Office

EL PASO COUNTY HEALTH DEPARTMENT

501 N. Foote Avenue

Colorado Springs, Colorado

ANNUAL REPORT

Venereal Disease Program

January 1, 1977 - December 31, 1977

"Why, sometimes I've believed
as many as six impossible things
before breakfast."

The White Queen --
"Through The Looking Glass"

Introduction

This report is divided into two parts. Part one comprises a narrative review of gonorrhea's behavior in 1977. Part two consists of laborious tables. No attempt at commentary is included with the latter because 1) the interpretive framework is available in previous annual reports and, most importantly, 2) the data differ insignificantly from the previous year.

Faithfully submitted,

John Potterat
Director

Christopher I. Pratts
Epidemiologist

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PART I

"We work in the dark; we do what we can"
(Lights, please!) J.P.

A. For 1977 we report 1998 cases of gonorrhea, a 1% increase over 1976. We have thus achieved containment - though we had aimed for reduction - of El Paso County's gonorrhea burden.

What happened and what have we learned? A brief review of the major strategies used to interrupt gonorrhea transmission in 1977 will help set the stage for understanding.

Annual Report 1976. details the focus of current control efforts: interviewing selected females whose diagnosis implies the presence of asymptomatic gonorrhea in their sexual environment. This asymptomatic male carrier is hypothesized to form the substrate for continued transmission in the community because he harbors the disease silently and for a long duration. Intensive efforts to detect and remove him quickly from the reservoir constitute the cornerstone of our epidemiologic strategies. (Sustained pressure on the street prostitute population comprised another of our major control thrusts.)

Removal of asymptomatic males from the reservoir was predicted, in Annual Report 1976, to interrupt transmission, generate fewer future cases and thus reduce the overall burden. Should we be distressed that only containment, but not reduction, was achieved in 1977? We believe not. Reduction

is attainable in 1978 if we remain patient and appreciate the crucial role played by time in gonorrhea control. Most gonorrhea control strategies previously tried (elsewhere) led to apparently disappointing results because of program managers' unrealistic expectations for immediate, palpable impact. We believe they may have failed because they were not given sufficient time.

The key, we feel, to understanding gonorrhea's 1977 behavior in El Paso County lies with its temporal aspect. Even a cursory comparison of 1976 and 1977 cases will immediately reveal no appreciable difference in distribution by age, race, sex, reporting source or census tract: the two Tables are virtually identical! (The only appreciable difference is one age category: in 1977 there were nearly 100 fewer cases in the 14-19 age group, absorbed by the 20-29 age group.)

What is significantly different in comparing these two virtually identical years is distribution of cases over time.

The Table below records morbidity by quarter for the last 5 calendar years.

El Paso County

Gonorrhea Morbidity

Quarterly and Percentage Distribution 1973 - 1977

YEAR	QUARTER 1	Quarter 2	QUARTER 3	QUARTER 4	TOTAL
1973	427 (26.7%)	337 (21%)	471 (29.4%)	363 (22.7%)	1598
1974	297 (18.2%)	414 (25.4%)	528 (32.4%)	390 (24%)	1629
1975	393 (23.4%)	387 (23%)	548 (32.6%)	352 (21%)	1680
1976	413 (20.8%)	451 (22.8%)	605 (30.6%)	509 (25.7%)	1978
1977	443 (22.2%)	558 (28%)	476 (23.8%)	521 (26%)	1998

We see that Quarter 1, 2 and 4 consistently each averages 23% of the year's morbidity, with Quarter 3 averaging 31%. This marked seasonality has long been observed in the USA. The peculiarity in 1977 is expressed in the inversion of what was predictable for Quarters 2 and 3. Indeed, quarter 3 was 21.3% lower than in 1976 and almost identical, in absolute numbers, to the same period in 1973. A 21.3% decrease during the traditionally busiest season of the gonorrhea year is notable indeed. And so is an abnormally high 2d Quarter. Before venturing an explanation, let's examine morbidity by semi-annual periods.

