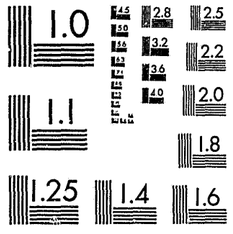

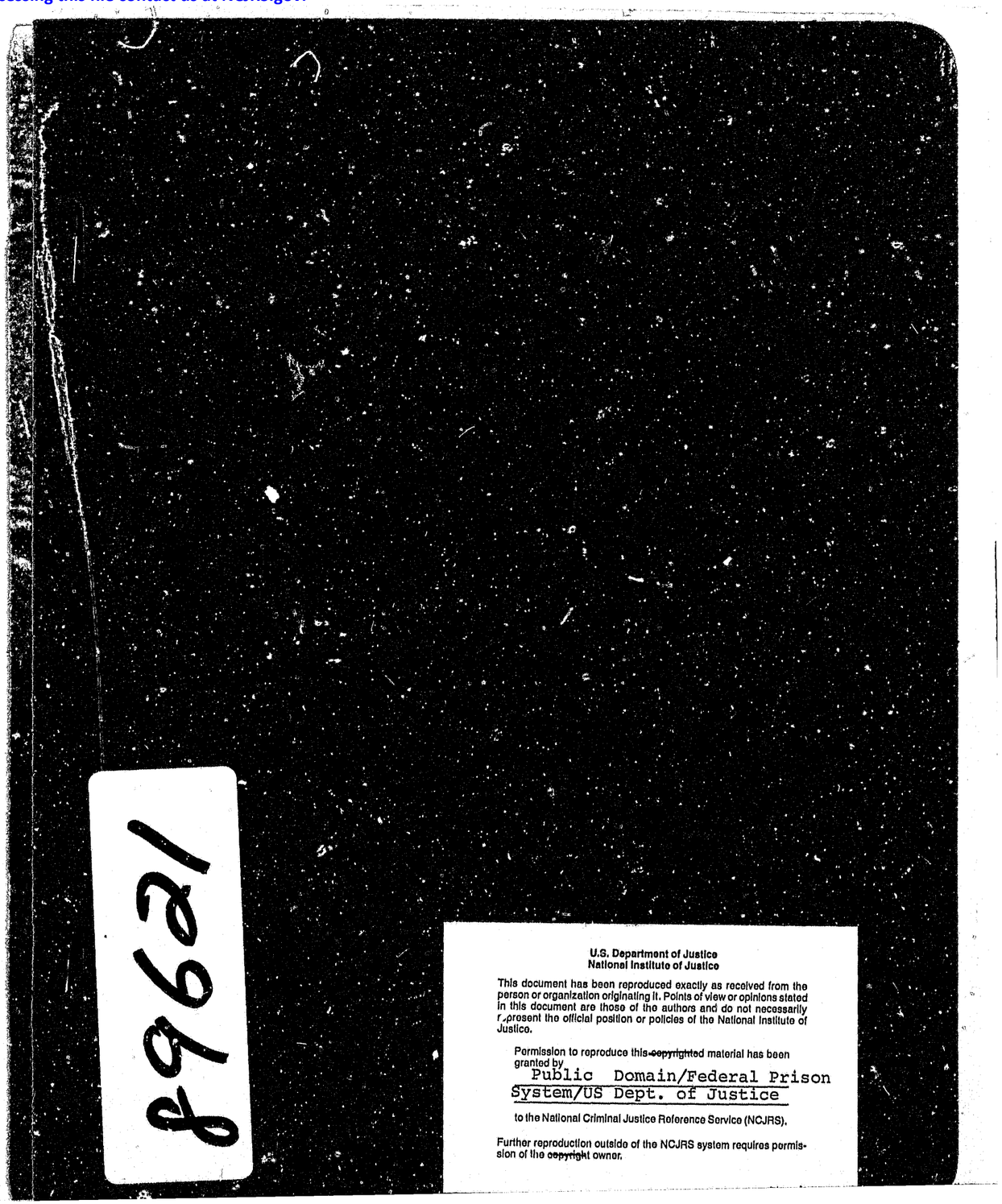

EXECUTIVE SUMMARY

THE STATUS OF HEALTH CARE IN THE FEDERAL PRISON SYSTEM

The following discussion represents the Executive Summary for contract number HSA-240-78-0045, which was conducted by La Jolla Management Corporation from September, 1978 to November, 1980, for a total cost of $116,879. The Executive Summary is organized in four sections as follows: 1) Background and Objectives, 2) Methods and Scope, 3) Findings, and 4) Conclusions and Recommendations.

