

TUBERCULOSIS
IN THE
COMMONWEALTH
OF
PENNSYLVANIA
1994

TUBERCULOSIS CONTROL PROGRAM
BUREAU OF PREVENTIVE HEALTH PROGRAMS
PENNSYLVANIA DEPARTMENT OF HEALTH
MAY 1995

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INTRODUCTION

This report is a summary of 1994 tuberculosis morbidity for the Commonwealth. These data include information from the two largest counties - Allegheny and Philadelphia, areas served by the State Health Centers, and the other county and municipal health departments. Hereafter, the population not included in the Allegheny and Philadelphia data shall be known as the Health Districts. The information is further reported in some areas by large city and county, and was compiled by the Tuberculosis Control Program from the data submitted using the "Report of Verified Case of Tuberculosis" and the SURVS-TB surveillance software.

In 1994, 621 tuberculosis cases were reported in the Commonwealth, for a rate of 5.2 per 100,000 population. This represents an overall decrease of 17 percent from the previous year, during which there was a total of 748 cases. Philadelphia reported 281 cases in 1994, compared to the 343 cases reported for 1993, an 18 percent decrease. Allegheny County with 54 cases in 1994, had a decrease of 25 percent from the 72 cases the previous year. The health districts had 286 cases in 1994 compared to the 333 cases the previous year, a decrease of 14 percent.

Tuberculosis in children less than 15 years of age decreased from 50 cases in 1993 to 32 cases in 1994. There was no change in Philadelphia with 22 cases in 1993 and 22 in 1994. Allegheny County had 1 case in 1993 and 1 in 1994. The decrease in the health districts was from 27 in 1993 to 9 in 1994. Since tuberculosis disease in children indicates recently acquired infection and transmission, these data are of sentinel importance.

In 1994, 15 counties in the Commonwealth (22%) reported no cases of tuberculosis during the entire year. Overall, 63 counties (94%) reported less than 20 cases of tuberculosis and only 4 counties reported 20 or more cases in 1994. These counties included: Philadelphia (281), Allegheny (54), Montgomery (27) and Lancaster (22).

There was a 21 % decrease in the number of tuberculosis cases among persons 65 years and older. The total number of cases among this population in 1993 was 244 as compared to 193 in 1994. The rate of tuberculosis for persons over age 65 was 10.2 per 100,000 population, as compared to a rate of 34.3 among residents of long term care facilities.

Among correctional facility residents, there were 24 cases of tuberculosis reported in 1994, a decrease of 11 percent from 1993. This represents a case rate of 55.9 per 100,000 population.

Among homeless persons, there were 16 documented cases of tuberculosis, for a case rate of 167.6 per 100,000 population. This information is based on the total number of homeless reported by the State Health Data Center and reported as homeless within the past year on the Verified Tuberculosis Case Report.

During 1994, tuberculosis cases counted among persons born outside the United States accounted for 18.8% (116 of 618) of the total cases;(excludes 3 persons with unknown country of origin), compared with 14.2% (106 of 748) of counted cases in 1993. Compared with 1993, in 1994 the number of counted cases among persons born in the United States decreased by 21.8%, and the number of cases among foreign-born persons increased by 9.4%.

Of the 116 foreign-born persons counted in 1994, whose records contained information on month and year of immigration, tuberculosis was diagnosed in 46 (39.7%) within 2 years after entering the United States. Of this group, four countries (Vietnam, India, Philippines, and Korea) accounted for 50% (23 of 46) of the cases.

For the cases reported in 1993 and 1994 who have completed therapy, 29 percent received some or all of their treatment as directly observed therapy (DOT). Expanding DOT may require additional resources, but directly observed regimens are known to be cost effective. For 1994 cases, 55% were under private or other than health department care.

The initial four drug regimen recommended by ATS/CDC was prescribed for 58% of cases in 1994; 19% of patients were prescribed INH, RIF, and PZA; 8% were prescribed INH and RIF.

The bacteriologic conversion of sputum within 3 months was 67% for Philadelphia, 100% for Allegheny County, and 71% for the State Health Districts. The completion of drug therapy was 77% for Philadelphia, 94% for Allegheny County, and 94% for the State Health Districts.