El Paso County

Gonorrhea Morbidity

Semi-Annual and Percentage Distribution 1973 - 1977

YEAR	FIRST HALF	SECOND HALF	TOTAL
1973	764 (47.8%)	834 (52.2%)	1598
1974	711 (43.6%)	918 (56.4%)	1629
1975	780 (46.4%)	900 (53.6%)	1680
1976	864 (43.7%)	1114 (56.3%)	1978
1977	1001 (50.1%)	997 (49.9%)	1998

The first half of the year should record roughly 45%, and the second half, 55% of the year's morbidity. In 1977, the halves are the reverse, temporally, of 1976.

Our Program initiated the search for the asymptomatic male, experimentally, in early 1976 and by mid - 1976 this pursuit became solidly disciplined with the assignment of our special casefinder (Lynn Phillips). Superior detection swelled our morbidity during the second half of 1976 and continued unabated through the first half of 1977. These temporally anomalous results may not have occurred had this specific program intervention not been translated into policy. Thus, after a year (July, 1976 - June, 1977) of detecting and removing many asymptomatic males, transmission was sufficiently interrupted to produce a modest 3d quarter of 1977 - precisely when morbidity should be at peak levels.

If our assertions are correct, why was this downward trend not sustained during the fourth quarter of 1977? Again we believe that the key lies with time: we are intercepting the asymptomatic male after he has had sufficient time to transmit the disease successfully. Were we to continue our present

strategies, the best we could hope for would be containment or slight reduction. A strategy that could successfully intercept the asymptomatic male much sooner is the probable key to the reduction of the gonorrhea burden. Let's digress and clarify.

The average time that an asymptomatic male harbors the disease before detection in El Paso County is about 2 - 3 months (range 0 - 18 months). We are led to him by females whose diagnosis argues for the presence of silent gonorrhea in her male partners: screenees, females with G.C., P.I.D. and repeaters. By the time she is infected, detected, interviewed and her male consorts medically managed, four to six months have elapsed. At any given point we are thus dealing with transmitters that have had ample opportunity to perpetuate the disease. The fact that they are detected at all probably prevents epidemic levels; the fact that they are detected too late (relatively) permits endemicity. A declining gonorrhea burden is probably contingent on faster interception of asymptomatic males - this leads us to recommendations for 1978.

Anecdotally we know that a significant proportion of asymptomatic males are Fort Carson soldiers. This is not surprising: nearly 60% of reported male gonorrhea in El Paso County emanates from Fort Carson. Nearly 250 new soldiers a week arrive for assignment to the post, or 13,000 annually. Our control program can detect and remove most asymptomatic males currently in the reservoir; the chronic introduction of fresh carriers via military movements replenishes the pool. We feel that this hypothesis accounts for the 4th quarter surge in 1977: had our borders been closed to the influx of new carriers, the downward trend of the summer of 1977 should have continued unabated.

What proof have we for our description? None. Anecdotal information? Yes. We propose that, as early as possible in 1978, a Port of Entry Gonorrhea Screening Program be initiated at Fort Carson to test new troop arrivals for asymptomatic disease. Detected and removed at this early stage may discourage endemicity and provoke reduction in gonorrhea levels in El Paso County. Were this proposed program not feasible, we would be possibly condemned to attack this disease from the outside in. Picturing gonorrhea epidemiology as a series of concentric circles, we are working at the periphery in an attempt to get at the core transmitters. Should we be privileged to work at the interior circles, we could prevent the generation of additional outer circles.

A Port of Entry Screening Program should be viewed neither as a panacea nor as a high yield procedure. Other Program components must be sustained at present intensity. Yield from and screening will in all probability not exceed 1% and should, in absolute numbers, detect circa 100 asymptomatic male carriers annually. Because of their disproportionate impact on overall morbidity, success with such a screening procedure should be substantial. We owe El Paso County determined testing of this hypothesis, at least as a pilot project initially spanning no less than six months. It is, for our community, an idea whose time has come.

