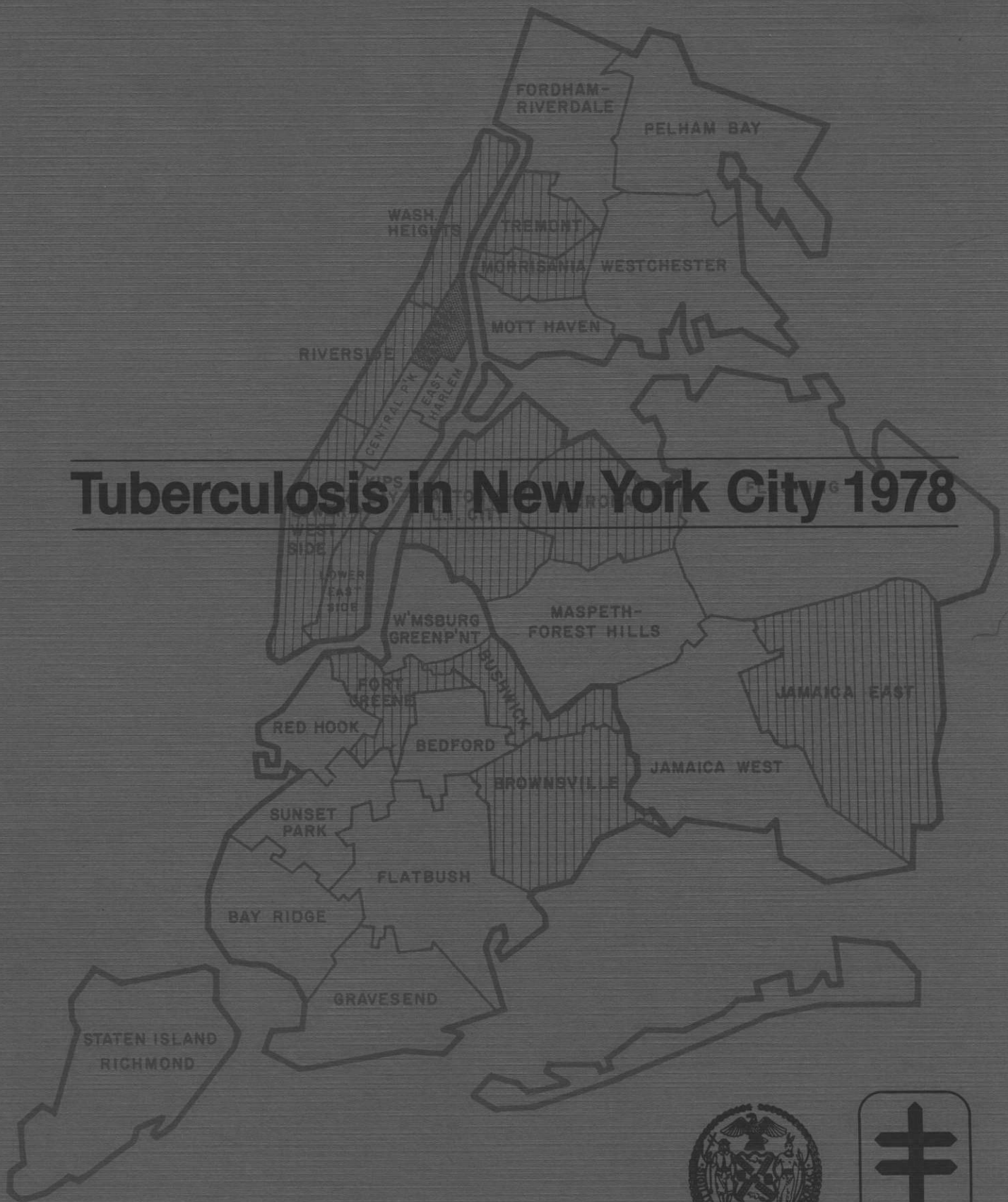
A Report to the Mayor and the Citizens of the City of New York

Tuberculosis in New York City 1978



NEW YORK LUNG ASSOCIATION
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Acknowledgments are extended to:

Bureau of Health Statistics and Analysis

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Division of Tuberculosis Control

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New York Lung Association

The New York Lung Association which made the printing of this report possible.

Notes:

1. Tuberculosis case rates and death rates for the years 1960 and 1970 are based on actual census figures. The rates for the other years are based on population estimates for those years.

2. Department of Health definition of ethnic groups:

   Puerto Rican - A person who was either born in Puerto Rico or whose mother was born in Puerto Rico - irrespective of racial characteristics.

   Nonwhite - A person who is not white and not Puerto Rican as defined above. Well over 90 percent of this group is black.

   White - A person who is white and not Puerto Rican as defined above.

*Classification of Tuberculosis

0. No tuberculosis exposure, not infected.
I. Tuberculosis exposure, no evidence of infection.
II. Tuberculosis: infected, without disease.
III. Tuberculosis: infected, with disease.

*Summarized from DIAGNOSTIC STANDARDS AND CLASSIFICATION OF TUBERCULOSIS AND OTHER MYCOBACTERIAL DISEASES, AMERICAN LUNG ASSOCIATION, NEW YORK 1974.

The City of New York

DEPARTMENT OF HEALTH

125 WORTH ST., NEW YORK N. Y. 10013

Telephone

November 1979

TO THE MAYOR AND THE CITIZENS OF THE CITY OF NEW YORK

We are pleased to present this annual review of tuberculosis in New York City for the year 1978. It is our hope that the information presented in this report will provide the reader with a better understanding of the tuberculosis problem in New York City.

Although there has been a continual decline in cases, case rates, and deaths over the past 25 years, tuberculosis remains one of the most important communicable diseases in New York City. Looking at preliminary figures for 1979 there is instead of a decline, a noticeable increase from 1,307 cases for 1978 to more than 1,600 cases for 1979.

With the medical knowledge that is available today it should be theoretically possible to eradicate tuberculosis from the City. However, this goal is far from being achieved. The City Health Department, Tuberculosis Division, is continuously plagued by shortage of funds for tuberculosis control. In order to eradicate this disease in New York City greater efforts are required.

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SUMMARY OF THE REPORT

From 1950 the incidence of tuberculosis in New York City has generally been declining. Some slight increases and declines were noted mostly in 1975 and 1976. These were mainly due to the New Diagnostic Standards which were revised in 1974 and were instituted in New York City in 1975-76. The nature of this change increased the morbidity. Cases that were previously not counted such as reactivation under the old standard were now counted as cases.

The total number of newly reported cases of Tuberculosis Disease counted in 1978, in New York City was 1,307. This is a decrease of 298 cases or 18.5% compared to the 1977 incidence of disease. The case rate decreased from 21.1 per 100,000 population in 1977 to 17.2 per 100,000 population in 1978.

Although there was an 18.5% decline in the total number of newly reported cases in 1978 compared with 1977, there was an increase in the number of cases reported with a positive culture for Mycobacterium Tuberculosis. In 1978, there were 1,257 cases (96% of the total) reported with a positive culture of Mycobacterium Tuberculosis. In 1977, there were 1,190 cases (74% of the total) reported with a positive culture of Mycobacterium Tuberculosis. There was an increase of 67 cases (5.6%) reported with a positive culture in 1978 compared with 1977. Therefore, since the policy for counting cases differed somewhat in 1977 and 1978, the true comparison must be made with the number of cases counted with positive cultures for Tuberculosis.