1.0 STUDY BACKGROUND AND OBJECTIVES

The operation and maintenance of Federal, State, and local prisons and jails are major components of the United States Criminal Justice System. Federal and State Governments spend approximately 2.1 billion dollars annually to house approximately 280,000 inmates in 500 prisons. Aside from providing basic sustenance and housing, these institutions are responsible for providing their populations with adequate health care as well as social and rehabilitative services.

1.1 BACKGROUND

The Federal Bureau of Prisons (BOP), U.S. Department of Justice, is responsible for providing comprehensive medical services to more than 25,000 inmates in 42 Federal prisons throughout the country. While most ambulatory and some inpatient

services are provided by the institution of incarceration, services that are beyond the capability of the BOP are provided by formalized arrangements with other public sector agencies, or by the utilization of private sector health facilities through contract mechanisms.

Public Health Service (PHS) physicians and dentists have played a crucial role in the provision of medical and dental care services in Federal prisons since 1930. A 1976 directive of the Office of Management and Budget to discontinue the use of PHS Commissioned Officers in the BOP Medical Program in favor of Civil Service medical professionals posed a challenge to traditional care staffing patterns of the BOP. By 1979, the number of PHS Commissioned Corps in the BOP Medical Program had fallen from 122 to 80.* Concern over the impact of changes in staff on the capability of the BOP to deliver a high quality of health care services prompted the Health Services Administration, an agency of the Public Health Service, to sponsor a study to identify the medical staffing requirements of the BOP. This present report represents the culmination of that study.

1.2 STUDY PURPOSE AND OBJECTIVES

The overall objective of the study was to evaluate the degree to which the need for health care in Federal prisons is being met and to make recommendations for correcting problems in meeting those needs. Three interrelated studies have evolved over the two years of the study which correspond to this overall objective. They are:

*The OBM directive was rescinded during 1979 while this study was in progress. By October of that year, the number of PHS Commissioned Officers had risen to a ceiling level of 112.

1. Systemwide Examination of BOP Health Care Delivery Based on Ten Randomly Selected Institutions;

2. Case Studies of Six BOP Institutions; and

3. A Management Study of the Metropolitan Correctional Centers (MCCs) and Jails in the BOP.

In the context of the overall objective, each of these studies have specific objectives. For the first two studies,

Systemwide Study (10 Randomly Selected Facilities) and Case Studies (6 Facilities

- To Determine the Health Care and Levels of Health Service Utilization of Inmates of Federal Correctional Institutions; and

- To Derive Estimates of the Staffing and Resource Requirements Needed to Provide Health Care Services to Inmates of Federal Correctional Institutions.

The objective of the study,

Metropolitan Correctional Centers and Jails, were:

- To Determine Whether the Procedures Employed by MCCs and Jails in the Delivery of Medical Services to Inmates are Consistent with Existing BOP Policy;

- To Determine Whether BOP Policy Regarding Medical Service Delivery in MCCs and Jails is Appropriate.

The systemwide and case studies were similiar in approach, which was, that in order to respond to the main objective regarding inmate health care needs, it is necessary to establish the health status of inmate population, and through comparisons with other populations, identify unmet health care need in terms of observed medical care encounter rates. Utilization or encounter rates for outpatient and inpatient services, given quantification of inmate health status, provided a means to derive approximate medical staffing needs for physicians assistants and medical technical assistants.

The MCC study differs in approach because, in addition to identifying the need for services, it also evaluates the appropriateness of BOP policy to the unique situation that prevails in MCCs. Unlike most other Federal facilities, MCCs and jails function as holding centers for unsentenced inmates awaiting trial.

2.0 METHODOLOGY

Each of the three component studies required a somewhat different methodological approach, each of which is described separately below.

2.1 SYSTEM STUDY - RANDOM SELECTION OF 10 PRISONS

The health status and health care utilization of inmates was assessed based on an examination of a sample of medical records. These records were selected through a two-stage stratified random sampling design. In the first stage, 10 prisons were selected at random from among all Federal prisons excluding MCCs and jails, stratified by type: Youth and Young Adult, Short-Term Adult, Intermediate-Term Adult, Long-Term Adult, and Female. In the second stage, 200 inmates with 25 percent oversample were selected at random from among at each of the 10 prisons from among all inmates present for at least a 30-day consecutive period during Fiscal Year 1978, stratified by age and race. A total of 1,638 inmate medical records were found sufficiently complete to allow abstracting.

The abstracted medical data were subsequently linked with the BOP Inmate Information System to obtain supplementary information on inmate demographic, criminologic, and sentence characteristics. Data on medical care delivery, service times, and the distribution of staff activities were gathered using a written

questionnaire completed by the medical and dental staff and the Hospital Administrative Officer at each of the 10 selected prisons. La Jolla Management Corporation field staff held extensive discussions with these personnel for the purpose of gaining an understanding of how the correctional health care system worked and how it might be improved.

