EL PASO COUNTY HEALTH DEPARTMENT

501 N. Foote Avenue

Colorado Springs, Colorado

ANNUAL REPORT

Venereal Disease Program

January 1, 1978 - December 31, 1978

"There's too many beers
I haven't drunk
And too many thoughts
I haven't thunk."

(Kris Kristofferson)

This Report is dedicated to Lynn Phillips and Diane Richards, who contributed so much to our successes (1973 - 1978).

Introduction

Gonorrhea control is a jig saw puzzle with most of the pieces missing. In the enclosed we detail the apparent impact of some of the pieces we've positioned. Hopefully they were correctly placed.

Our perceptions about the importance of "core" groups - notably our street prostitutes and the urethrally asymptomatic males - have received mixed reviews. A common criticism is that we've permitted our enthusiasm to distort true perspective. Rather than holding opinions, we are held by them. Maybe. Ours is admittedly a glandular style. We think more with our adrenal, than our cerebral, cortex. And yet there is reason in our madness!

The presentation and conclusionsthat follow will generate skepticism in the dispassionate reader. So be it. If incorrect, our theories will be discredited soon enough. The crucial thing in gonorrhea control is to do something. Until the puzzle is complete, action is more important than theory. There are many thoughts about gonorrhea dynamics that haven't been "thunk"; yet successful control need not await their birth or demonstrated validity. Epidemiology is the art of the practical, the possible and the probable. With sound theory preferably, but not necessarily.

Part I comprises a narrative of gonorrhea's behavior (it behaved itself!)in 1978; Part II consists of the traditional, laborious Tables.

Faithfully and Joyfully Submitted,

Rita J. Dawson	John Potterat	Christopher Pratts
Office Manager	Director	Epidemiologist

PART I

"The record shows
We took the blows
And did it our way"

(Paul Anka's My Way,
paraphrased)

Gonorrhea in 1978

A. For Calendar 1978 we report 1515 cases of gonorrhea, a virtual 25% decline over 1977. For the first time since disciplined control was instituted in 1972 we inherit the pleasant task of explaining a substantial, sustained decrease. It's an easy feeling.

Public health means prevention; there is no other reason for its existence. That we were apparently able through implementation of innovative control strategies to prevent nearly 500 cases in 1978 constitutes a solid endorsement of the value of public health measures.

It remains the burden of Part I of this Report to detail the dynamics of our successes. First the trends, here and elsewhere...

Reported Gonorrhea Cases 1972 - 1978

Year	El Paso County	%Change	Colorado	%Change	USA	%Change
1972	1541		7,734		767,215	
1973	1597	+3.6%	9,326	+20.6%	842,621	+9.8%
1974	1630	+2 %	10,307	+10.5%	906,121	+7.5%
1975	1681	+3.1%	11,531	+11.9%	999,937	+10.4%
1976	* 1978	+17.7%	11,239	-2.5%	1,001,994	+0.2%
1977	1998	+1 %	11,589	+ 3.1%	1,000,177	-0.2%
1978	* 1515	-24.2%	11,558	-0.3%	1,006,347	+0.6%

The United States experienced a decade of 10 -15% annual increases that ended around 1975. Because of vigorous control efforts, initiated in 1972, El Paso County's rates of increase were held to the 2 - 3% range. In 1976 new control strategies based on the detection and removal of the urethrally asymptomatic male helped occasion a sudden surge in reported cases for that year, while gonorrhea declined elsewhere. (Indeed, morbidity decline in Colorado would have been 5% rather than 2.5% in 1976 had El Paso County continued previous trends). By 1978 the U.S. exhibited a slight increase while Colorado should have recorded a 4% increase, had we sustained 1976 - 1977 El Paso County levels. In sum, gonorrhea morbidity can be said to have stabilized in Colorado and the United States since 1975, except in El Paso County. We feel the anomalies can best be explained by the introduction in 1976 of new strategies. These were not being rigorously implemented elsewhere. It is notable as well that El Paso County's population increased 30% since 1971, while gonorrhea morbidity returned to pre - 1972 levels by 1978.

Here is not the place to detail the strategies marshalled to combat gonorrhea in El Paso County; Annual Report 1976 described these, while Annual Report 1977 predicted their outcome.

We have made our assertions. It is time to offer supportive evidence. We are aware of the dangers inherent in interpreting disease trends; we claim mo immunity

from this condition. Highly suggestive as our data are, their interpretation may be simply self-serving.