Fourteen percent of the total number of cases reported were extra-pulmonary. This percentage remained unchanged in comparison to 1977.

The age group 25-44 years had the highest number of cases reported. There were 472 or 36% of the total in this age group. Fifty percent of the cases reported were below the age of 45.

All age groups had a decline in comparison with 1977 except the under 5 years old group. There were 26 cases reported in 1978, an increase of 10 over 1977.

Black males out-numbered the other race/sex categories 2 to 1.

The number of "Reactivations" or cases reported as rediseased (previously counted as morbidity in another year with evidence of verified disease again) decreased by 34, but the percentage of the total morbidity remained about 5%.

The private sector of medicine (private physicians, voluntary hospitals, and other non-health department facilities) reported 56% of the total morbidity, an increase of 7% over the 1977 morbidity.

The case rate (per 100,000 population) decreased in each borough except Queens which remained unchanged.

The greatest number of cases reported by residence in 1978, was in the Borough of Manhattan(475 cases or 36% of the total morbidity) In 1977, Brooklyn had the most (599 cases or 37% of the total morbidity).

As in previous years certain health districts account for a major portion of the number of reported cases. Out of 30 Health Districts in New York City, 8 had more than 60 cases each. This concentration of Tuberculosis is no doubt a result of high population density, low income and other socio-economic factors that exist. This becomes apparent when we note that in 1978 Central Harlem had a case rate of 52.2 per 100,000 and Bayridge had 5.3 per 100,000 population.

Changes in the distribution of Tuberculosis have been noted in various districts throughout the city. An increase in new cases was noted in the Kips Bay-Yorkville, Lower East Side, Washington Heights, Fordham-Riverdale, Corona, and Maspeth-Forest Hills Health Districts. All other Health Districts had a decline in the number of new cases with the exception of Lower West Side Health District which remained the same.

Even though the 1978 morbidity figures declined over 1977, Tuberculosis is still a major public health problem in New York City. The twenty-six cases reported under the age of five indicates that transmission is still occurring within the city. There were 1,020 cases reported with positive culture findings in the sputum and 716 of these had positive sputa smears as well. This represents a rather large number of cases found who had the ability to spread their disease before treatment was begun. Since an increasing proportion of the total number of cases reported each year is occurring in the private sector of medicine, the Division's relationship with the private sector must continue to grow. The number of cases found to have Tuberculosis in 1978, represents only a small part of the overall Tuberculosis Control Program. These patients must be treated and medically supervised for at least eighteen months after diagnosis. Therefore, with the addition of these new cases to the cases reported in previous years, there are over 3,000 cases of Tuberculosis under care in New York City

Of the 57 American cities with a population of 250,000 or more, New York City with a case rate of 17.2 ranked number 33 as compared to a case rate of 21.1 and ranked 28 in 1977. However, New York City still ranks number one in the actual number of new cases in both 1977 and 1978.

TRENDS IN NEW TB CASES AND DEATHS

The numbers and rates of new cases of Tuberculosis and Tuberculosis deaths have declined gradually since 1950 (except for the years 1975 and 1976). The year 1978 shows a drop to 1307 cases. However, we wish to point out that preliminary figures for 1979 indicate an increase in the number of total cases. A projected total of at least 1,600 cases is expected.

Death rates have decreased at a more rapid rate than new case rates with the exception of 1977 (Table I, Figure 1) when the death rate was not differentiated to time of death, primary cause of death or secondary cause of death. In 1977 there were a total of 176 deaths. In 1978 there were 174 deaths. Of the 174 deaths, 64 cases were found at time of death (on day of death or later). Of these 64 cases found at time of death, Tuberculosis was the primary cause of death in 44 cases, and the secondary cause in 20 cases. The 64 cases found at time of death represent a mortality rate of 0.8 per 100,000 population.

TABLE 1

Newly Reported Cases Of Active Tuberculosis And Deaths
Due To Tuberculosis, Numbers And Rates
New York City, 1950 And 1960 Through 1978

Year	New Active Cases Reported	Deaths	Population (In 1000's)	Rate Per 100,000	
				New Cases	Deaths
1950	7,717	2,321	7,903	97.6	29.4
1960	4,699	810	7,782	60.4	10.4
1961	4,360	738	7,782	56.0	9.5
1962	4,437	740	7,780	57.0	9.5
1963	4,891	683	7,780	62.9	8.8
1964	4,207	581	7,840	53.7	7.4
1965	4,242	592	7,960	53.3	7.4
1966	3,663	537	8,040	45.6	6.7
1967	3,542	525	8,125	43.6	6.5
1968	3,224	485	8,110	39.7	6.0
1969	2,951	418	8,110	36.4	5.2
1970	2,590	386	7,896	32.8	4.9
1971	2,572	310	7,896	32.6	3.9
1972	2,275	331	7,896	28.8	4.2
1973	2,101	262	7,896	26.6	3.3
1974	2,022	215	7,896	25.6	2.7
1975	2,151	208	7,896	27.2	2.6
1976	2,156	187	7,896	27.3	2.4
1977	1,605	175	7,615	21.1	2.3
1978	1,307	64*	7,614	17.2	0.8

* 44 Due to TB Primary Cause or Death Due to TB.