The Tuberculosis Control Program has directed that all suspected or confirmed tuberculosis patients be offered counseling and testing for human immunodeficiency virus (HIV) infection. Since persons infected with both HIV and the tubercle bacillus are at high risk of developing tuberculosis disease and since the medical management of tuberculosis disease and infection are altered in the presence of HIV coinfection, it is important to know the HIV status of patients presenting for treatment of tuberculosis. In 1994, 70 of the 621 tuberculosis cases reported (11 %) were HIV positive, 55 of the 70 (79%) were Philadelphia residents. Of the 703 tuberculosis cases reported in 1986, only 6 (0.9%) also were known to have AIDS.

Of the 621 cases counted in 1994, 487 had positive cultures (78%). Of these, 350 (72%) had drug susceptibility test results available. There were 21 (6%) resistant to isoniazid and a 6 (1.7%) resistant to isoniazid and rifampin, i.e., multi drug-resistant (MDR-TB). All six cases with MDR-TB were among Philadelphia residents.

In 1994, the Bureau of Laboratories reported that 18% (60/320) of the M. tuberculosis isolates identified were resistant to one or more anti-tuberculosis drugs. There were 29 isolates resistant to isoniazid (13%). Of the 320 isolates 6% (19) were resistant to both isoniazid and rifampin (MDR-TB). Comparable information for 1993 was 18% (60/325) with one or more drug resistance and 6% (19/325) with MDR-TB. These data include information on previously reported cases.

There was a 14% decrease in the number of recurrent cases of tuberculosis; recurrence is defined as the reappearance of disease after being discharged or lost to supervision for 12 or more months. In 1994, there were 37 recurrent cases as compared to 43 in 1993. As recurrent cases generally represent treatment failures and are due to irregularity or interruption in medication administration, tuberculosis cases in this category require special efforts to deliver care in ways that assure continuity of treatment and completion of the prescribed drug regimen.

For cases with occupational information available, 19 were health care workers (3%), and 3 were correctional facility employees (0.5%). There were 196 cases with occupational information unknown or missing (32%). For patients with information available, 7 percent had injected drug use, 7 percent had non-injected drug use, and 16 percent had excess alcohol use within the past year. However, information on substance abuse was unknown in over 30 percent of the cases reported in 1994.

Maintaining the decline in tuberculosis morbidity and reaching the goal of eliminating tuberculosis in the Commonwealth will require sustained prevention and control efforts - especially rapid diagnosis and ensured completion of treatment (e.g., DOT), and prompt and complete reporting.

Tuberculosis continues to be a public health problem in many cities and counties in the Commonwealth. Elimination of this disease will require coordinated efforts of public health agencies, voluntary health associations, health-care providers, and community groups.