2.2 CASE STUDIES

Six additional facilities which the BOP felt merited individual analysis were examined using a refined version of the method employed for the system study. Refinements in this version included expansion of the number and detail of conditions covered for the determination of incidence/prevalence and health care utilization rates, expansion of detail in reporting lab tests, and expansion in the level of reporting dental encounters.

2.3 MCCS AND JAILS

Due to the difficulties in assessing medical services provided for the transient population housed in the three Metropolitan Correctional Centers and one jail, a new methodology was devised. This special study was principally a management study which focused on the structure and processes of the medical system within these facilities. Data were obtained from:

- Structured interviews with the Hospital Administrative Officer and Warden at each facility;
- A survey of medical and dental staffs' activity over a two week period; and
- An audit of medical files.

3.0 FINDINGS

Health care delivery in correctional settings has significant differences from more traditional settings. Notably, the restriction custody considerations placed on inmate access to care and to many common over-the-counter medications. A health care encounter is generated even if an inmate requires foot powder or vitamins! Thus, encounter rates with medical personnel are an order of magnitude greater in correctional settings than in open society.

Such a paternal environment restricts initiatives for self-care. Conversely, there are many positive incentives for attending daily sick call such as an opportunity to meet friends, get off work, or do something different. Inmates are not required to make market place decisions in seeking healh care. What barriers to care that do exist are a funtion of institutional operations such as the need to maintain controlled movement and above all, custody.

Our major finding is that utilization in Federal prisons (13.8 ambulatory care visits per inmate per year) is much higher than expected given inmate similarities to the general population in terms of health status. Even with such a high demand for services, findings do point to unmet health care needs in terms of time spent per encounter.

Findings are presented below specific to each of the three study components.

3.1 SYSTEMS STUDY

Findings for the system study are presented under three topic headings: health status, health service utilization, and staffing. Each topic heading is considered separately below.

3.1.1 Health Status

No clear trend in prevalence rates is apparent when inmates are compared with the general population (see Exhibit 1), which suggested that the two groups are similar. For some serious chronic conditions, i.e., hypertension and heart disease, inmates have lower rates. For tuberculosis, syphilis (treated), diabetes, epilepsy, and asthma, inmate rates are higher, some remarkably so. Other high rates have no comparable general population groups, such as mental disorders, hepatitism, and arthritis/rheumatism. Extremely high prevalence rates are notable in certain age-race-sex specific groups which require further scrutine to determine whether they truly represent a serious health problem.

In comparison with the active duty U.S. Navy, the only population for which significant data are available, the inmate population appears less healthy in 7 out of 12 conditions, for which comparisons were possible: syphilis, epilepsy, heart disease, bronchitis/emphysema, asthma, hepatitis, and arthritis/rheumatism (see Exhibit 2). Such differences are not surprising as the navy population was preselected on the basis of good health.

3.1.2 Health Service Utilization

The rate of utilization noted for inmates (13.8 ambulatory care encounters per inmate per year is approximately five times greater than the rate of 2.8 office visits per year reported for the general population. Women utilized ambulatory care services at a level of 2.6 times more frequently then males in prison compared to the general population where women had 1.4 times the encounters of males (see Exhibit 3).

Data available on 169 inpatient stays yielded an overall hospital discharge rate of 209.7 per 1,000 year and an average length of stay of 13.2 days.