The other 20 TB cases, TB was reported as secondary cases of death

FIGURE 1

RATES of NEWLY REPORTED TUBERCULOSIS CASES and DEATHS NEW YORK CITY, 1950 - 1978

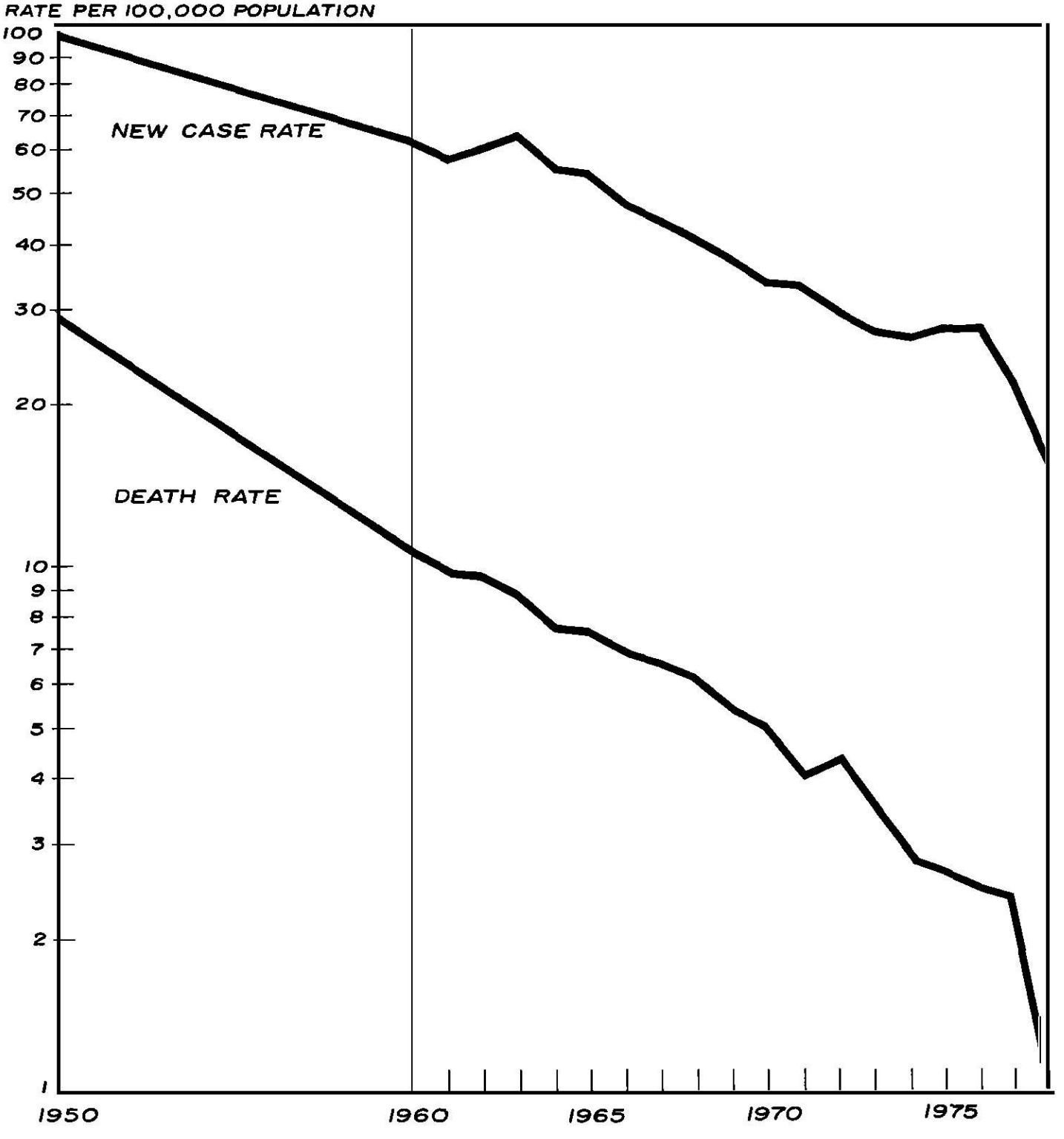
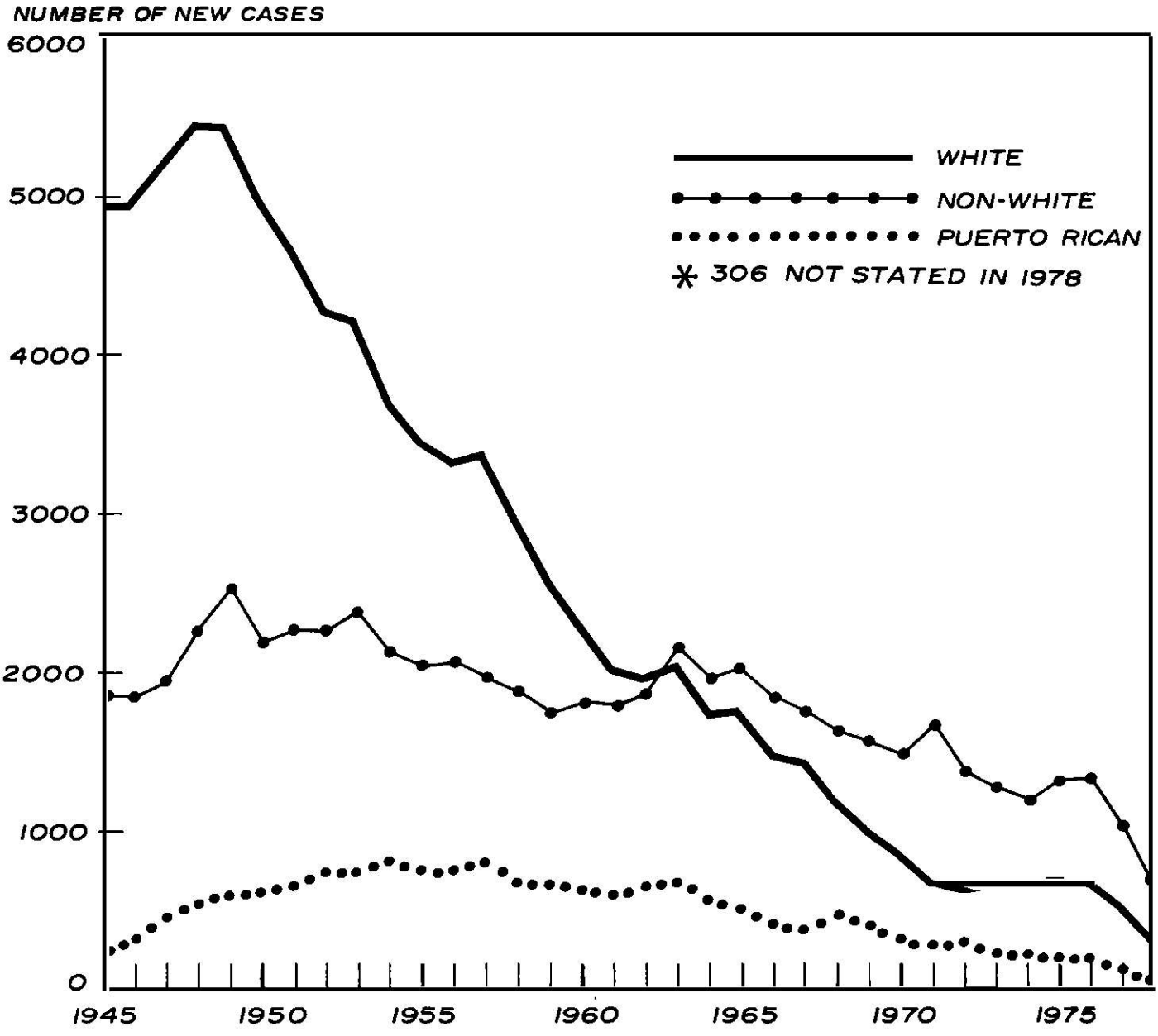


FIGURE 2

ANNUAL TOTALS OF NEWLY REPORTED TUBERCULOSIS CASES* BY ETHNIC GROUP AND YEAR NEW YORK CITY, 1945 - 1978



TUBERCULOSIS AMONG ETHNIC GROUPS

Tuberculosis is a non-discriminatory disease. It transcends geographical boundaries and is found among all races and ethnic groups throughout the world. The prevalence of Tuberculosis among the various ethnic groups in New York City is no exception.

Data on ethnic distribution of Tuberculosis and other epidemiological parameters that provide major indicators for defining population groups who are in greater need of medical service for the treatment of Tuberculosis is illustrated in Figure 2. In 1978 the race was not stated in 306 cases.

Marked changes have occurred in the ethnic composition of New York City. In 1945 Whites represented 90% of the population and accounted for 70% of the new Tuberculosis cases reported; Non-Whites and Puerto Ricans represented 10% of the total population and accounted for 30% of the new active cases of Tuberculosis. In 1978 Whites made up 67% of the population and accounted for 22.6% of the new cases of Tuberculosis. Non-Whites and Puerto Ricans represented 33% of the populations and accounted for 54.0% of the new cases. Race not stated accounted for 23.4% of new cases.

However, the new Tuberculosis case rates from 1945 to 1978 are a more important reflection of the incidence of Tuberculosis within ethnic groups. Since 1953 the rates have declined for all ethnic groups. The decline in newly reported cases per 100,000 population has been the greatest among the Non-Whites and Puerto Ricans (Figure 3).

