases, infection was evenly distributed by orifice: 3 pharyngeal; 3 rectal; and 3 urethral.

Gonorrhea by aggregate report source

Since the advent, by about 1983, of immediately accessible and price-competitive medical care facilities (the Macdonald of hands-on care, such as Ready Care, Emergicare) and of pre-paid health plans (Peak Health, HMO's, etc.), the STD burden has inexorably shifted to the private sector, reversing the 1973-1982 trend of increasing enrollment to public and quasi-public facilities. The implications are chiefly operational: it takes at least 3 times the operational energy to conduct case management on private, as opposed to public or military, cases.

We are now at the highest level ever. From 1973 to 1982 case distribution shifted from 23.3% to 13.6% of all cases being diagnosed in the private sector. For 1988, it is 37.5%.

1973	1982	1983	1984	1985	1986	1987	1988
23.3%	13.6%	19.0%	17.8%	23.1%	23.6%	26.4%	37.5%

Gonorrhea: Unreported cases

About one per thousand cases of gonorrhea are not currently spontaneously reported in El Paso County...

Year	Cases Not Reported (%)
1981	7 (0.45)
1982	5 (0.4)
1983	12 (0.94)
1984	9 (0.6)
1985	10 (0.65)
1986	3 (0.24)
1987	5 (0.5)
1988	1 (0.01)

Gonorrhea Case Rates:

(Assumes a 1988 population of about 400,000) We have the lowest rate ever. Nice.

Gonorrhea Rates (cases/100,000)

1970	1973	1977	1980	1981	1982	1983	1984
667	700	735	~~491~~ 468	~~473~~ 471	~~387~~ 383	~~387~~ 385	~~459~~ 438

CONTINUED...

1985	1986	1987	1988
~~437~~ 420	~~342~~ 333	~~259~~ 255	232

These data are nothing short of spectacular, and provide the most persuasive evidence for the sustained sexual habit changes noted in previous reports.

PPNG (penicillinase-producing N. gonorrhoeae) cases:

There was a modest number of such cases during 1988. In some areas of the country, particularly on either coast, the disease is probably becoming entrenched. It took almost ten years for entrenchment (as opposed to episodic outbreaks) to occur. We can expect to observe more cases (due to almost invariably to importation from these areas), but we doubt PPNG will become entrenched locally.

Since the introduction of PPNG in the USA in the spring of 1976, 94 cases have been diagnosed in El Paso County (85 confirmed; 9 probable). Because they occurred in context of 18,865 gonorrhea cases, the 0.5% rate is "acceptable" (94 cases divided by 18,865).

There were 16 PPNG cases in 1988, compared to 15 in 1987.

Male-to-female ratio: gonorrhea

This ratio is a bit higher than last year, again due to the growing proportion of GC cases assumed by Fort Carson, where about 80 percent of cases are in men (337/428).

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

PART III

A. Chlamydia Control

Chlamydia, a disease virtually identical to gonorrhea, was first clearly delineated in the late 1960's/early 1970's. Serious control efforts were hampered by the lack of inexpensive tests and by the shift of attention to viruses, starting in the late 1970's: first genital herpes, and now AIDS-virus.

The availability of (modestly) reliable and (relatively) inexpensive tests in the mid-1980's, and the availability of control resources (occasioned by the declining gonorrhea load), permit us to devote more attention to its control. Several modest but committing events occurred during 1987: the introduction in June of 1987 of screening initiatives in Prenatal, Family Planning, and STD Clinics. In 1988, all clients were tested in Prenatal Clinic, screening was universal in Family Planning Clinic, and greatly expanded in STD Clinic.

Patients suspected of having chlamydia have traditionally received only counseling for sexual partner referral. During 1988 formal contact tracing procedures, analogous to those used

in gonorrhea control, were used for clients in Health Department clinics. (Since chlamydia is not a reportable disease, we cannot do the same for cases in the private medical sector.) In the military sector, we are told that most cases of chlamydia were case-interviewed for sexual partner information.

In the present Report, only a skeletal summary is presented. The data are good enough to be published; we are thus currently collecting the information, entering it on a computer in preparation for formal analysis and manuscript presentation.

An estimated 55 percent of all STD Clinic patients were tested for chlamydia during 1988: 25 percent of the men and 22 percent of the women were unequivocally positive. Thus, in our STD Clinic, the chlamydia positivity rate for men is 3 times that for gonorrhea and in women, 2.7 times. This is in accord with CDC estimates that place the community Chlamydia burden at 2.5-3.0 times that of gonorrhea overall. (We therefore estimate that, County-wide, approximately 2700 cases of Chlamydia were present in 1988.)