EXHIBIT 1

PREVALENCE OF SELECTED CONDITIONS, BY RACE AND INSTITUTION CLASS; OCTOBER 1, 1977 - SEPTEMBER 30, 1978

	INMATE RATES PER 1000 FOR SELECTED INMATE GROUPINGS							AVAILABLE COMPA RATES PER 1000		
SELECTED CONDITIONS	TOTAL INMATE POPULATION (1)	TOTAL FEMALE POPULATION (2)	TOTAL MALE POPULATION (3)	LONG-TERM ADULT (4)	INTERMEDIATE TERM ADULT (5)	SHORT-TERM CORRECTIONAL (6)	YOUTH AND YOUNG ADULT (7)	NATIONAL HEALTH INTERVIEW SURVEY, 1978 (8)	CENTER FOR DISEASE CONTROL, 1971 (9)	[illegible] (10)
TUBERCULOSIS	22.3	16.1	23.4	52.6	29.6	8.9	0.0	0.9		
White	30.2	6.1	33.3	54.0	33.8	10.1	0.0			
Other	10.5	24.3	7.1	10.9	0.0	10.2	0.0			
SYPHILIS	42.6	37.9	43.5	41.3	53.9	56.9	23.0		0.1	
White	28.8	23.0	29.6	8.6	41.1	69.8	11.5			
Other	61.0	48.7	64.1	77.0	151.0	0.0	39.2			
DIABETES	22.3	9.5	24.6	20.1	59.8	15.6	6.4	20.1		
White	22.2	0.0	25.1	9.4	68.3	14.6	10.6			
Other	22.0	17.9	23.1	33.2	0.0	15.6	0.0			
EPILEPSY	12.8	40.0	8.1	15.7	0.0	6.8	0.0	4.2		
White	9.9	37.6	6.4	10.8	0.0	8.7	0.0			
Other	19.7	41.5	14.4	22.0	0.0	0.0	0.0			
HYPERTENSION	49.6	66.3	46.8	58.1	41.3	36.1	26.0	72.1		[illegible]
White	38.0	55.9	35.7	43.2	47.1	13.0	25.7			
Other	66.1	73.0	64.5	77.0	0.0	108.0	25.2			
HEART DISEASE	35.3	52.4	32.4	42.4	41.3	16.9	3.9	60.8		
White	34.9	69.1	30.5	51.8	19.9	13.0	7.5			
Other	30.8	37.3	29.2	32.9	43.9	50.4	0.0			
CEREBROVASCULAR	4.7	6.6	5.4	0.0	23.8	6.8	0.0	9.4		
White	7.5	0.0	8.5	0.0	27.2	8.7	0.0			
Other	2.4	12.2	0.0	0.0	0.0	0.0	0.0			
BRONCHITIS/ EMPHYSEMA	36.3	58.2	32.6	53.2	23.3	6.8	0.0	43.4		
White	43.1	43.7	43.1	82.0	26.5	8.7	0.0			
Other	25.9	74.0	14.2	21.7	0.0	0.0	0.0			
ASTHMA	35.7	56.1	32.2	37.4	35.5	5.8	38.7	28.2		
White	27.8	49.8	24.9	21.6	40.5	4.3	40.7			
Other	47.6	61.7	44.2	54.6	0.0	15.6	39.2			
DENTAL	891.7	911.7	889.3	869.3	873.7	896.8	970.6			
White	888.3	864.7	892.5	891.1	876.3	876.1	965.8			
Other	898.5	963.5	883.8	846.6	848.0	999.0	975.2			
HEPATITIS	78.6	45.8	84.4	121.1	83.6	3.4	47.5			
White	82.8	33.9	89.3	151.0	68.3	4.3	61.9			
Other	73.0	55.2	77.4	87.5	104.9	0.0	30.8			
ARTHRITIS/ RHEUMATISM	57.8	100.3	50.5	41.8	94.3	29.2	50.4			
White	65.5	123.7	58.0	49.6	94.2	27.6	66.2			
Other	45.1	79.7	36.7	32.9	87.8	31.1	32.2			

EXHIBIT 2

INCIDENCE OF SELECTED CONDITIONS, BY RACE AND INSTITUTION CLASS
OCTOBER 1, 1977-SEPTEMBER 30, 1978

	INMATE RATES PER 1000 PER SELECTED INMATE GROUPINGS							AVAILABLE COMPA- RATES PER 1[illegible]
	Total Inmate Population	Total Female Population	Total Male Population	Long Term Adult	Intermediate Term Adult	Short Term Adult	Youth and Young Adult	U.S. Navy - Active Duty (1975-1976)
SELECTED CONDITIONS	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
TUBERCULOSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
White	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
SYPHILIS	4.7	13.1	3.3	0.0	18.0	0.0	0.0	0.1
White	4.5	0.0	5.1	0.0	20.6	0.0	0.0	
Other	4.8	24.3	0.0	0.0	0.0	0.0	0.0	
DIABETES	4.7	0.0	0.6	0.0	0.0	3.4	0.0	0.6
White	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Other	1.1	0.0	1.4	0.0	0.0	15.6	0.0	
EPILEPSY	0.4	2.9	0.0	0.0	0.0	0.0	0.0	0.2
White	0.7	6.1	0.0	0.0	0.0	0.0	0.0	
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
HYPERTENSION	11.9	28.4	9.1	10.3	18.0	3.4	0.0	1.3
White	5.2	6.1	5.1	0.0	20.6	0.0	0.0	
Other	22.3	49.5	15.8	22.0	0.0	15.6	0.0	
HEART DISEASE	8.9	12.4	8.3	10.3	5.9	12.2	0.0	0.7
White	6.5	0.0	7.4	8.6	6.6	10.2	0.0	
Other	11.7	25.2	9.5	10.9	0.0	15.6	0.0	
CEREBROVASCULAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
White	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
BRONCHITIS/ EMPHYSEMA	26.	38.7	24.0	40.8	11.7	6.8	0.0	0.7
White	30.6	29.2	30.9	64.7	6.6	8.7	0.0	
Other	17.7	47.9	10.4	10.9	43.9	0.0	0.0	
ASTHMA	5.6	19.0	3.3	0.0	18.0	0.0	0.0	0.5
White	7.6	26.8	5.1	0.0	20.6	0.0	0.0	
Other	2.4	12.2	0.0	0.0	0.0	0.0	0.0	
DENTAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5
White	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
HEPATITIS	3.2	6.6	2.5	4.9	0.0	0.0	[illegible]	1.2
White	3.2	0.0	3.7	8.6	0.0	0.0	0.0	
Other	2.4	12.2	[illegible]	0.0	0.0	0.0	0.0	
ARTHRITIS/ RHEUMATISM	70.2	[illegible].8	62.0	67.4	71.0	21.8	72.5	1.3
White	64.0	[illegible]	[illegible].4	[illegible]	[illegible]	31.9	[illegible]	
Other	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0	47.[illegible]	