How can we know that circa 500 cases were prevented by strategies designed to interrupt transmission? It seems to us that the best way to characterize gonorrhea morbidity is not merely by standard criteria (e.g. age/race/sex/reporting source) but by reason for presentation as well. How was this case of gonorrhea detected? Males ordinarily present because of urethral symptoms: discharge and/or dysuria of various intensity. These are "Volunteers". Co-morbidity is another mechanism: the patient presents with another S.T.D. and is screened, usually by public V.D. Clinics, for asymptomatic GC. These are "Screenees". The last category comprises those detected via casefinding. These are "Contacts" and they are usually non-symptomatic. Females are detected somewhat differently, though the same categories can be used. "Volunteers" ordinarily present because of symptoms: abnormal gynecologic symptoms, very often discomfort or pain (P.I.D.). "Screenees" tend to be a by-product of the screening program (The idea that susceptible females, while in the stirrups, are automatically screened for G.C.)."Contacts" are epidemiologically linked, referred usually by a frankly symptomatic male.

The chief shortcoming of orthodox control programs is their failure to implement active mechanisms to detect the urethrally asymptomatic male. This is very surprising. Epidemiologic information has long suggested that the prevalence of asymptomatic urethral G.C. in the male ranges from 15 - 20%. If we can trust that more than a million males are estimated to be infected annually in the U.S., there must be close to 200,000 that are affected asymptomatically. And yet these are not being systematically addressed. They are seldom screened, except in public clinics interested in co-morbidity, nor are they likely to be intercepted by complications. The most viable mechanism is casefinding. In the non-homophile population this means

interviewing or counseling female infectees. This procedure is not highly recommended by V.D. Control authorities. It does, however, comprise the cornerstone of our control efforts: the follow-up of selected females whose diagnosis implies the presence of an asymptomatic (or subsymptomatic) male in their sexual environment. The removal of this asymptomatic male should curtail a major substrate for continued transmission - silent infection in a seldom intercepted patient. If successful, fewer future cases should be generated. Do our data suggest its validity?

It is not significant simply to state that 500 cases may have been prevented. It is important to detail where the prevented cases may have occurred. If our hypotheses are correct, then a control program that removes asymptomatic transmitters should see its greatest decline mainly in contact to gonorrhea females. Also, the fewer infected females, the fewer symptomatically infected males. (The incidence of asymptomatic male G.C. is probably 1 - 2%; the prevalence - because these tend to accumulate undetected - is 15 - 20%). These are precisely the areas of greatest decline when we compare 1977 with 1978. Of the 483 case decrease, 394 (81.6%) comprise contact to G.C. females (-101 cases) and symptomatic males (-293 cases).

El Paso County

Gonorrhea Morbidity By Gender and Reason For Presentation

1976 - 1978

MALES	1976	1977	1978
Volunteers (Usually symptomatic)	1119	1132	* 839
Contacts and Screenees (Usually asymptomatic)	147	152	125
Totals	1266	1284	964

FEMALES	1976	1977	1978
Volunteers (Usually P.I.D.)	* 130	111	* 85
Screenees (Usually vaginitis or incidental finding)	* 225	214	* 178
Contacts	* 357	389	* 288
Totals:	712	714	551

(Note the steady decline of females in the P.I.D. and Screenees categories. Since half of them have an asymptomatic male in their sexual environment, his removal "causes" fewer future cases to occur.)

The years 1976 and 1977 were essentially similar with respect to reported cases by age/race/sex/reporting source and reason for presentation. Case decline awaited virtually 18 months post implementation of these new control strategies (In early 1976) to be observed. This emphasizes the observation, recorded in Annual Report 1977, that it takes time before impact can be substantially felt. Clinically, gonorrhea is an acute infection; epidemiologically it is, however, a disease of great chronicity. Endemicity encourages chronicity and much of the endemicity is occasioned by the asymptomatic male.

All of the above illuminates the importance of diagnostic considerations (i.e. how was the case detected?) in gonorrhea surveillance. Additionally, it is our feeling that core groups (the idea that numerically small gonorrhea populations are responsible for most continued transmission) should be characterized mainly by diagnosis, as well as by sexual behaviors. Prostitutes or promiscuous patients may be "core" but so are females with P.I.D., Screenee females and female repeaters since these usually harbor an asymptomatic male in their sexual environment and since they usually harbor G.C. for a comparatively long duration before detected. Of all the "core" groups, none is probably of greater import for endemicity than the asymptomatic male.