If we combine what we know of chlamydia cases identified in various health department and military clinics, then about 1100 of the 2700 (estimated) cases were detected and treated in 1988. The remaining 1600 cases were either undetected (diagnostic tools are 50-60% accurate) or were diagnosed (?)/treated in the private sector, where reporting is not yet mandatory.

Putting all these guesstimates together, we can venture an opinion that perhaps forty percent of all 2700 Chlamydia cases present during 1988 were treated and contact-interviewed by civilian and military personnel in El Paso County. This is a very respectable first-year effort, particularly since diagnostic tools are only modestly accurate and since Chlamydia is not reportable. We're proud of our efforts, especially these of our military colleagues.

Chlamydia: Reported Cases in 1988 (Preliminary Data)

	Men	Women	Total
Health Department Clinics:	230	221	451
Fort Carson:	250	197	447
Air Force:	84	150	234
Private Sector:	n/a	n/a	n/a
	564	568	1132

Contact-interviewing data are not available from the military installations. For Health Department Clinics, more than ninety percent of reported cases were interviewed:

About 414 cases, yielding 700 contacts, were interviewed, for a 1.7 contact per interview index - strikingly similar to what it is with civilian gonorrhea cases. Of the 570 or so contacts worked so far, about 100 became newly identified as a consequence of case-finding. Roughly speaking then, every fourth case of Chlamydia interviewed yields a newly identified case. It is a proportion lower than gonorrhea (about .33) principally because the diagnostic tests are insensitive.

That case-finding is a worthwhile activity in chlamydia control is evident: this observation forms the basis of the manuscript we are preparing.

Chlamydia by Ethnic Group

Although Health Department data on ethnicity are not available as of this writing, Fort Carson's are. It is instructive to compare the race distribution of reported gonorrhea and chlamydia cases at Fort Carson; it reveals what we have anecdotally noted in our civilian population: chlamydia is "whiter" than gonorrhea.

Fort Carson GC/Chlamydia cases: 1988
(By Ethnic Group)

Cases	White	Black	Other	Total
Gonorrhea:	81 (18.8%)	324 (75.2)	26 (6%)	431
Chlamydia:	177 (43%)	202 (49%)	33 (8%)	412

Thus, although the case burden is virtually identical (431 vs. 412), the ethnic distribution is strikingly different. These are preliminary data, but solid in their conclusion: although chlamydia is disproportionally Black, it is far whiter than gonorrhea.)

Chlamydia control will continue to be a high priority, since recent epidemiologic information incriminate chlamydia (much more than gonorrhea) in facilitating AIDS-virus transmission in heterosexual populations.

Part IV

Minor STD Program Data/Miscellaneous

VD Clinic attendance...returned to previous levels during 1988.

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

Note: Table excludes the approximately 2400 AIDS Counseling/Testing Center visits in 1988.

Most of the 600 patient-visits increase noted in 1988 is attributed to our newly implemented chlamydia control program (initiated in January of 1988). About 350 visits were due to persons who were treated as contacts to chlamydia and an equal number were return visits on the partof clients who were positive on chlamydia screening tests (hence the approximately equal increase in New and Return visits).

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 is included. They are presented mainly as a trend indicator.

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

The increase in NGU/Chlamydia can be attributed to better diagnosis (chlamydia screening in men). As for venereal warts, see comments below.

Infection	Women 1982	1983	1984	1985	1986	1987	1988
Trichomoniasis	461	492	390	275	112	115	103
Monilia	456	463	391	318	110	188	231
NSV	250	279	257	233	297	240	337
Herpes (1st Episode)	51	59	25	18	38	33	35
Venereal warts	55	62	49	76	72	61	117
Scabies	4	4	3	4	9	4	10
Phithirus pubis	29	31	22	17	29	24	22
Totals:	1306	1390	1137	941	667	665	855

The worrisome datum is the large increase in venereal warts cases, a doubling for both men and women. During 1988 more time was devoted to improved therapy (we introduced liquid nitrogen treatment in late 1988) and counseling (because of elevated risk of genital cancer, particularly in women).

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

Presentations

About 132 formal presentations were recorded, with a total audience of 6847 (excluding radio/television audiences), Thus, about 2.5 presentations a week, with an average audience of 52, were done in 1988. About 40 percent of audiences are students and about one-quarter are health-care workers. One (!!) percent are to audiences of persons known to have high-risk behaviors. (It ain't them that needs that gets.)