EXHIBIT 3

OUTPATIENT ENCOUNTERS PER INMATE PER YEAR, BY AGE-SEX-RACE, BY INSITUTION TYPE, COMPARED TO GENERAL POPULATION, 1978

	TOTAL	25	25-34	35-44	45-64	65+	WHITE	OTHER
ALL INSTITUTIONS	13.8	20.3	17.9	14.1	12.6	-	N/A	N/A
FEMALE	35.2	42.6	36.3	33.4	30.2	-	33.8	35.7
MALE	10.1	14.1	13.1	11.8	11.2	-	N/A	N/A
LONG-TERM ADULT	10.1	9.7	11.5	10.3	9.3	-	9.0	11.4
INTERMEDIATE ADULT	14.7	13.9	15.9	12.7	14.1	-	14.8	14.3
SHORT-TERM ADULT	14.7	16.2	14.3	15.2	15.7	-	14.4	16.8
YOUTH AND YOUNG ADULT	14.8	14.2	14.2	28.8	2.7	-	14.0	15.1
GENERAL POPULATION*	2.8	2.2	2.7	2.7	3.3	4.1	2.8	2.2
FEMALES	3.7	3.3	4.0	4.0	4.2	4.6	N/A	N/A
MALES	2.6	1.8	2.2	2.2	3.1	4.5	N/A	N/A

*A special tabulation of unpublished advanced data from the NAMCS for 1978.
N/A - not applicable

3.1.3 Staffing

The model preposed for estimating BOP staffing requirements is as follows:

$$M = P \times S \times T$$

Where:

M = Provider Time Requirements
P = Population Size
S = Number of Units of Service per Unit of Population
T = Time Requirements for Providing a Single Unit of Service

Limited data were available for the computation of "T". To execute the model, relatively high service times were used for both PAs (22 minutes) and physicians (27 minutes). Such times are justified by the broad range of types of encounters generalized by the model and the requirement that providers, PAs in particular, serve in direct care and ancillary service roles simultaneously.

The model, when applied to all 10 randomly selected prisons showed a net deficit of 10 PA/MTA positions and what appears to be a slight surplus of physicians.

3.2 CASE STUDIES

Six facilities were examined in this study component as a consequence of a special interest in them by the Bureau of Prisons. The six, all male institutions, are as follows: Leavenworth U.S. Penitentiary, Texarkana Federal Correctional Institution (FCI), Danbury FCI, El Reno FCI, Seagoville FCI, and Miami FCI.

Summary data on incidence and prevalence, and health care utilization are provided in Exhibits 4, 5, and 6.

No strong trends are apparent in the prevalence and incidence rates, although some problem areas are apparent, such as the high prevalence of both hypertension and heart disease at Leavenworth.