THE DISTRIBUTION OF TUBERCULOSIS BY AGE AND SEX

In recent years most patients with Class III Tuberculosis (see Classification of Tuberculosis on cover page) have been men over the age of 35. The same holds true in 1978. 620 or 47.4% of Class III Tuberculosis cases was found among males over the age of 35 (see Table 2).

The single largest group of Class III Tuberculosis was in the Black, Male, age 35-44 group. 77 cases or 5.9% of the total new cases reported in 1978.

In analyzing Table 2, one might initially interpret that Tuberculosis is a disease of the older age groups and hence make the assumption that the disease in time will become extinct on its own. This conclusion would be erroneous. As long as there are cases of Tuberculosis amongst the population, each age group will be equallly prone to infection and

disease. This is evident by the fact that there was a decline in the number of new cases in all other age groups. This fact stresses the point that continuous Tuberculosis Control is necessary, Table 4A and Figure 4A show a gradual decline in Class III Tuberculosis cases and rates under the age of 15 as well as above the age of 15.

Also in 1978 due to more stringent surveillance of case reports there were no cases reported without the age being specified. The age not reported group went from 84 cases in 1977 to zero in 1978.

A major indicator of the success of Tuberculosis control is how low the incidence of disease and the prevalence of infection is amongst children. The former parameter for the age group under 15 is known and shown in Table 4A and Figure 4A. The later parameter is known from isolated small scale non-randomized surveys conducted since 1945. These show a wide array of results for prevalence of infection. Recent analysis of 21,000 Tuberculin tests carried out by chest clinics in New York City (see Table 4B) gives a different impression of the prevalence of infection by age group. The latter results show a great amount of infection. Further work is in progress to substantiate these figures. Figure 4B shows the prevalence of infection for New York City by age.

FIGURE 3

NEWLY REPORTED TUBERCULOSIS CASE RATES BY ETHNIC GROUP AND YEAR

NEW YORK CITY

1945 - 1978

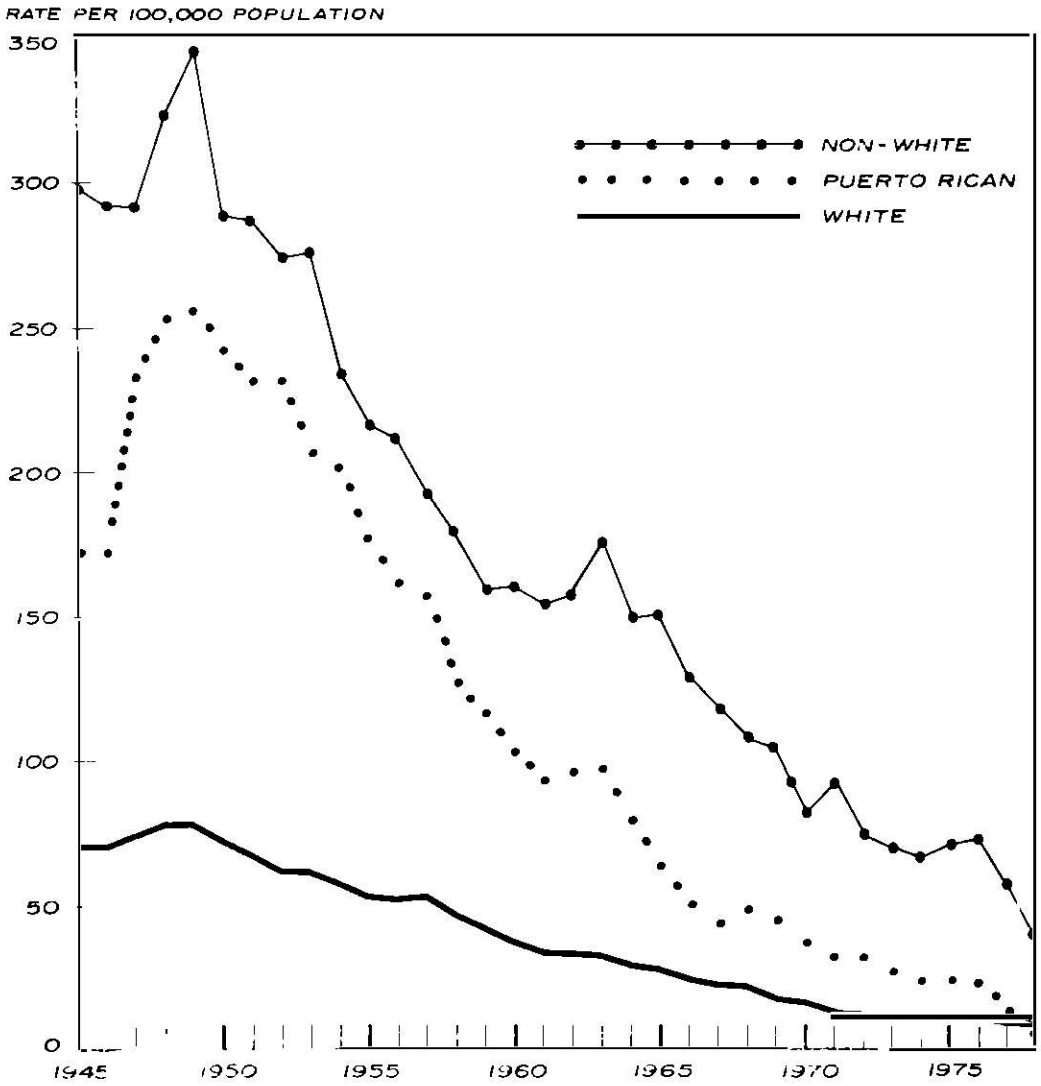


TABLE 2

Newly Reported Cases* Of Tuberculosis, All Forms, By Age, Sex And Ethnic Group
New York City, 1978

SEX AND ETHNIC GROUP	Total	AGE GROUPS											
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-44	45-54	55-64	65 And Over	Not Reported
GRAND TOTAL	1,307	26	9	12	39	85	128	113	231	214	174	276	0
MALE TOTAL	823	12	3	2	16	48	59	63	157	154	128	181	0
White	197	2	0	0	3	6	7	9	29	36	41	64	0
Black	327	8	1	1	5	20	26	36	77	65	47	41	0
Puerto Rican	24	1	0	0	0	2	1	3	8	3	4	2	0
Oriental	41	0	0	0	2	2	1	3	4	5	7	17	0
Other	47	0	0	0	2	8	8	5	7	8	4	5	0
Not Reported	187	1	2	1	4	10	16	7	32	37	25	52	0
FEMALE TOTAL	484	14	6	10	23	37	69	50	74	60	46	95	0
White	98	1	0	0	2	6	10	5	15	10	13	36	0
Black	185	5	4	7	11	17	29	23	30	24	13	22	0
Puerto Rican	16	1	0	0	0	1	0	2	5	5	1	1	0
Oriental	20	0	0	0	1	5	4	3	1	3	1	2	0
Other	46	3	0	2	4	4	9	5	4	7	2	6	0
Not Reported	119	4	2	1	5	4	17	12	19	11	16	28	0

* Verified Case = New Case Of TB As Demonstrated By Positive Bacteriology Or By Means Of Clinical, Radiological Or Tuberculin Test Evidence Or Clinical History