Most control programs face an overwhelming caseload: it is impossible in most areas, given current resources, to perform case management (contact interview and contact follow-up) on a significant proportion of the infected population. The experiment in El Paso County suggests that by addressing a small and eminently manageable proportion of the total burden, substantial reduction can occur. We conducted disciplined case management on approximately 300 cases annually, mostly females, and these comprise about 15% of the total reported gonorrhea. Of these patients we were able to interview only 75% and proved unable to find one-third of their sexual contacts for assessment. And yet the impact on aggregate morbidity was appreciable.

Ideally, our aim is to reduce the burden so significantly that, given current manpower resources, most infected patients can undergo thorough case management. Until this occurs, the concentration of effort on groups whose diagnosis or behaviors argues for core membership seems most appropriate.

They said it couldn't be done; that gonorrhea couldn't be controlled. They cited the disease's characteristics - short and infectious incubation period, high spread rate, man's poor resistance and the dearth of preventive mechanisms (vaccines) - as promoting uncontrollable spread. It appears to us that these are biologically accurate observations but that they do not necessarily obtain epidemiologically. The aggregate gonorrhea burden, rather, seems to perpetrate itself relatively slowly, its endemicity stubbornly sustained by asymptomatic males. Given current diagnostic and therapeutic tools, the disease would soon burn itself out for lack of sustained transmission were it not for this silent male transmitter. Even if we are wrong about his impact on continued transmission, programs still face the fact of his existence (200,000 strong in the U.S.?) and the consequent need to detect him. Irrespective of his importance, he must be addressed.

Our program will continue to assign highest priority to his detection even if we have overstated his importance in gonorrhea transmission. Of all the infectees in the reservoir he has the least chance of detection without active program intervention. This is so for many reasons, not least of which is his feeling of invulnerability. Self-referral systems perform poorly: females experience great difficulty in motivating him to seek care. It is, then, up to us.

B. Street Prostitution

Skeptics of the impact of solid public health measures applied diligently to presumed core populations are invited to scrutinize the following.

Passive gonorrhea control efforts vis-à-vis street prostitutes existed between June, 1970 (The inception of our Health Hold system) through 1975. Prostitutes were examined when program intervention or the police successfully motivated them to seek examination, woefully infrequent events! A vigorous system was implemented in mid - 1976 (described elsewhere) stimulating prostitutes to regular (Ideally, monthly) examination.

Retrospective chart review revealed that between 1970 and 1975 there were 794 initial visits with 235 (29.6%) positive G.C. cultures. On the average, thus, there were approximately 133 visits and 39 positive cultures annually. The following table illustrates that initial visits (excludes test of cure or follow-up visits) more than doubled since 1976 and that positivity rates have been halved annually since.

El Paso County Street Prostitutes

1970 - 1978

Year	Initial Visits	G.C. Cases	% Positive
1970-1975 (Averaged)	133 (Average)	39 (Average)	29.3 (Average)
1976	341	119	34.9
1977	311	57	18.3
1978	348	32	9.2

By Semi-Annual Period:	Initial Visits	GC Cases	% Positive
7/76 - 12/76	150	54	36 %
1/77 - 6/77	151	31	20.5%
7/77 - 12/77	160	26	16.3%
1/78 - 6/78	181	19	10.5%
7/78 - 12/78	167	13	7.8%

(This table in way of illustrating the "gradualness" of the decline. Note especially that clinic attendance remains similar for each period, while the absolute number of positives declines steadily. Nice, isn't it?)

Critics of the system currently in use to "legally force" street prostitutes into periodic, regular examination will be hard put to deny its impact on morbidity. Though the system may achieve little in preventing infection, in curtailing the duration of the disease a substantial impact can be recorded. Along with our strategies designed to remove the asymptomatic male the contribution of prostitute control cannot be underestimated in the 25% decline reported for Calendar, 1978.

PART II

Gonorrhea Repeaters

We report 1515 cases of gonorrhea for calendar 1978, a rate of 473 per 100,000 population (Assuming a County population of circa 320,000). This rate was 560 in 1973; 572 in 1974; 590 in 1975; 664 in 1976 and 655 in 1977. The difference between 1977 and 1978 is really appreciable.