EXHIBIT 4

INCIDENCE OF SELECTED CONDITIONS 1/ 2/

	TEXARKANA	USP LEAVENWORTH	LEAVENWORTH CAMP	DANBURY	EL RENO	SEAGOVILLE	MIAMI
TUBERCULOSIS	0	28.57 (2)	0	10.10 (1)	0	8.93 (1)	0
SYPHILIS	10.99 (1)	0	0	0	0	17.86 (2)	0
DIABETES-MELLITUS	0	0	0	10.10 (1)	0	0	0
HYPOGLYCEMIA	0	0	0	0	0	0	0
MENTAL DISORDERS	142.86 (13)	57.14 (4)	250.00 (1)	151.52 (15)	45.87 (5)	62.50 (7)	100.00 (10)
ADDICTION/DRUG USE	0	0	0	0	0	0	0
REFRACTIVE ERRORS	76.92 (7)	0	0	0	0	17.86 (2)	0
HYPERTENSIVE DISEASE	0	14.29 (1)	0	10.10 (1)	9.17 (1)	0	10.00 (1)
HEART DISEASE	0	14.29 (1)	0	10.10 (1)	0	8.43 (1)	0
BRONCHITIS/EMPHYSEMA	10.99 (1)	14.29 (1)	0	10.10 (1)	9.17 (1)	62.50 (7)	0
ASTHMA	10.99 (1)	0	0	0	9.17 (1)	0	0
DUODENAL/PEPTIC ULCER	0	0	0	0	0	8.93 (1)	0
HEPATITIS	21.98 (2)	0	0	0	0	0	0
ARTHRITIS & RHEUMATISM	21.98 (2)	0	250.00 (1)	10.10 (1)	45.87 (5)	26.79 (3)	30.00 (3)

1/ Rate is per 1000 inmates
2/ Number in parentheses represents the number of observed cases

EXHIBIT 5

PREVALENCE OF SELECTED CONDITIONS [1/] [2/]

	TEXARKANA	USP LEAVENWORTH	LEAVENWORTH CAMP	DANBURY	EL RENO	SEAGOVILLE	MIAMI
TUBERCULOSIS	0	28.57 (2)	0	0	0	0	0
SYPHILIS	21.98 (2)	28.57 (2)	0	50.51 (5)	27.52 (3)	26.79 (3)	30.00 (3)
DIABETES-MELLITUS	10.99 (1)	0	0	10.10 (1)	18.35 (2)	17.86 (2)	10.00 (1)
HYPOGLYCEMIA	0	0	0	0	0	0	0
MENTAL DISORDERS	54.95 (5)	114.29 (8)	0	60.61 (6)	100.92 (11)	26.79 (3)	90.00 (9)
ADDICTION/DRUG USE	109.89 (10)	228.57 (16)	250.00 (1)	393.94 (39)	504.59 (55)	250.00 (28)	220.00 (2)
REFRACTIVE ERRORS	450.55 (41)	500.00 (35)	750.00 (3)	313.13 (31)	394.50 (43)	437.50 (49,	340.00 (34)
HYPERTENSIVE DISEASE	32.97 (3)	128.57 (9)	0	80.81 (8)	9.17 (1)	26.79 (3)	10.00 (1)
HEART DISEASE	65.93 (6)	42.86 (3)	0	20.20 (2)	18.35 (2)	17.86 (2)	0
BRONCHITIS/EMPHYSEMA	0	14.29 (1)	0	10.10 (1)	27.52 (3)	44.64 (5)	10.00 (1)
ASTHMA	43.96 (4)	28.57 (2)	0	30.30 (3)	55.05 (6)	8.93 (1)	30.00 (3)
DUODENAL/PEPTIC ULCER	0	14.29 (1)	0	30.30 (3)	0	35.71 (4)	10.00 (1)
HEPATITIS	65.93 (6)	85.71 (6)	250.00 (1)	101.01 (10)	128.44 (14)	17.86 (2)	100.00 (10)
ARTHRITIS & RHEUMATISM	43.96 (4)	71.45 (5)	0	20.20 (2)	27.51 (3)	35.72 (4)	0

1/ Rate is per 1000 inmates

2/ See next table

EXHIBIT 6

ANNUAL RATE OF AMBULATORY ENCOUNTERS [1/]
BY AGE AND RACE

INSTITUTION	RACE	NO. OF INMATE	DISTRIBUTION BY AGE					
			ALL AGES	<25	25-34	35-44	45-64	≥65
TEXARKANA	ALL	173	1173.6	1557.1	1155.3	1428.6	616.7	-
	WHITE	122	1089.9	1760.0	976.7	1188.2	675.0	-
	OTHER	51	1436.4	1050.0	1825.0	2450.0	500.0	-
USP LEAVENWORTH	ALL	82	1155.7	-	1592.9	1261.8	742.9	100
	WHITE	56	1282.6	-	1814.3	1458.3	800.00	100
	OTHER	26	912.5	-	1371.4	790.0	628.6	-
LEAVENWORTH CAMP	ALL	16	1225.0	-	850.0	2400.0	800.0	-
	WHITE	11	850.0	-	400.0	1800.0	800.0	-
	OTHER	5	-	-	-	-	-	-
DANBURY	ALL	181	1807.1	1500.0-	1963.6	1467.6	2042.1	2300.0
	WHITE	120	1998.3	1500.0	2316.7	1381.0	2423.1	2300.0
	OTHER	61	1512.8	-	1540.0	1607.7	1216.7	-
EL RENO	ALL	173	1036.7	1138.5	917.1	1423.8	820.0	-
	WHITE	119	1005.1	742.9	888.5	1525.0	900.0	-
	OTHER	54	1120.0	1600.0	1000.0	1100.0	500.0	-
SEAGOVILLE	ALL	166	901.8	940.0	942.4	730.3	1190.0	-
	WHITE	139	847.3	877.8	873.5	677.8	1225.0	-
	OTHER	27	1168.4	1500.0	1280.0	966.7	1050.0	-
MIAMI	ALL	182	1416.0	1640.0	1308.5	1300.0	-	-
	WHITE	135	1454.3	1520.0	1355.3	1733.3	-	-
	OTHER	47	1326.7	2120.0	1216.7	0.0	-	-