B. Street Prostitution The idea that early interception of cases in a population leads to a reduced burden in that population is strengthened by our observations of gonorrhea in street prostitutes in Calendar, 1977. Prior to 1976 our control efforts among prostitutes were essentially passive; prostitutes were ordinarily examined when our program or the police could successfully motivate them to seek care. Positivity rates per clinic visit varied

between 27 - 31%. A vigorous system, translated into policy in mid - 1976, stimulating prostitutes to mensual examination initially (August - December 1976) generated an even higher positivity rate: 37%. This rate was halved in 1977, to 19%, with clinic attendance levels remaining identical. Conversely, diminished surveillance and a reduction in epidemiologic pressure should occasion a substantial increase in positivity rates. The observation that fewer cases of G.C. are isolated from street prostitutes should thus not induce a relaxation of our vigilance.

Monthly Venereal Disease Morbidity Report

CALENDAR, 1977

Reporting Source	Morbidity				Age Group										Race			Pro	EX
	Syphilis			Gon	14-19		20-24		25-29		30-39		40+		Cau	Blk	Unk	Syph	Gon
Categories	P&S	E.L.	Other		Syph	Gon	Syph	Gon	Syph	Gon	Syph	Gon	Syph	Gon					
Private Physician Men	1	2	5	104	1	12		40	1	23	2	24	4	5	76	34	2		
Women			4	166		61		60	1	28		16	3	1	138	29	3		
V.D. Clinic Men	1	4	1	433		37	1	200		123	2	60	3	13	304	132	3	9	300
Women	2			409	1	153		176	1	59		20		1	308	97	6	0	395
Prenatal/CHC				18		7		6		5					16	1	1		
Planned Parenthood				52		21		22		8		1			46	6			
Health Hold				12		1		9		2					9	3			
Fort Carson Men	2	4		697		128	4	447	2	99		19		4	279	423	1		
Women	2			48		16	1	28		4	1				21	27	2		
Ent Air Base Men			1	24		3		12		3		5	1	1	9	15	1		
Women			1	7		1		5		1	1				6	2			
Air Academy Men		1		26		10	1	15				1			24	3			
Women		1		2	1	1		1							2	1			
Totals	8	12	12	1998	3	451	7	1021	5	355	6	146	11	25	1238	773	19	9	695

Clinic Attendance 5043 ($2657.00)
New 2546
Return 2497

ER Male; 45
ER Females; 92

Treatment Failure One female (PMD); one probable PPN USAFA male.

Above includes: 4 cases of disseminated G.C. (all female)
1 case of perpubertal G.C. (8 y/O Fe)

REPORTED GONORRHEA MORBIDITY - EL PASO COUNTY

Calendar Years 1973 - 1977

Case and Percentage Distribution by Sex and Reporting Source

Reporting Source	Male					Female					Totals	
	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977	1973	1974
Private Doctors	(10.3) 102	(10.4) 106	(7.3) 76	(7.58) 96	(8.1) 104	(34.3) 210	(32.2) 198	(29.7) 191	(28) 199	(25.8) 184	(19.5) 312	(18.6) 304
V.D. Clinic	(30.7) 302	(34.3) 347	(38.7) 401	(34) 430	(33.7) 433	(45.8) 281	(54.1) 333	(52.6) 338	(54) 385	(57.2) 409	(36.5) 583	(41.8) 680
Military	(59) 580	(55.3) 562	(54) 561	(58.5) 740	(58.2) 747	(9.2) 56	(4.4) 27	(6.8) 44	(4.9) 35	(8) 57	(39.8) 636	(36.1) 589
PPC, OB, HH	N/A	N/A	N/A	N/A	N/A	(10.7) 66	(9.3) 57	(10.9) 70	(13.1) 93	(9) 64	(4.2) 66	(3.5) 57
Totals	(100) 984	(100) 1015	(100) 1038	(100) 1266	(100) 1284	(100) 613	(100) 615	(100) 643	(100) 712	(100) 714	(100) 1597	(100) 1630

Number in parentheses are percentages of each morbidity category for that specific year.