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TABLE 3

NEWLY REPORTED CASES OF TUBERCULOSIS WITH DISEASE,
NUMBERS AND RATES BY ETHNIC GROUP

New York City, 1945 - 1978

Year	NEW ACTIVE CASES					POPULATION (IN 1,000'S)				RATES PER 100,000				Year
	Total	White	Non-White	Puerto Rican	Not Stated	Total	White	Non-White	Puerto Rican	Total	White	Non-White	Puerto Rican	
1945	7,062	4,930	1,850	282		7,684	6,902	619	163	91.9	71.4	298.9	173.0	1945
1946	7,123	4,930	1,880	313		7,728	6,901	646	181	92.2	71.4	291.0	172.0	1946
1947	7,599	5,174	1,961	464		7,772	6,900	674	198	97.8	75.0	290.9	234.3	1947
1948	8,306	5,482	2,276	548		7,815	6,897	702	216	106.3	79.5	324.2	253.7	1948
1949	8,567	5,431	2,536	600		7,859	6,895	731	233	109.0	78.8	346.9	257.5	1949
1950	7,717	4,915	2,192	610		7,903	6,894	759	250	97.6	71.3	288.8	244.0	1950
1951	7,583	4,633	2,290	660		7,891	6,810	795	286	96.1	68.0	288.0	230.8	1951
1952	7,282	4,253	2,279	750		7,879	6,726	830	323	92.4	63.2	274.6	232.2	1952
1953	7,349	4,209	2,395	745		7,867	6,642	866	359	93.4	63.4	276.6	207.5	1953
1954	6,582	3,672	2,105	805		7,854	6,558	901	395	83.8	56.0	233.6	203.8	1954
1955	6,214	3,430	2,025	759		7,843	6,473	938	432	79.2	53.0	215.9	175.7	1955
1956	6,137	3,305	2,077	755		7,831	6,390	973	468	78.4	51.7	213.5	161.3	1956
1957	6,117	3,377	1,940	800		7,818	6,305	1,009	504	78.2	53.6	192.3	158.7	1957
1958	5,482	2,901	1,901	680		7,806	6,221	1,045	540	70.2	46.6	181.9	125.9	1958
1959	4,924	2,526	1,721	677		7,794	6,137	1,080	577	63.2	41.2	159.4	117.3	1959
1960	4,699	2,263	1,803	633		7,782	6,053	1,116	613	60.4	37.4	161.6	103.3	1960
1961	4,360	1,983	1,772	605		7,782	5,984	1,152	646	56.0	33.1	153.8	93.6	1961
1962	4,437	1,936	1,859	642		7,780	5,913	1,198	669	57.0	32.7	155.2	96.0	1962
1963	4,891	2,029	2,186	676		7,780	5,843	1,237	700	62.9	34.7	176.7	96.6	1963
1964	4,207	1,705	1,924	578		7,840	5,817	1,286	737	53.7	29.3	149.6	78.4	1964
1965	4,242	1,712	2,031	499		7,960	5,843	1,345	772	53.3	29.3	151.0	64.6	1965
1966	3,663	1,448	1,810	405		8,040	5,829	1,399	812	45.6	24.8	129.4	49.9	1966
1967	3,542	1,427	1,740	375		8,125	5,817	1,463	845	43.6	24.5	118.9	44.4	1967
1968	3,224	1,178	1,610	436		8,110	5,734	1,500	876	39.7	20.5	107.3	49.8	1968
1969	2,951	971	1,597	393		8,110	5,734	1,500	876	36.4	16.9	105.8	44.9	1969
1970	2,590	828	1,460	302		7,896	5,279	1,807	810	32.8	15.7	80.8	37.3	1970
1971	2,572	626	1,693	252		7,896	5,279	1,807	810	32.6	11.9	93.7	31.2	1971
1972	2,275	600	1,350	265		7,896	5,279	1,807	810	28.8	12.5	74.7	32.7	1972
1973	2,101	626	1,270	205		7,896	5,279	1,807	810	26.6	11.8	70.3	25.3	1973
1974	2,022	640	1,179	203		7,896	5,279	1,807	810	25.6	12.1	65.2	25.1	1974
1975	2,151	658	1,279	196		7,896	5,279	1,807	810	27.2	12.5	71.8	24.2	1975
1976	2,156	643	1,316	197		7,896	5,279	1,807	810	27.3	12.2	72.8	24.3	1976
1977	1,605	408	834	83	280	7,615	5,091	1,743	781	21.1	9.7	57.9	12.9	1977
1978	1,307	295	666	40	306	7,614	5,090	1,743	781	17.2	5.8	38.2	5.1	1978

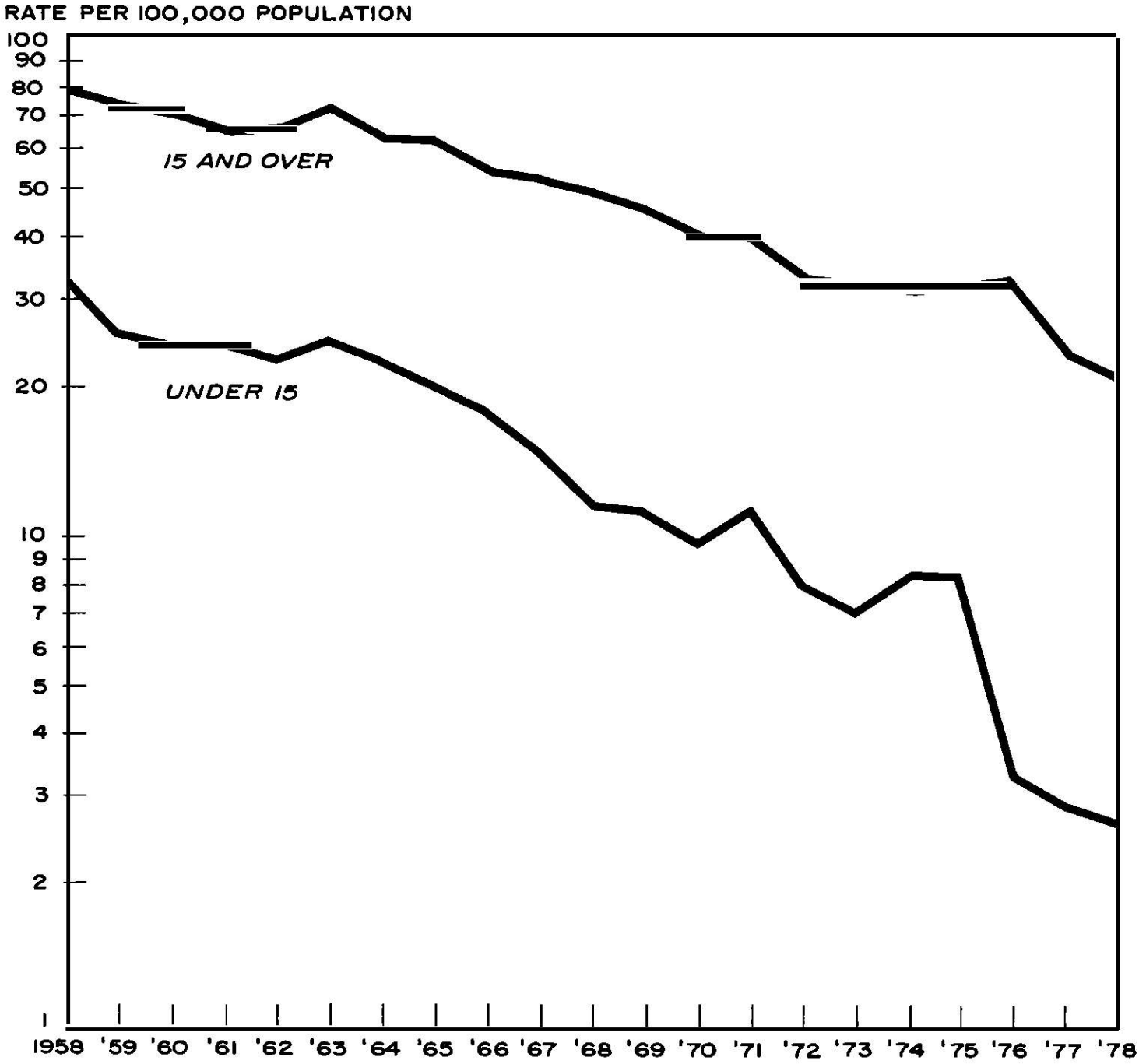
TABLE 4A

NEWLY REPORTED TUBERCULOSIS CASES WITH DISEASE BY AGE:
UNDER 15 AND 15 AND OVER, NUMBERS AND RATES
New York City, 1958 - 1978