Of the 1515 cases, 255 (16.8%) represent infections in 117 people, a moderate rate of recidivism. This rate was 17.7% in 1973; 19.5% in 1974; 14.5% in 1975; 15.7% in 1976 and 20.2% in 1977. Our control strategies seemed to have had but moderate impact on repeaters - a thorn in our side since we should have expected a substantial decline.

The tendency to repeat is still most pronounced in black, military males:

1. 82 of 117 repeaters (70%) are male
2. 50 of 82 male repeaters (61%) are military
3. 44 of 50 military repeaters (88%) are black; with these accounting for 38% of all repeat episodes (97/255).

Female repeaters are 60% caucasian (80% in 1977) and 40% black, (A substantial percentage change over 1977, though the numbers are small.) with prostitutes comprising less than 12% of female repeaters.

Of the 117 repeaters, 102 had 2 episodes each, 9 three episodes each, 6 four each and (lovely!) none with more than 4 each.

EL PASO COUNTY GONORRHEA MORBIDITY

1973 - 1978

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	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

Monthly Venereal Disease Morbidity Report

CALENDAR, 1978

Reporting Source	Morbidity				Age Group										Race			Pro	EX
	Syphilis			Gon	14-19		20-24		25-29		30-39		40+		Cav	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	71		4		33	1	13		18	2	3	50	21	3		
Women	1	4	9	125	1	47	2	44	2	21		9	9	4	99	39	1		
V.D. Clinic Men	4	4	2	357		36	3	147	2	109	3	54	2	11	270	95	2	19	256
Women	2	2		290		100	1	115	2	50	1	24		1	210	76	8	6	306
CHC/Pren/Family P.				37		14		15		3		5			31	6			
Planned Parenthood				41		12		16		12		1			35	6			
Health Hold			1	5		3		2	1						4	2			
Fort Carson Men	4	3	3	521	2	85	4	323	2	80	1	31	1	2	177	353	1		
Women		1	2	49		18		23	1	6	1	2	1		27	22	3		
Ent Air Base Men				9				4		3		2			3	6			
Women				1				1								1			
Air Academy Men				6		1		4				1			3	3			
Women				3		1		1		1					2		1		
Totals	12	14	19	1515	3	321	10	728	11	298	6	147	15	21	911	630	19	25	562

Clinic Attendance: 4430 ($1907.00)
New: 2316
Return: 2114

Treatment Failure 3 Females and 1 male
(All Clinic)

ER Males: 34
ER Females: 71

(GC Arthritis: 5 females and 3 males)

Summary of Investigative and Interviewing Activities

CALENDAR, 1978

Originating Agency	Investigations	Disposition of Persons Examined										Totals	Number of Interviews	Contacts Obtained	CT Index
		0	1	2	3	6	7	8	9	X	Y				
Armed Forces	Contact To: 1. Primary & Secondary Syph.	2			1	1				3		7	2	6	3.00
	2. Early Latent Syphilis				2	6	2		1	2		13	4	11	2.75
	3. Other Syphilis														
	4. Gonorrhea	5	53		40	69	8	49	3	42	3	272			
Private Physicians	1. Primary & Secondary Syph.	1	1		1					1		4	4	6	1.50
	2. Early Latent Syphilis	5	1		1	1				3		11	2	8	4.00
	3. Other Syphilis														
	4. Gonorrhea	17	42		19	46	11	10	2	94	2	243			
Public Cases (Clinic)	1. Primary & Secondary Syph.	10	6		4	2			4	17		43	6	41	6.83
	2. Early Latent Syphilis	5	1		2	1			1	4		14	4	15	3.75
	3. Other Syphilis														
	4. Gonorrhea	10	74		61	65	12	14	8	120		364	382	821	2.15
Armed Forces Public & Private	Positive S.T.S. Follow-Up	59	27		70	10	2		5	4	10	187			
Clinic	Clinic Patient Field Follow-Up (Rechecks)	46	222		92	17	9		5	2		393			
Totals		160	437		293	218	44	73	29	292	15	1551	404	908	2.25