TABLES

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH

TABLE 1

TUBERCULOSIS CASES AND CASE RATES
COUNTIES AND MAJOR CITIES, 1994

	NUMBER OF CASES	1994 ESTIMATE	RATE PER 100,000	MAJOR CITIES IN COUNTY	# OF CASES BY MAJOR CITIES	1993 ESTIMATE	RATE PER 100,000
PENNSYLVANIA	621	12,052,367	5.2				
ADAMS	1	83,458	1.2				
ALLEGHENY	54	1,320,704	4.1	PITTSBURGH	20	364,852	5.5
ARMSTRONG	3	74,599	4.0				
BEAVER	5	188,297	2.7				
BEDFORD	1	48,984	2.0				
BERKS	11	347,625	3.2	READING	5	79,391	6.3
BLAIR	5	131,819	3.8	ALTOONA	1	52,728	1.9
BRADFORD	1	62,056	1.6				
BUCKS	13	567,238	2.3				
BUTLER	3	161,890	1.9				
CAMBRIA	6	160,729	3.7				
CAMERON	0	5,783	0.0				
CARBON	2	58,869	3.4				
CENTRE	8	129,833	6.2				
CHESTER	8	397,307	2.0				
CLARION	1	42,123	2.4				
CLEARFIELD	2	79,397	2.5				
CLINTON	0	37,435	0.0				
COLUMBIA	3	63,897	4.7				
CRAWFORD	1	87,984	1.1				
CUMBERLAND	10	204,612	4.9				
DAUPHIN	13	245,561	5.3	HARRISBURG	9	53,840	16.7
DELAWARE	14	548,366	2.6	CHESTER	5	40,845	12.2
ELK	1	35,173	2.8				
ERIE	13	280,318	4.6	ERIE	11	109,098	10.1
FAYETTE	5	146,534	3.4				
FOREST	0	4,812	0.0				
FRANKLIN	4	125,998	3.2				
FULTON	1	14,262	7.0				
GREENE	0	40,169	0.0				
HUNTINGDON	3	44,529	6.7				
INDIANA	5	90,638	5.5				
JEFFERSON	4	46,615	8.6				
JUNIATA	0	21,450	0.0				
LACKAWANNA	10	216,007	4.6	SCRANTON	5	79,234	6.3
LANCASTER	22	442,679	5.0	LANCASTER	12	57,735	20.8
LAWRENCE	1	96,580	1.0				
LEBANON	1	116,417	0.9				
LEHIGH	14	297,876	4.7	ALLENTOWN	10	106,764	9.4
LUZERNE	11	327,726	3.4	WILKES-BARRE	2	46,701	4.3
LYCOMING	3	120,939	2.5				
MCKEAN	0	48,529	0.0				
MERCER	1	122,160	0.8				
MIFFLIN	6	47,011	12.8				
MONROE	2	112,111	1.8				
MONTGOMERY	27	700,308	3.9				
MONTOUR	0	18,218	0.0				
NORTHAMPTON	9	255,007	3.5	BETHLEHEM	4	72,550	5.5
NORTHUMBERLAND	0	95,732	0.0				
PERRY	1	43,117	2.3				
PHILADELPHIA	281	1,524,338	18.4	PHILADELPHIA	281	1,524,338	18.4
PIKE	0	35,489	0.0				
POTTER	0	17,061	0.0				
SCHUYLKILL	2	153,351	1.3				
SNYER	0	37,699	0.0				
SOMERSET	1	79,030	1.3				
SULLIVAN	0	6,088	0.0				
SUSQUEHANNA	0	41,529	0.0				
TIOGA	0	41,894	0.0				
UNION	2	37,298	5.4				
VENANGO	1	59,211	1.7				
WARREN	1	45,062	2.2				
WASHINGTON	10	208,119	4.8				
WAYNE	1	43,111	2.3				
WESTMORELAND	8	376,446	2.1				
WYOMING	0	29,353	0.0				
YORK	5	357,807	1.4	YORK	2	43,739	4.6

**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH**

TABLE 2

**TUBERCULOSIS CASES AND CASE RATES,
HEALTH DISTRICTS,
PHILADELPHIA, ALLEGHENY COUNTY, AND STATE TOTAL, 1994**

DISTRICT	NUMBER OF CASES	RATE PER 100,000
SOUTHEASTERN (except Philadelphia)	97	3.1
NORTHEASTERN	49	3.5
NORTH CENTRAL	17	2.5
SOUTH CENTRAL	51	3.4
NORTHWESTERN	26	2.7
SOUTHWESTERN (except Allegheny)	46	3.0
Subtotal Districts	286	3.1
PHILADELPHIA CO.	281	18.4
ALLEGHENY CO.	54	4.1
STATE TOTAL	621	5.2

**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH**

TABLE 3

**TUBERCULOSIS CASES AND CASE RATES,
BY AGE, MAJOR AREAS, 1994**

AGE	PENNSYLVANIA		HEALTH DISTRICTS		ALLEGHENY CO.		PHILADELPHIA CO.	
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE
0-14	32	1.3	9	0.5	1	0.4	22	6.7
15-19	8	1.0	3	0.5	1	1.2	4	3.7
20-44	231	5.2	86	2.6	11	2.3	134	22.9
45-64	157	6.4	73	3.8	14	5.0	70	24.3
65+	193	10.2	115	8.1	27	11.4	51	21.9
TOTAL	621	5.2	286	3.1	54	4.1	281	18.4

**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH**

TABLE 4

**TUBERCULOSIS CASES AND CASE RATES
BY RACE/ETHNICITY, MAJOR AREAS, 1994**

AREA	WHITE NON-HISPANIC		BLACK NON-HISPANIC		ALL RACES HISPANIC		ASIAN OR PACIFIC ISLANDER	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Health Districts (65 Counties)	183	2.1	50	14.4	17	12.7	36	44.7
Allegheny Co.	32	2.8	14	9.0	2	22.9	6	44.5
Philadelphia Co.	36	4.3	191	29.8	25	28.0	29	66.6
Total	251	2.3	255	22.3	44	18.9	71	51.7