Year	NUMBER OF NEW ACTIVE CASES REPORTED				POPULATION IN THOUSANDS			RATE PER 100,000 POPULATION		
	Total	Under 15 Yrs. Of Age	15 Yrs. Of Age & Over	Not Reported	Total	Under 15 Yrs. Of Age	15 Yrs. Of Age & Over	Total	Under 15 Yrs. Of Age	15 Yrs. Of Age & Over
1958	5,482	600	4,763	119	7,806	1,816	5,990	70.2	33.0	79.5
1959	4,924	461	4,360	103	7,794	1,838	5,956	63.2	25.1	73.2
1960	4,699	444	4,187	68	7,782	1,859	5,923	60.4	23.9	70.7
1961	4,360	457	3,833	70	7,782	1,878	5,904	56.0	24.3	64.9
1962	4,437	421	3,926	90	7,780	1,898	5,882	57.0	22.2	66.7
1963	4,891	474	4,319	98	7,780	1,917	5,863	62.9	24.7	73.7
1964	4,207	439	3,680	88	7,840	1,936	5,904	53.7	22.7	62.3
1965	4,242	389	3,773	80	7,960	1,956	6,004	53.3	19.9	62.8
1966	3,663	355	3,246	62	8,040	1,975	6,065	45.6	18.0	53.5
1967	3,542	296	3,215	31	8,125	1,995	6,130	43.6	14.8	52.4
1968	3,224	225	2,968	31	8,110	2,014	6,096	39.8	11.2	48.7
1969	2,951	223	2,708	20	8,110	2,014	6,096	36.4	11.1	44.4
1970	2,590	177	2,403	10	7,896	1,872	6,024	32.8	9.4	39.9
1971	2,572	209	2,363	0	7,896	1,872	6,024	32.6	11.2	39.2
1972	2,275	147	2,128	0	7,896	1,872	6,024	28.8	7.8	35.3
1973	2,101	128	1,973	0	7,896	1,872	6,024	26.6	6.8	32.8
1974	2,022	151	1,871	0	7,897	1,872	6,024	25.6	8.1	31.0
1975	2,151	154	1,997	0	7,897	1,872	6,024	27.2	8.2	33.2
1976	2,156	60	2,091	5	7,897	1,872	6,024	27.3	3.2	34.7
1977	1,605	51	1,470	84	7,615	1,805	5,810	21.7	2.8	25.3
1978	1,307	47	1,260	0	7,614	1,805	5,809	17.2	2.6	21.1

FIGURE 4A

NEWLY REPORTED TUBERCULOSIS CASE RATES by AGE
UNDER 15 and 15 and OVER
NEW YORK CITY, 1958 - 1978

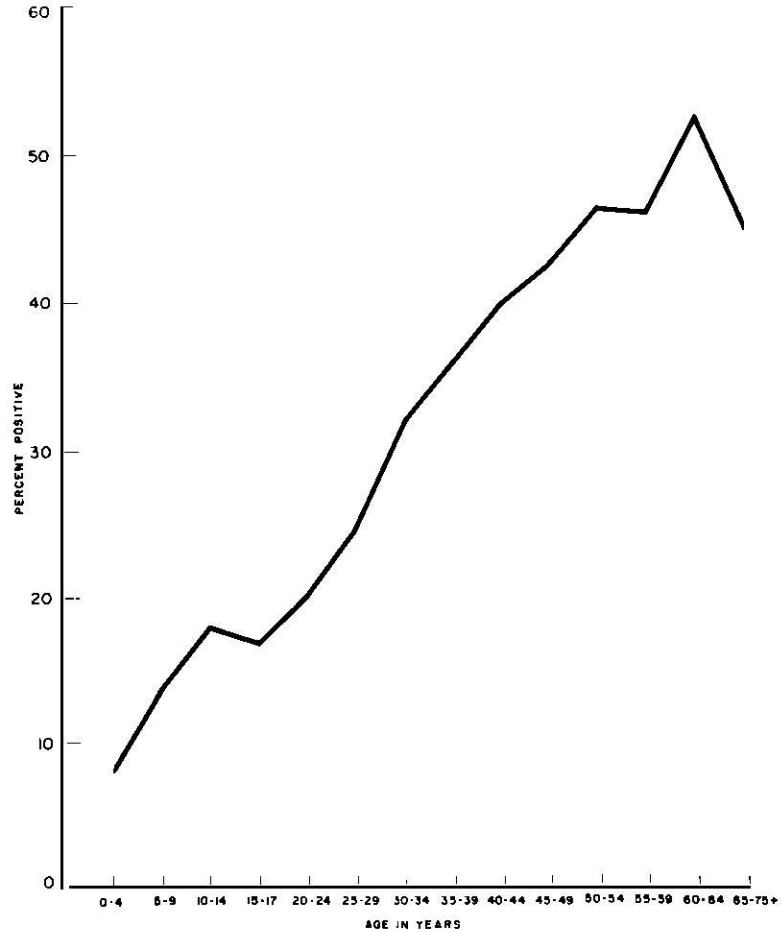


PREVALENCE of INFECTION BY AGE GROUP PPD >10 MM.

TABLE 4B

Age	Number Read	Number Positive	Percent Positive
0 - 4	691	55	8.0
5 - 9	439	60	13.7
10 - 14	672	119	17.9
15 - 17	2,874	467	16.3
20 - 24	3,385	675	19.9
25 - 29	3,250	779	24.0
30 - 34	2,396	757	31.6
35 - 39	1,865	669	35.9
40 - 44	1,501	597	39.8
45 - 49	1,250	524	41.9
50 - 54	1,179	542	46.0
55 - 59	898	408	45.5
60 - 64	560	291	52.0
65 - 75+	744	330	44.4
TOTAL	21,704	6,273	28.9

FIGURE 4B



WHERE ARE THE NEW PATIENTS?

Knowledge of the relative Tuberculosis rates in New York City's Boroughs and Health Districts enables the City's Tuberculosis Control Program to concentrate its resources in the areas of the greatest need. For this reason Tables 5 and 6 are among the most valuable analysis provided by this report. (see Map Fig. 6).

The Class III Tuberculosis rate for New York City, 17.2 per 100,000 population is a weighted average of the rate for the City's 30 Health Districts. These districts range from Central Harlem's 52.2 per 100,000 to Bayridge's 5.3 per 100,000. The top five Health Districts ranked in order of highest case rates accounted for a total of 439 Class III Tuberculosis cases or 33.6% of the new cases in the entire city in 1978.