	1987	1988
Total presentations	110	132
Total audience	3683	6847
Students	45%	38%
Health care workers	23%	23%
Employers	10%	5%
Trainers	10%	16%
General audience	11%	17%
High risk persons	2.5%	1%

Presentations by person: (in descending order):

	1987	1988
Potterat	64	74
Muth	26	19
Woodhouse	0	17
Latimer	18	13
Castle	0	5
Phillips	2	2
Rogers	0	2

Summary of Medications Used
(1988)

VD Clinic			Given to CHC	
APPG (6 m.u.)	20	vials	0	
Bicillin (1.2 m.u.)	92	syringes	0	
Spectinomycin (2g)	24	vials	13	vials
Benemid (500mg)	600	capsules	200	capsules
Ampicillin (500mg)	5450	capsules	200	capsules
TCN (500mg): CDH	0		2300	capsules
TCN (500mg): EPC	55780	capsules	0	
Benadryl (50mg)	200	capsules	0	
Erythromycin (250mg)	9060	tablets	0	
Rocephin (250mg)	336	vials	0	

PART V

The traditional, unreadable Tables

EL PASO COUNTY GONORRHEA MORBIDITY

1973 - 1988

By Month

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	L. Phillips → 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	Woodhouse → 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

Venereal Disease Morbidity Report

Calendar 1988

Reporting Source	Morbidity				Age Group										Race			Pro RX	
	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	2	48		7		18		9	1	12	3	2	23	16	13		
Women			3	100	1	34		40		16	1	10	1		51	39	13		
V.D. Clinic Men	1	2	1	134	1	24	1	40		36	2	28		6	55	72	11	8	114
Women		1	2	140		53	1	43		26		14	2	4	67	64	12	8	124
CHC/Pren/Family P.		1		28	1	13		9		6					15	8	6		
Planned Parenthood				17		7		7		2		1			10	7			
Health Hold				10		2		3		5					5	4	1		
Fort Carson Men	1	2		337		42	2	202	1	58		32		3	52	273	15		
Women				91		28		34		21		7		1	29	51	11		
Ent Air Base Men	1			9		1	1	3		3		1		1	3	6	1		
Women				3		2				1					1	1	1		
Air Academy Men				6				6							5	1			
Women				4		1		3							4				
Totals	4	7	8	927	3	214	5	408	1	183	4	105	6	17	320	542	84	16	238

Clinic Attendance: 3998 ($4,014.00)
New: 2323
Return: 1675

ER Males: 22
ER Females: 61

Treatment Failure One Clinic Male

MONTHLY G.C. INVESTIGATIONS REPORT: EL PASO COUNTY HEALTH DEPARTMENT, 1988

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	CY88	PCT/TL
CONTACTS TO GONORRHEA: OUTCOME														
NOT INFECTED	0	0	0	1	0	1	0	0	0	0	1	0	3	0.40
BROUGHT - TX	16	21	18	20	10	23	13	10	19	24	15	8	197	26.02
PREVIOUS TX	11	13	5	11	4	11	12	8	3	8	8	9	103	13.61
NOT FOUND	4	5	12	11	4	6	10	12	10	3	16	5	98	12.95
REFUSED EXAM	0	0	2	2	0	5	1	1	2	1	3	0	17	2.25
UNLOCATABLE	6	6	5	6	4	8	1	4	8	5	17	3	73	9.64
TRANSFERRED	0	3	1	1	2	0	1	0	0	0	1	0	9	1.19
EPI TREATED	23	20	36	23	18	15	19	24	21	19	22	17	257	33.95
OTHER	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
TOTAL	60	68	79	75	42	69	57	59	63	60	83	42	757	100

MONTHLY CHLAMYDIA INVESTIGATIONS REPORT: EL PASO COUNTY HEALTH DEPARTMENT, 1988

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	CY88	PCT/TL
CONTACTS TO CHLAMYDIA: OUTCOME														
NOT INFECTED	0	0	1	0	0	0	0	0	2	0	0	0	3	0.53
BROUGHT - TX	1	2	12	10	12	6	5	8	14	5	7	15	97	17.02
PREVIOUS TX	0	0	2	4	1	5	3	0	6	1	7	18	47	8.25
NOT FOUND	6	1	6	8	2	3	4	7	9	5	4	10	65	11.40
REFUSED EXAM	0	0	4	2	0	2	2	1	1	2	4	2	20	3.51
UNLOCATABLE	0	1	3	4	4	1	4	4	8	4	8	13	54	9.47
TRANSFERRED	0	2	2	0	0	1	0	0	2	0	1	0	8	1.40
EPI TREATED	7	14	37	24	26	31	15	13	33	22	27	27	276	48.42
OTHER	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
TOTAL	14	20	67	52	45	49	33	33	75	39	58	85	570	100