**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH**

TABLE 5

**TUBERCULOSIS CASES AND CASE RATES,
BY SEX, MAJOR AREAS, 1994**

AREA	TOTAL CASES		MALE		FEMALE	
	Number	Rate	Number	Rate	Number	Rate
Health Districts (65 Counties)	286	3.1	183	4.1	103	2.2
Allegheny County	54	4.1	33	5.3	21	3.0
Philadelphia County	281	18.4	186	26.0	95	11.5
TOTAL	621	5.2	402	7.0	219	3.5

**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH**

TABLE 6

**TUBERCULOSIS CASES BY SITE OF DISEASE,
MAJOR AREAS, 1994**

AREA	TOTAL CASES	PULMONARY		EXTRA PULMONARY		BOTH	
	Number	Number	%	Number	%	Number	%
Health Districts (65 Counties)	286	209	73.1	62	21.7	15	5.2
Allegheny Co.	54	32	59.3	19	35.2	3	5.6
Philadelphia Co.	281	190	67.6	52	18.5	39	13.9
TOTAL	621	431	69.4	133	21.4	57	9.2

**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH**

TABLE 7

**TUBERCULOSIS CASES WITH PREVIOUS DIAGNOSIS,
CASES REPORTED AT DEATH, MAJOR AREAS, 1994**

AREA	TOTAL CASES	CASES WTH PREVIOUS DIAGNOSIS		CASES REPORTED AT DEATH	
		Number	Percent	Number	Percent
Health Districts (65 Counties)	286	16	5.6	16	5.6
Allegheny County	54	1	1.9	2	3.7
Philadelphia County	281	20	7.1	13	4.6
TOTAL	621	37	6.0	31	5.0

TABLE 8

**TUBERCULOSIS CASES BY COUNTRY OF ORIGIN
MAJOR AREAS, 1994**

AREA	TOTAL CASES	U.S.		NON-U.S.		ARRIVED U.S. ≤ 2 YEARS	
		Number	Percent	Number	Percent	Number	Percent
Health Districts (65 Counties)	286	229	80.1	57	19.9	23	8.0
Allegheny Co.	54	43	79.6	11	20.4	8	14.8
Philadelphia Co.	281*	230	82.9	48	17.3	15	5.8
TOTAL	621*	502	85.8	116	18.8	46	7.6