Underscoring the above figures is the fact that the city-wide rate of 17.2 per 100,000 is greater than the national case rate of 13.1. The Central Harlem District with a rate of 52.2 is four times the national case rate.

TABLE 5

New Tuberculosis Case Rates
By Health District Rank, 1978
New York City, 1960, 1970 And 1978

HEALTH DISTRICT RANKED ACCORDING 1978 RATES	1978		1970		1960	
	Rank No.	Rate Per 100,000 Population	Rank No.	Rate Per 100,000 Population	Rank No.	Rate Per 100,000 Population
NEW YORK CITY				32.8		60.0
Central Harlem	1	52.2	1	135.5	1	239.6
Lower East Side	2	45.8	2	90.2	2	206.7
Fort Greene	3	43.1	8	54.8	7	98.9
Lower West Side	4	36.0	7	55.6	3	123.7
Washington Heights	5	33.8	12	43.6	13	15.9
Riverside	6	31.5	6	58.1	5	102.4
Bedford	7	30.4	3	74.9	6	101.5
Brownsville	8	25.5	11	43.9	14	54.6
Corona	9	20.4	16	24.2	19	32.1
Tremont	10	19.2	10	45.6	15	43.3
Morrisania	11	19.0	5	58.4	10	75.4
Bushwick	12	15.5	14	33.9	12	60.0
Jamaica East	13	15.4	17	23.8	17	41.2
Astoria-Long Island City	14	15.3	25	12.8	20	27.4
Fordham-Riverside	15	14.2	22	13.6	24	20.7
East Harlem	16	14.2	9	49.7	8	94.5
Redhook-Gowanus	17	13.5	13	39.0	9	83.9
Mott Haven	18	12.9	4	60.7	4	104.6
Kips Bay-Yorkville	19	12.3	24	13.1	18	34.4
Flatbush	20	11.4	27	12.3	29	17.9
Sunset Park	21	10.7	18	20.6	16	42.0
Maspeth-Foresthills	22	9.8	28	8.8	30	16.3
Williamsburg-Greenpoint	23	9.8	15	26.2	11	70.6
Jamaica West	24	8.9	21	13.9	21	24.2
Pelham Bay	25	7.5	20	15.5	22	23.3
Westchester	26	6.9	19	15.6	25	20.5
Richmond	27	5.8	23	13.5	27	19.4
Gravesend	28	5.7	26	12.7	23	22.3
Flushing	29	5.6	30	7.2	28	18.6
Bayridge	30	5.3	29	8.4	26	20.0

NEWLY REPORTED TUBERCULOSIS CASES WITH DISEASE
BY BOROUGH AND HEALTH DISTRICT OF RESIDENCE
NUMBERS AND RATES

TABLE 6

New York City, 1960, 1970, 1978

HEALTH DISTRICT	NUMBER			RATE PER 100,000 POP.		
	1960	1970	1978	1960	1970	1978
NEW YORK CITY	4,699	2,590	1,307	60.0	32.8	17.2
MANHATTAN	2,141	957	475	126.1	62.2	32.7
Central Harlem	581	247	83	249.6	135.1	52.2
East Harlem	168	78	19	94.5	49.7	14.2
Kips Bay-Yorkville	74	30	28	34.4	13.1	12.3
Lower East Side	562	225	109	206.7	90.2	45.8
Lower West Side	325	141	89	123.7	55.6	36.0
Riverside	275	128	67	102.4	58.1	31.5
Washington Heights	156	108	80	57.9	43.6	33.8
BRONX	690	510	180	48.4	34.6	13.0
Fordham-Riverdale	48	33	35	20.7	13.6	14.2
Morrisania	198	153	40	75.4	58.4	19.0
Mott Haven	234	129	22	104.6	60.7	12.9
Pelham Bay	43	32	17	23.3	15.5	7.5
Tremont	114	118	46	43.3	45.6	19.2
Westchester	53	45	20	20.5	15.6	6.9
BROOKLYN	1,359	796	405	51.7	30.6	16.3
Bay Ridge	58	23	14	20.0	8.4	5.3
Bedford	291	207	78	101.5	74.9	30.4
Brownsville	163	140	77	54.6	43.9	25.5
Bushwick	130	78	32	60.0	33.9	15.5
Flatbush	85	60	55	17.9	12.3	11.4
Fort Greene	213	109	78	98.9	54.8	43.1
Gravesend	66	40	18	22.3	12.7	5.7
Red Hook-Gowanus	136	55	18	83.9	39.0	13.5
Sunset Park	81	38	19	42.0	20.6	10.7
Williamsburg-Greenpoint	136	46	16	70.6	26.2	9.8
QUEENS	466	287	228	25.8	14.4	11.6
Astoria-Long Island City	70	32	37	27.4	12.8	15.3
Corona	70	62	52	32.1	24.2	20.4
Flushing	84	35	27	18.6	7.2	5.6
Jamaica East	121	82	51	41.4	23.8	15.4
Jamaica West	75	50	33	24.3	13.9	8.9
Maspeth-Forest Hills	46	26	28	16.3	8.8	9.8
RICHMOND	43	40	19	19.4	13.5	5.8

DO ALL FORMER PATIENTS STAY WELL?

Not all patients stay well after treatment for Tuberculosis as evidenced by 67 former patients who were reported in 1978 as having reactivated their disease. Reactivation is defined as occurring in a patient known to have had Tuberculosis who:

1. Received interrupted therapy.
2. Received treatment for insufficient time.
3. Was lost to supervision outright for over a year.
4. Received an adequate amount of chemotherapy but broke down after one year from the date of discharge.

Table 7 shows that there were more males than females reactivated during 1978, and that more Non-Whites than Whites reactivated, for this same period.

Some of these patients probably had their disease arrested in the pre-chemotherapy era but most of them fall in age groups that had chemotherapy available to them and they probably did receive some drugs. The reactivation results from a failure to give or take adequate medication. Primary drug resistance shows a wide range from laboratory to laboratory across the city. Resistance rates range from 2% to 7% to INH (MIC 0.2 micograms) or 1+ or greater (1+ signifies 50-99 colonies). Secondary drug resistance is also prevalent and seems to be related to poor compliance.

In 1976 there were 192 newly reported cases that were previously known and previously treated. This constituted 9% of all newly reported cases for 1976. In 1978 there were only 67 reactivated cases which equals 5.1% of all newly reported for 1978.(See Table 8).