Legend: PPC - Planned Parenthood
O.B. - O.B. Clinic
H.H. - Health Holds (arrested prostitutes)

REPORTED GONORRHEA MORBIDITY - EL PASO COUNTY

Calendar Years 1973 - 1977

Case and Percentage Distribution by Age and Sex, and by Age and Reporting Source

	AGE GROUP														
	14-19					20-24					25-29				
Sex	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977
Male	(43.5) 167	(45) 209	(42) 176	(48) 262	(42.1) 190	(65.5) 534	(68) 521	(69) 572	(70.3) 663	(70) 714	(73.4) 193	(66.8) 181	(62.5) 190	(67) 219	(69.9) 248
Female	(56.5) 217	(55) 256	(58) 244	(52) 284	(57.9) 261	(34.5) 281	(32) 242	(31) 255	(29.7) 280	(30) 307	(26.6) 70	(33.2) 90	(37.5) 114	(33) 108	(30.1) 107
Total	(100) 384	(100) 465	(100) 420	(100) 546	(100) 451	(100) 815	(100) 763	(100) 827	(100) 943	(100) 1021	(100) 263	(100) 271	(100) 304	(100) 327	(100) 355
Reporting Source															
Private Doctors	(18.5) 71	(16.3) 76	(15) 63	(15.2) 83	(17.7) 80	(16.2) 132	(14.2) 108	(11.5) 95	(11.8) 111	(10.4) 106	(22.8) 60	(26.6) 72	(24.6) 75	(18.7) 61	(15.9) 56
V.D. Clinic	(41.1) 158	(45.1) 210	(45.4) 191	(42.1) 230	(42.1) 190	(35.6) 290	(39.3) 300	(39.6) 328	(35.4) 334	(36.8) 376	(36.9) 97	(46.5) 126	(50.4) 153	(51.7) 169	(51.3) 182
Military	(32) 123	(33) 153	(32) 134	(35.4) 193	(35.2) 159	(45) 366	(42.8) 327	(44.9) 371	(48.3) 455	(49.8) 508	(38) 100	(25.8) 70	(24) 73	(27.2) 89	(30) 107
P.P.C., O.B., H.H.	(8.4) 32	(5.6) 26	(7.6) 32	(7.3) 40	(4.9) 22	(3.2) 27	(3.7) 28	(4) 33	(4.5) 43	(3) 31	(2.3) 6	(1.1) 3	(1) 3	(2.4) 8	(2.8) 10
Totals	(100) 384	(100) 465	(100) 420	(100) 546	(100) 451	(100) 815	(100) 763	(100) 827	(100) 943	(100) 1021	(100) 263	(100) 271	(100) 304	(100) 327	(100) 355

REPORTED VENEREAL DISEASE MORBIDITY - EL PASO COUNTY

Calendar Years 1973 - 1977

Case and Percentage Distribution by Race and Sex, and by Race and Reporting Source

Race	Caucasian					Black					Totals				
Sex	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977
Male	(55) 572	(55) 653	(55) 657	(56) 705	(55.9) 692	(72.6) 474	(78.4) 403	(78.8) 431	(78) 605	(77.5) 614	(61.7) 1046	(62) 1056	(62.2) 1088	(64.4) 1310	(64.3 1306
Female	(45) 470	(45) 532	(45) 545	(44) 554	(44.1) 546	(27.4) 179	(21.6) 111	(21.2) 116	(22) 170	(22.5) 178	(38.3) 649	(38) 643	(37.8) 661	(35.6) 723	(35.7 724
Totals	(100) 1042	(100) 1185	(100) 1202	(100) 1259	(100) 1238	(100) 653	(100) 514	(100) 547	(100) 775	(100) 792	(100) 1695	(100) 1699	(100) 1749	(100) 2034	(100) 2030
Reporting Source															
Private Doctors	(27.4) 286	(23) 273	(19) 229	(18.5) 233	(18.6) 230	(10.9) 71	(10) 51	(10.6) 58	(10.2) 79	(8.8) 70	(21) 357	(19) 324	(16.4) 287	(15.3). 312	(14.8 300
V.D. Clinic	(41.2) 429	(46.9) 555	(50) 600	(48) 605	(49.4) 612	(26.1) 171	(30) 154	(30.2) 165	(30.5) 236	(30) 238	(35.1) 600	(41.7) 709	(43.8) 765	(41.4) 841	(41.9 850
Military	(25.7) 268	(25.7) 305	(26) 312	(27.2) 342	(27.5) 341	(62) 404	(59) 304	(57.6) 315	(57.5) 446	(60) 475	(40) 672	(35.8) 609	(35.8) 627	(38.7) 788	(40.2 816
PPC, CB. HH	(5.7) 59	(4.4) 52	(5) 61	(6.3) 79	(4.5) 55	(1) 7	(1) 5	(1.6) 9	(1.8) 14	(1.2) 9	(3.9) 66	(3.5) 57	(4) 70	(4.6) 93	(3.1 64
Totals	(100) 1042	(100) 1185	(100) 1202	(100) 1259	(100) 1238	(100) 653	(100) 514	(100) 547	(100) 775	(100) 792	(100) 1695	(100) 1699	(100) 1749	(100) 2034	(100) 2030