*3 Unknown

**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH**

TABLE 9

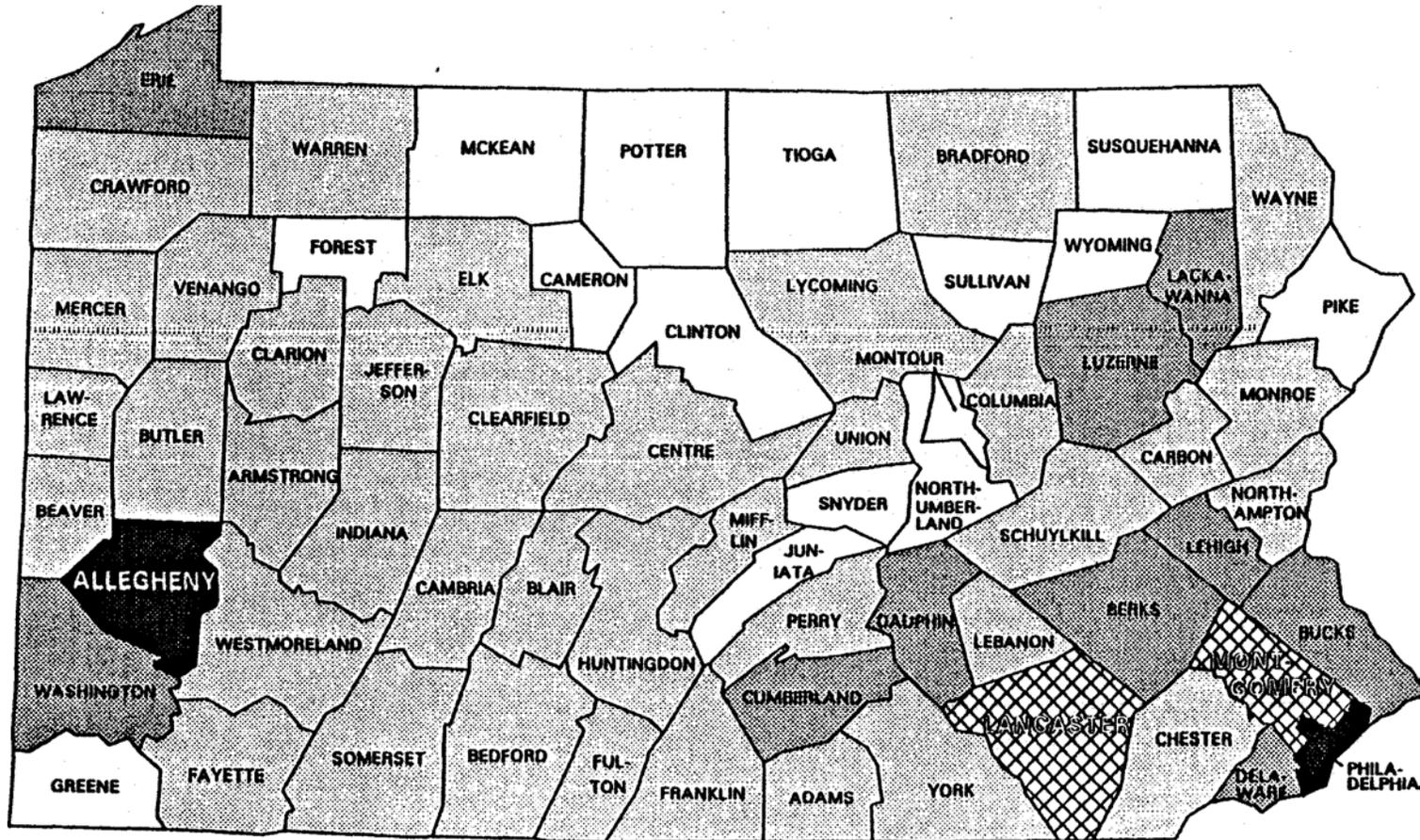
TUBERCULOSIS CASES, 1989 - 1994

YEAR STATE	1989 710	1990 767	1991 782	1992 758	1993 748	1994 621
ADAMS	3	1	4	2	8	1
ALLEGHENY	81	78	97	81	72	54
ARMSTRONG	3	1	4	0	2	3
BEAVER	8	6	4	9	8	5
BEDFORD	5	4	5	7	0	1
BERKS	17	20	6	9	12	11
BLAIR	13	4	3	6	2	5
BRADFORD	2	0	2	0	1	1
BUCKS	11	15	16	12	17	13
BUTLER	1	7	6	4	5	3
CAMBRIA	12	11	4	2	3	6
CAMERON	0	0	0	0	1	0
CARBON	0	3	5	2	1	2
CENTRE	4	5	4	6	10	8
CHESTER	7	14	11	5	9	8
CLARION	1	2	0	1	1	1
CLEARFIELD	1	1	6	5	3	2
CLINTON	1	1	0	1	1	0
COLUMBIA	2	1	0	0	0	3
CRAWFORD	2	2	4	2	4	1
CUMBERLAND	11	9	8	5	14	10
DAUPHIN	16	21	13	12	11	13
DELAWARE	20	36	28	38	27	14
ELK	0	2	0	0	0	1
ERIE	41	40	29	29	31	13
FAYETTE	12	5	8	5	9	5
FOREST	0	0	0	0	0	0
FRANKLIN	5	9	6	2	5	4
FULTON	0	0	0	0	1	1
GREENE	2	1	1	2	2	0
HUNTINGDON	4	7	3	3	2	3
INDIANA	5	3	2	3	2	5
JEFFERSON	0	4	2	1	3	4
JUNIATA	3	3	2	0	1	0
LACKAWANNA	14	13	20	19	9	10
LANCASTER	12	11	16	11	13	22
LAWRENCE	9	6	2	2	3	1
LEBANON	6	3	4	4	1	1
LEHIGH	12	13	17	10	12	14
LUZERNE	21	30	23	24	12	11
LYCOMING	6	5	0	6	3	3
MCKEAN	1	0	2	1	0	0
MERCER	7	7	3	3	6	1
MIFFLIN	5	4	4	1	1	6
MONROE	3	0	4	0	2	2
MONTGOMERY	17	34	31	29	19	27
MONTOUR	1	0	0	0	0	0
NORTHAMPTON	11	9	15	14	9	9
NORTHUMBERLAND	5	3	2	0	2	0
PERRY	0	3	2	0	0	1
PHILADELPHIA	240	253	308	338	343	281
PIKE	0	0	0	0	1	0
POTTER	0	0	1	0	0	0
SCHUYLKILL	8	9	7	7	8	2
SNYDER	2	2	2	0	2	0
SOMERSET	4	3	6	4	3	1
SULLIVAN	0	0	0	0	0	0
SUSQUEHANNA	0	2	0	4	0	0
TIOGA	0	0	0	1	0	0
UNION	2	2	1	0	0	2
VENANGO	1	3	0	1	1	1
WARREN	2	2	5	0	5	1
WASHINGTON	5	12	6	10	10	10
WAYNE	0	3	1	2	2	1
WESTMORELAND	13	12	10	9	9	8
WYOMING	0	0	0	0	0	0
YORK	10	7	7	4	4	5