MONTHLY V.D. CLINIC AND LABORATORY REPORT: EL PASO COUNTY HEALTH DEPARTMENT, 1988

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	CY88	POS.	PCT+
TESTING:															
HIV (AB)	136	95	107	108	108	101	148	128	139	98	109	115	1392	84	6.03
HIV (CUMULATIVE)												3574	3574	267	7.47
RPR	169	219	237	228	263	229	263	299	275	239	238	244	2903	54	1.86
FTA	3	4	6	6	4	7	8	9	8	6	2	2	65	24	36.92
DF	0	0	0	0	1	0	0	0	0	0	2	0	3	0	0.00
GC SMEAR	100	104	129	137	120	127	143	164	155	124	133	159	1595	87	5.45
GC CULTURE:															
VDC MEN	115	111	137	150	132	136	153	175	161	136	141	170	1717	137	7.98
VDC WOMEN	110	101	149	134	136	143	173	167	199	173	145	166	1796	147	8.18
PNC WOMEN	61	34	53	29	37	42	34	31	48	41	49	29	488	5	1.02
FPC WOMEN	22	30	31	20	18	28	28	25	14	15	16	19	266	5	1.88
PMD WOMEN	172	150	155	172	144	129	100	126	34	4	0	70	1256	7	0.56
TOC :ALL PTS	16	16	22	19	25	11	6	20	15	12	6	10	178	2	1.12
CHLAMYDIA:FE	26	43	40	64	90	74	41	91	98	85	64	81	797	175	21.96
TREATMENT:															
GC TREAT	20	38	29	16	29	14	18	37	28	31	26	27	313	NA	NA
GC PRO TREAT	15	23	19	15	23	10	25	17	23	20	25	22	237	NA	NA
LUES TREAT	0	0	3	4	3	2	1	4	2	1	3	1	24	NA	NA
LUES PRO TREAT	0	0	0	6	0	2	0	2	1	2	2	0	15	NA	NA
NON-V.D. TREAT	167	147	164	182	207	185	172	252	201	167	148	142	2134	NA	NA
CLINICS: NO.	12	13	13	13	13	13	13	14	13	13	11	13	154	NA	NA

HIV TESTING EXCLUDES THE 71 MILITARY POSITIVES SINCE JULY 1985 AND 13 POSITIVE DONORS LOST TO FOLLOW-UP

VENEREAL DISEASE CLINIC 1988

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	TOTAL
GONORRHEA #													
CONF. POS.	15	18	30	14	27	18	25	35	35	24	18	41	300
NEG. TOTAL	223	208	258	290	312	260	322	305	305	289	271	270	3313
BIO. SUGARS	2	2	4	8	4	2	5	5	0	0	1	11	44
PPNG	19	17	26	13	25	14	15	33	0	19	16	18	215
URETHRAL SM	100	110	122	86	144	93	124	147	72	131	107	128	1364
HIV	126	92	92	100	114	101	128	144	126	97	109	91	1320
CHLAMYDIA	42	82	116	122	176	158	121	157	219	183	140	205	1721
CHLAMYDIA +	7	17	34	26	40	29	15	43	65	19	54	52	401
STREP:													
DAILY #	0	0	0	0	0	0	0	0	0	0	0	0	0
CONF. POS.	1	0	0	1	1	1	1	0	0	0	0	0	5
NEG. TOTAL	1	5	3	4	0	2	1	3	0	0	1	0	20
HEP.B SCREEN	37	21	39	33	20	28	34	42	19	27	28	28	356
CBC	1	0	0	0	0	0	0	0	0	0	0	0	1
RPR -	176	191	261	233	251	232	255	267	293	222	224	268	2873
RPR +	4	3	6	4	4	6	4	9	9	4	4	6	63
FTA	4	4	8	10	4	8	6	9	6	5	3	6	73
URINE +	0	0	0	0	1	0	1	3	0	0	0	0	5
URINE -	0	0	0	0	2	1	1	0	0	0	0	0	4
URINALYSIS	2	0	2	1	2	0	0	0	0	0	0	1	8
DARKFIELD	0	0	0	0	0	0	0	0	0	0	0	2	2
PREGNANCY	6	0	2	4	2	3	7	4	2	0	0	1	31
KOH	47	62	58	67	76	78	69	71	105	64	53	62	812
NACL	47	62	58	67	76	78	69	71	105	64	53	62	812
TOTAL	860	894	1119	1083	1281	1112	1203	1348	1361	1148	1082	1252	13743

1988 VDC / J.S FOGLE