Venereal Disease = Gonorrhea and Syphilis

Gonorrhea Repeaters

Despite vigorous control efforts, the repeater rate increased appreciably in 1977. No explanation is offered.

Of 1998 gonorrhea cases, 403 (20.2%) represent infections in 174 people. (This rate was 17.7% in 1973, 19.5% in 1974, 14.5% in 1975 and 15.7% in 1976).

Thus, 1769 people accounted for 1998 episodes in 1977. The tendency to repeat is most pronounced in Black military males:

1. 123 of 174 repeaters (70%) are male.
2. 83 of 123 male repeaters (67%) are military.
3. 66 of 85 (77%) military repeaters are Black; with these 66 accounting for 166 episodes (42% of all episodes in repeaters!)

White male repeaters tend to be civilian and homosexual:

1. Nearly one third of all white male repeaters are gay.
2. Slightly over half of white civilian male repeaters are gay.

Female repeaters tend to be white 80%, civilian 96% and non-prostitutes 88%: of 174 repeaters, 135 had 2 episodes each, 29 three episodes, 7 four episodes, 1 had 5, 6, and 7 episodes each.

Summary of Investigative and Interviewing Activities

CALENDAR, 1977

Originating Agency	Investigations	Disposition of Persons Examined										Totals	Number of Interviews	Contacts Obtained
		0	1	2	3	6	7	8	9	X	Y			
Armed Forces	Contact To: 1. Primary & Secondary Syph.	1	1			2				2		6	5	9
	2. Early Latent Syphilis				1							1		
	3. Other Syphilis													
	4. Gonorrhea	10	70	1	39	84	15	45	4	79	1	348		
Private Physicians	1. Primary & Secondary Syph.					2						2	1	0
	2. Early Latent Syphilis									1		1		
	3. Other Syphilis													
	4. Gonorrhea	3	58		39	62	9	6	5	133		325		
Public Cases (Clinic)	1. Primary & Secondary Syph.	2			3	3		2		3		13	3	4
	2. Early Latent Syphilis	10	2			5	1		1	10		29	5	28
	3. Other Syphilis													
	4. Gonorrhea	18	94	1	20	90	19	28	13	150		533	424	1158
Armed Forces Public & Private	Positive S.T.S.Follow-Up	40	21		59	5	1		2	1		129		
Clinic	Clinic Patient Field Follow-Up (Rechecks)	9	163	2	103	31	25		4	8		345		
Totals		103	409	4	364	284	70	81	29	387	1	1732	438	1199

# of Personal Visits with Private Physicians 25 # of Laboratory Visits 37 Contacts & Follow-Up Open at end of Month

1. Syphilis
2. Gonorrhea N/A
3. Other

Monthly Venereal Disease Laboratory Testing Report

CALENDAR, 1977

Tests	No.	Pos.	% Pos.	RX	Disp.	Pndg	V.D. Clinic Men	V.D. Clinic Women	private Physicians Men	private Physicians Women	Pren	CHC	P.P.C.	Health Hold
VDRL(Routine)	3785	91	2.4%											
VDRL(Pre-Marital)	0													
FTA	78	43	55.1%											
Darkfield	9	1	11.1%											
GC Smear	2054	328	16%				2023 (324)					28 (4)		
GC Culture	18703	1022	5.5%				2498 (424)	2064 (395)	368 (47)	5511(72)	347 (4)	1027 (14)	6788 (52)	100(14)
Trichamonas	629	146	23.2%											
Monilia	504	91	18%											
Gravindex	15	4	26.7%											
Urinalysis	13	1												
Pap	389	3	0.77%		2 Class III 1 Class 4									
Profiles	6													
Rechecks	701	29	4.1%				267 (4)	324 (18)	38 (5)	72 (2)				