# of Personal Visits with Private Physicians 10 # of Laboratory Visits 14 Contacts & Follow-Up Open at end of Month

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

Monthly Venereal Disease Laboratory Testing Report

CALENDAR, 1978

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	F.P.
VDRL(Routine)	3367	80	2.4%												
VDRL(Pre-Marital)	0														
FTA	70	42	60%												
Darkfield	13	5	38.5%												
GC Smear	1935	270	14%				1892 (268)					43 (2)			
GC Culture	19223	807	4.2%				2291 (349)	1703 (285)	343 (30)	6390 (61)	526 (6)	1130 (21)	6334 (39)	100 (6)	406 (10)
Trichamonas	543	138	25.4%												
Monilia	517	82	15.9%												
Gravindex	17	5	29.4%												
Urinalysis	19														
Pap	334														
Profiles	5														
Rechecks	568	28	5%				272 (13)	282 (14)	25 (0)	39 (1)					

24 reinfections
4 Treatment failures

Private Physician Screening (females): 1%
Planned Parenthood Screening: 0.6%
CHC Screening: 1.85%
Prenatal Screening: 1.14%
Family Planning Screening: 2.5%

:TY-COUNTY HEALTH DEPARTMENT COLORADO SPRINGS, COLORADO

ACTIVITIES REPORT

Linic or Division _____ CALENDAR Year 1978

ection _____ MONTHLY DATA

YPE OF CTIVITY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC
linic ttendance	435	309	379	370	374	384	363	413	325	376	370	332
umber linics	17	13	18	16	18	17	16	18	15	17	17	14
GC esting	1770	1657	1995	1782	2105	1722	1764	2162	1673	1901	1876	1547
yphilis esting	335	221	298	269	297	300	272	312	277	302	298	262
on VD esting	112	90	121	99	107	121	104	154	145	129	157	96
yphilis reatment	2	2	1	1	2	0	5	0	0	2	5	3
GC Treatment	74	49	51	82	59	65	66	65	56	69	65	55
Pro Syphilis	1	1	1	1	2	8	0	2	1	3	2	2
Pro GC	47	39	50	45	44	52	31	51	45	53	62	43
Non VD Rx	148	94	122	137	126	132	126	141	103	132	113	111
Syphilis Morbidity	5	3	6	7	0	3	4	2	3	2	8	2
GC Morbidity	134	124	107	128	112	134	119	136	129	137	137	118
GC Interviews	26	28	17	31	25	33	28	37	35	43	40	39
Syphilis Interviews	1	3	0	7	0	1	1	0	3	1	4	1
GC Investigations	77	53	99	85	53	54	43	83	68	79	88	88
Syphilis Investigations	3	4	5	5	10	19	3	7	6	6	16	8
Rechecks & Pos. Bloods	54	37	75	41	48	46	50	59	37	46	49	38
TOTAL ACTIVITIES												

ACTIVITIES REPORT

Clinic or Division _____ CALENDAR Year 1978

Section _____ CUMULATIVE DATA

TYPE OF ACTIVITY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC
Clinic Attendance	435	744	1123	1493	1867	2251	2614	3027	3352	3728	4098	4430
Number Clinics	17	30	48	64	82	99	115	133	148	165	182	196
GC Testing	1770	3427	5422	7204	9309	11031	12795	14957	16630	18531	20407	2195
Syphilis Testing	335	556	854	1123	1420	1720	1992	2304	2581	2883	3181	344
Non VD Testing	112	202	323	422	529	650	754	908	1053	1182	1339	143
Syphilis Treatment	2	4	5	6	8	8	13	13	13	15	20	2
GC Treatment	74	123	174	256	315	380	446	511	567	636	701	75
Pro Syphilis	1	2	3	4	6	14	14	16	17	20	22	2
Pro GC	47	86	136	181	225	277	308	359	404	457	519	56
Non VD Rx	148	242	364	501	627	759	885	1026	1129	1261	1374	148
Syphilis Morbidity	5	8	14	21	21	24	28	30	33	35	43	4
GC Morbidity	134	258	365	493	605	739	858	994	1123	1123	1397	151
GC Interviews	26	54	71	102	127	160	188	225	260	303	343	38
Syphilis Interviews	1	4	4	11	11	12	13	13	16	17	21	2
GC Investigations	77	130	229	314	367	421	464	547	615	694	782	87
Syphilis Investigations	3	7	12	17	27	46	49	56	62	68	84	9
Rechecks & Pos. Bloods	54	91	166	207	255	301	351	410	447	493	542	58
TOTAL ACTIVITIES												