FIGURES

REPORTED TUBERCULOSIS CASES PENNSYLVANIA, 1994

Figure 1



Number of Cases



NO CASES

1-9

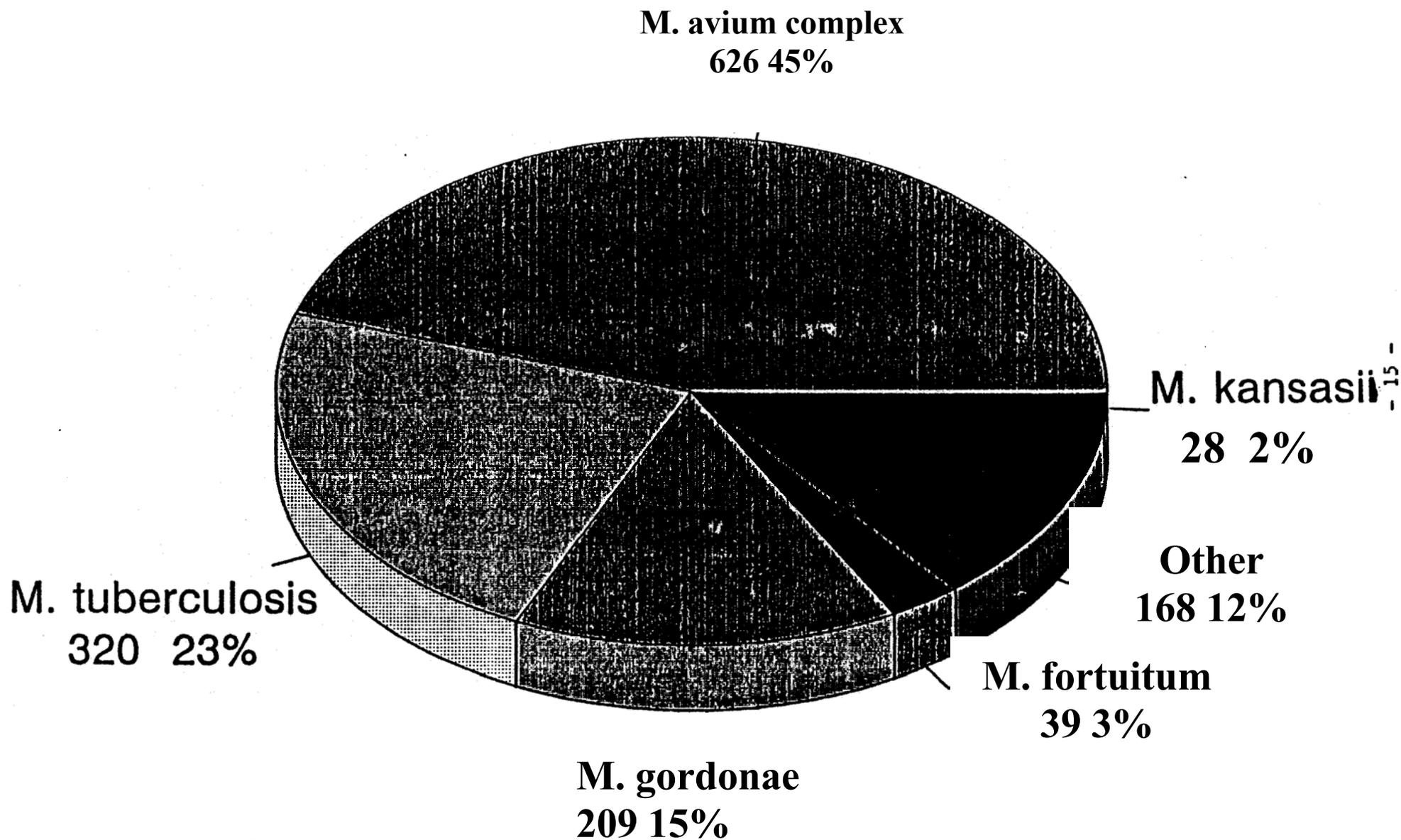
10-19

20-29

Prepared By: State Center for Health Statistics and Research

ALLEGHENY - 54
PHILADELPHIA - 281

PENNSYLVANIA MYCOBACTERIA ISOLATES - 1994



ATTACHMENTS

REPORTED TUBERCULOSIS CASES BY GEOGRAPHIC LOCATION PENNSYLVANIA, 1994

Attachment 2

LOCATION	POPULATION	REPORTED CASES	% CASES	RATE
CITIES - >100,000 (N=4)	2,105,052	322	52	15.3
CITIES - 40,000 -100,000 (N=9)	526,763	45	7	8.5
ALL OTHER AREAS	9,420,552	254	41	2.7