1/ Rate is per 100 inmates

While the six case study institutions generally had more than the 10.1 outpatient encounters per male inmate reported for system study, the differences tend to disappear when examined by the type of institution. Hospital discharge rates are also similar to the system study when examined by type of institution.

3.3 MCCS AND JAILS

The three Metropolitan Correctional Centers and one jail differ from other BOP facilities in that they house mainly unsentenced inmates awaiting trial. MCCs and jails are also much more susceptible to factors outside the BOP, notably Federal courts and law enforcement agencies, than other BOP facilities. By nature of the short lengths of stay and high turnover rates of these inmates the focus of health care at these facilities is on screening and diagnostic assessment to identify medical problems and to safeguard the institution from the threat of communicable disease.

The following discussion considers each of the three key objectives of this study component which were: 1) the consistency of MCC/jail procedures with BOP policy and their compatibility with each other, 2) the appropriateness of BOP policy to MCC/jail setting, and 3) determination of the unmet medical care needs of inmates.

3.3.1 Consistency of Procedures with BOP Policy and Compatibility with Each Other

Procedures for health care delivery are not consistent among these institutions. The facilities have shown considerable initiative in interpreting BOP policy in response to their unique operating environment. While for the most part the differences are inconsequential, those which affect the availability and content of intake physicals and screenings are questionable in terms of a good medical practice. In the institutions under examination, one used correctional officers to conduct medical screening, and another did not conduct intake physical examinations on unsentenced inmates.

Compatibility with existing health care procedures at the MCCs and one jail with BOP policy was evaluated in 14 policy areas covering the administration of medical services, follow-up, and medical transfers. Full compliance was achieved in only two areas. It was sometimes difficult to evaluate compatibility due to the generality of BOP policy directives.

3.3.2 Appropriateness of BOP Policy to MCC/Jail Setting

Based on limited comparisons of BOP policy with the American Medical Association's Standards for Health Services in Prisons, it seems evident that BOP policy is appropriate to the MCC/jail setting. However, policy would be more effective if it were more explicit in certain areas, especially in the area of initial screenings.

3.3.3 Determination of the Unmet Medical Care Needs of Inmates

An examination of time spent per encounter by PAs as a function of workload based on two weeks of reporting showed a negative relation between workload and time spent per encounter in three of the four institutions studied. This finding supports the contention that under conditions of apparent staff shortage (or misutilization), primary care providers are able to spend less time per patient thus opening the possibility of unmet patient need.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The major conclusions drawn from our findings are structured in terms of the study objectives; namely to determine inmate health status and service utilization levels, assessment of adequacy of health service levels, and estimation of BOP staffing and resource requirements to meet the demand for medical care. Recommendations are provided at the end.

4.1 HEALTH STATUS OF INMATE POPULATION

Based upon a sample of several thousand inmate medical records for FY 1978 among 16 Federal prisons, our overall conclusions regarding the health status of the inmate population is that, with some notable exceptions, the inmate's health appea s to be reasonably similar to that of the general population in similar age groups. For several serious chronic conditions, inmates were found to have significantly lower prevalence rates; e.g., hypertension, heart disease, bronchitis/emphysema, and cerebrovascular disease. This is particularly significant as hypertension and heart disease are major contributors to U.S. mortality rates. For diseases such as tuberculosis, syphilis, diabetes, epilepsy, and asthma; inmate prevalence rates are higher, although their numbers are fairly small. For other disease categories such as mental disorders, hepatitis, and arthritis/rheumatism, the inmate rates seem high, although comparable data could not be located for the general population.