27 reinfections
1 Inadequate treatment
1 treatment failure

(Numbers in parentheses refer to positives)

ACTIVITIES REPORT

Clinic or Division Venereal Disease — CALENDAR Year 1977

Section — Monthly DATA

TYPE OF ACTIVITY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC
Clinic Attendance	467	296	419	414	419	416	378	518	424	411	475	406
Number Clinics	20	15	19	16	17	18	15	18	16	16	17	16
GC Testing	1770	1482	1667	1678	1710	1797	1728	2057	2300	1741	1965	1771
Syphilis Testing	350	258	319	311	308	344	303	377	321	312	373	294
Non VD T ting	127	131	143	133	148	131	131	129	110	130	118	125
Syphilis Treatment	1	2	0	4	1	0	3	5	0	3	1	0
GC Treatment	97	50	72	81	72	80	67	114	66	89	87	69
Pro Syphilis	-0-	3	0	1	2	0	0	0	0	0	2	1
Pro GC	71	45	66	61	54	45	37	61	51	51	86	67
Non VD Rx	114	120	113	104	105	122	109	137	133	98	155	125
Syphilis Morbidity	2	2	0	4	2	3	2	6	3	3	3	2
GC Morbidity	193	117	133	182	161	215	134	193	149	145	212	164
GC I erviews	53	21	37	35	42	32	23	61	27	8	58	27
Syphilis Interviews	-0-	0	0	3	1	1	2	2	0	3	2	0
GC Investigations	114	61	147	100	109	86	61	131	77	56	132	125
Syphilis Investigations	8	2	2	9	7	2	0	6	3	3	6	5
Rechecks & Pos. Bloods	36	31	38	35	41	42	34	57	34	41	74	47
TOTAL ACTIVITIES												

CITY-COUNTY HEALTH DEPARTMENT COLORADO SPRINGS, COLORADO

ACTIVITIES REPORT

Clinic or Division Venereal Disease) CALENDAR Year 1977

Section _____ Cumulative DATA

TYPE OF ACTIVITY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC
Clinic Attendance	467	763	1182	1596	2015	2431	2809	3327	3751	4162	4637	5043
Number Clinics	20	35	54	70	87	105	120	138	154	170	187	203
GC Testing	1770	3252	4919	6597	8307	10104	11832	13889	16189	17930	19895	21666
Syphilis Testing	350	608	927	1238	1546	1890	2193	2570	2891	3203	3576	3870
Non VD Testing	127	258	401	534	682	813	944	1073	1183	1313	1431	1556
Syphilis Treatment	1	3	3	7	8	8	11	16	16	19	20	20
GC Treatment	97	147	219	300	372	452	519	633	699	788	875	944
Pro Syphilis	0	3	3	4	6	6	6	6	6	6	8	9
Pro GC	71	116	182	243	297	342	379	440	491	542	628	695
Non VD Rx	114	234	347	451	556	678	787	924	1057	1155	1310	1435
Syphilis Morbidity	2	4	4	8	9	12	14	20	23	26	29	31
GC Morbidity	193	310	443	625	786	1001	1135	1328	1477	1622	1834	1998
GC Interviews	53	74	111	146	188	220	243	304	331	339	397	424
Syphilis Interviews	0	0	0	3	4	5	7	9	9	12	14	14
GC Investigations	114	175	322	422	531	617	678	809	886	942	1074	1199
Syphilis Investigations	8	10	12	21	28	30	30	36	39	42	48	53
Rechecks & Pos. Bloods	36	67	105	140	181	251	285	342	376	417	491	538
TOTAL ACTIVITIES												