TOTAL	12,052,367	621	100	5.2

**TUBERCULOSIS CASES, CASE RATES, AND RELATIVE RISK,
BY RACE AND ETHNICITY, PENNSYLVANIA, 1994**

Race	Cases	Percent	Case Rate	Relative Risk
White, Non-Hispanic	251	40.4	2.3	1.0
Black, Non-Hispanic	255	41.1	22.3	9.7
Hispanic	44	7.1	18.9	8.2
Asians/Pacific Isl.	71	11.4	51.7	22.5
TOTAL	621	100.0	5.2	

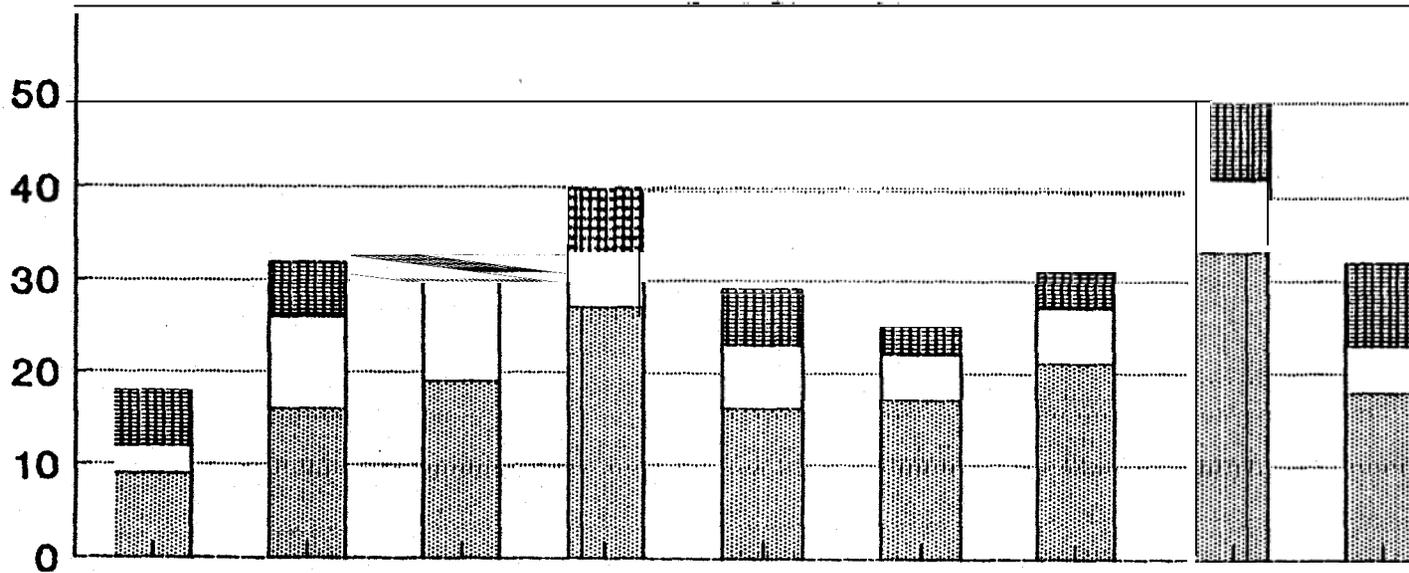
Attachment 3

Cases of Childhood Tuberculosis

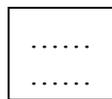
By Age Group, 1986-1994, PA.

Attachment 4

NUMBER OF CASES



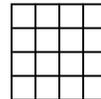
AGE



0 - 4



5 - 9



10 - 14