The most significant aspect of the health status findings is the extremely high prevalence rates detected in particular institution groupings. These "problem areas" require closer scrutine to investigate if these high rates are real or an artifact of the data base. Our conclusion should be tempered by the fact that medical records are not always a reliable source for computing prevelance rates. However, the overall data do seem to point toward a reasonable degree of comparability of health status between the inmate and general populations. That is, the inmate population does not appear to be plagued by any unique health care problems other than the suspiciously high mental disorder rates which may themselves be misleading since a sick call for a headache would often be coded to mental disorder according to ICDA convention.

4.2 HEALTH SERVICE UTILIZATION

Utilization of health services (medical and dental encounters per inmate per year, is five times the level reported for the general population; 13.8 outpatient encounters per inmate per year. High utilization rates are not uncommon in prisons as evidenced by a rate of 17.7 outpatient encounters per inmate per year reported for the State of Michigan during 1979 - 28 percent higher than the 13.8 found in this study. Several factors account for high levels of utilization: a) increased prevalence of pre-existing disorders, b) lack of direct availability of non-prescription drug items, c) increased somatic awareness resulting from confinement, d) use of sick call for non-medical reasons, e) musculoskeletal complaints related to environmental conditions, f) lack of effective health education, and g) aggravation of pre-existing disorders brought on by institutional conditions.

Emotional factors play an important role in fully appreciating the meaning of high health service utilization levels in prison. Being sick may be contrived as a form of rebellion against prison routine. Psychiatric difficulties associated with incarceration lead to vague and ill-defined medical complaints.

The prison health care system itself promotes high utilization levels. For example, the need for any over-the-counter drug or consultation with a physician by phone would not normally result in a medical encounter in open society. In prisons, an inmate must report for sick call. In addition sick call provides a positive incentive for abuse for social, recreational, or other non-medical purposes. Often an inmate will report for sick call simply to break up the prison routine

or have "someone to talk to" who is perceived outside of the security establishment. Given our conclusions regarding inm- health status, these high use rates cannot be attributed to medical pathology, but rather to institutional and psychosocial factors. Nevertheless, the Federal prison system cannot and does not deny an inmate unlimited access to health care. Thus, the utilization workload and medical resource staffing must be driven off demand rather than biologic need. In our recommendations section we suggest several approaches that should be taken by the BOP Medical Program to reduce medically unnecessary utilization.

4.3 BOP MEDICAL STAFFING REQUIREMENTS

After a reallocation of physicians time from surplus to deficient institutions among the 10 prisons included in our systemwide study, physician staffing would appear to be reasonably adequate for the 10 prisons site-visited for the system study. This conclusion is based upon encounter rates for various types of medical personnel, health status of the inmate population, physician time available for direct patient care, any pecularities of each institution visited. The resource level for PAs and MTAs was, however, found to be whofully inadequate; i.e., approximately 11 FTEs short. Much of the shortfall in PA/MTAs is due to the BOP policy for 24 hour medical coverage. These FY 1978 staff shortages may have reduced the quality of care in some institutions. Since our staffing estimates are approximate, an organizational analysis/engineering approach should be utilized to refine our estimates. Our recommendations present several approaches to remedy this problem.

4.4 RECOMMENDATIONS

Based on our analysis of the findings, a number of recommendations were offered that are responsible to meeting inmate health care needs, either through the reduction of demand for services through the increased emphasis on self-care and

other measures or through the reduction of staffing shortage where they are found to occur. The following represents an annotated list of the more significant recommendations in both of the above areas.

Reduction in the Demand for Services

1. Ease retrictions on the availability of non-prescription medications. Presently, even the need for vitamins or foot powder requires a medical care encounter. Limited relaxation of the rules would not only cut the demand for services, but make inmates more responsible for their own health care.

2. Reduce the positive incentives for attending sick cal . Sick call could be made less amenable to non-medical uses if scheduling kept number of inmates waiting and thus socializing to a minimum. These inmates should be isolated in the waiting area to fur.her reduce contacts with other inmates.

Reduction of Staffing Shortages

1. Regionalization of the BOP medical program. Current sentencing practice does not consider health status, save in severe illness, for inmate placement. By concentrating selected chronic care cases to one or two facilities in a region would help centralize specialty skills and resources.

2. Specialization of medical care provider functions. Physician Assistants (PAs) are expected to provide most primary care and ancillary services in prison. While staff shortages exist, the use of lab and x-ray technologists will release PA time for more primary care involvement.

3. Modification of the sick call scheduling process. At most BOP facilities, sick call is conducted once in the morning. This concentration of activity aggravates staffing shortages. Two sick call times, once in the morning and once in the afternoon, would distibute workload more evenly.

4. Development of Alternative Sources of Staff and Funding. Other sources of funding and staffing may be pursued, specifically, the National Health Service Corps, formal arrangements with other Federal agencies such as the Veterans Administration and third-party reimbursement for medical care.

END