TABLE 7

PATIENTS WITH REACTIVATED TUBERCULOSIS BY AGE, SEX AND ETHNIC GROUP
New York City, 1978

SEX AND ETHNIC GROUP	Total	AGE GROUPS								SEX AND ETHNIC GROUP
		0-14	15-34	35-44	45-54	55-64	65-74	75 And Over	Not Reported	
Total	67	1	8	14	17	13	11	3	0	Total
Male	47	0	3	10	14	11	6	3	0	Male
White	18	0	0	2	4	6	4	2	0	White
Nonwhite	19	0	3	5	7	4	0	0	0	Nonwhite
Puerto Rican	1	0	0	1	0	0	0	0	0	Puerto Rican
Not Reported	9	0	0	2	3	1	2	1	0	Not Reported
Female	20	1	5	4	3	2	5	0	0	Female
White	3	0	1	2	0	0	0	0	0	White
Nonwhite	12	1	3	1	3	2	2	0	0	Nonwhite
Puerto Rican	1	0	0	0	0	0	1	0	0	Puerto Rican
Not Reported	4	0	1	1	0	0	2	0	0	Not Reported

TABLE 8
Reactivated Tuberculosis Cases and Newly Reported Cases With Disease
By Health District - New York City, 1978

Health District	Total	Newly Reported Cases With Disease	Reactivated Cases Identified
NEW YORK CITY	1,307	1,240	67
MANHATTAN	475	448	27
Central Harlem	83	78	5
East Harlem	19	17	2
Kips Bay-Yorkville	28	28	0
Lower East Side	109	101	8
Lower West Side	89	83	6
Riverside	67	63	4
Washington Heights	80	78	2
BRONX	180	174	6
Fordham-Riverdale	35	34	1
Morrisania	40	39	1
Mott Haven	22	20	2
Pelham Bay	17	16	1
Tremont	46	45	1
Westchester	20	20	0
BROOKLYN	405	384	21
Bay Ridge	14	11	3
Bedford	78	74	4
Brownsville	77	73	4
Bushwick	32	30	2
Flatbush	55	54	1
Fort Greene	78	74	4
Gravesend	18	18	0
Red Hook-Gowanus	18	17	1
Sunset Park	19	18	1
Williamsburg-Greenpoint	16	15	1
QUEENS	228	217	11
Astoria-Long Island City	37	35	2
Corona	52	49	3
Flushing	27	27	0
Jamaica East	51	48	3
Jamaica West	33	31	2
Maspeth-Forest Hills	28	27	1
RICHMOND	19	17	2

WHO DIES OF TUBERCULOSIS?

Tuberculosis deaths occurred in every Health District in the City. The Central Harlem and Bedford Districts had the largest number of deaths, 18 and 14 respectively. Also these two districts ranked highest in case death rates, 16.3 and 5.5 per 100,000 population respectively.

Ten Health Districts had an increase in number of deaths, with Bedford having the greatest increase from 4 deaths in 1977 to 14 deaths in 1978. There were 12 Health Districts with a decrease in number of deaths with Lower West Side having the greatest decrease from 19 deaths in 1977 to 13 deaths in 1978. There were 8 districts where the number of deaths remained constant.

The majority of the people who died of Tuberculosis lived in areas of high Tuberculosis prevalence, high population density and low income areas. Those who died of Tuberculosis did not seek medical attention or sought attention but too late. (See Table 9).

TABLE 9
Deaths From Tuberculosis by Health District
New York City, 1960, 1970 and 1978

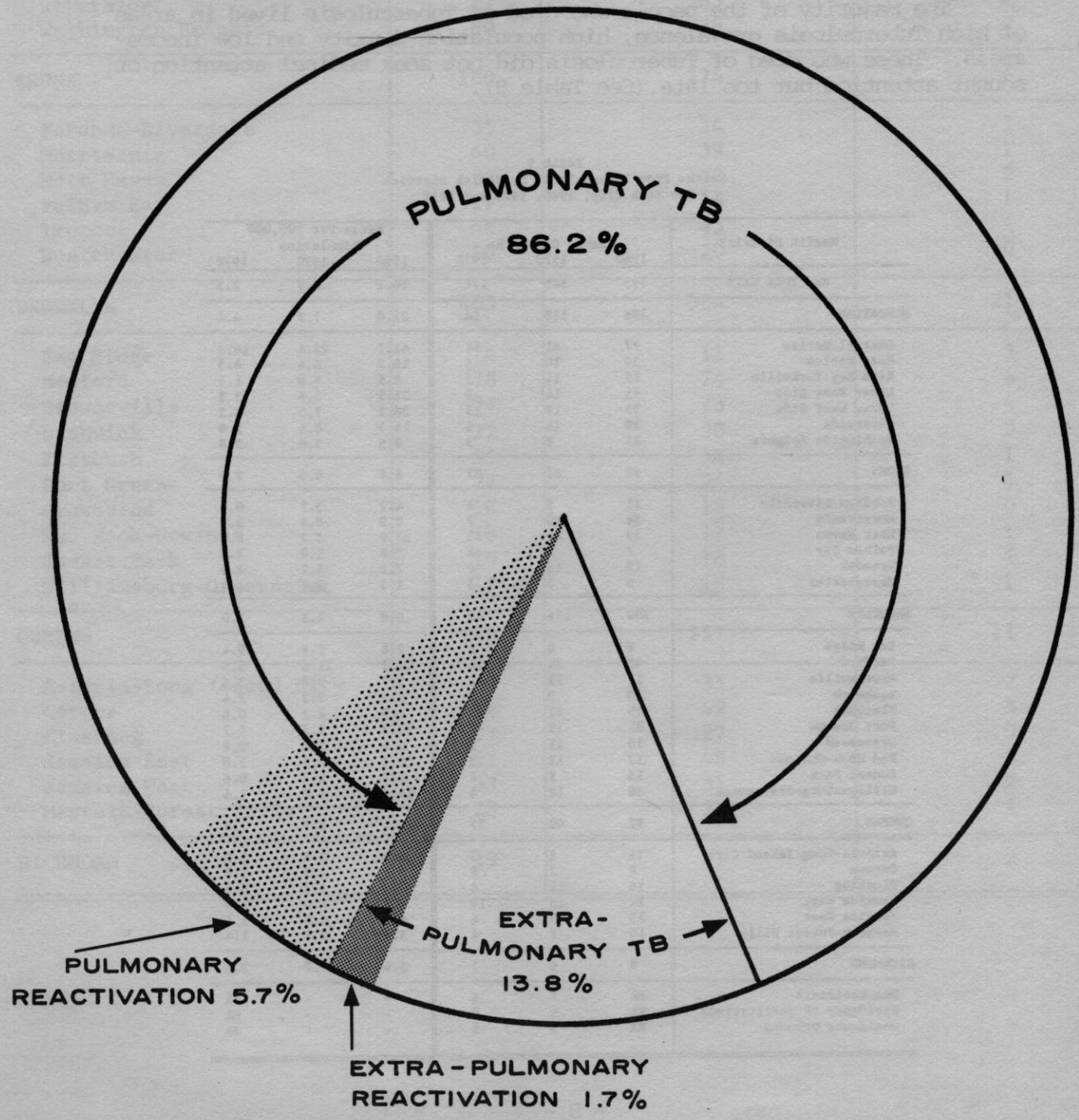
Health District	Number Of Deaths			Rates Per 100,000 Population		
	1960	1970	1978	1960	1970	1978
NEW YORK CITY	795	386	174	10.2	4.9	2.5
MANHATTAN	388	118	64	22.8	7.7	4.4
Central Harlem	97	41	18	41.7	22.4	16.3
East Harlem	30	10	6	16.9	6.4	4.5
Kips Bay-Yorkville	19	11	3	8.8	4.8	1.3
Lower East Side	85	14	9	31.3	5.6	3.8
Lower West Side	95	19	13	36.2	7.5	5.2
Riverside	39	14	6	14.5	6.4	2.8
Washington Heights	23	9	9	8.5	3.6	3.8
BRONX	98	67	27	6.9	4.6	2.0
Fordham-Riverdale	11	9	2	4.7	3.7	0.8
Morrisania	26	22	7	9.9	8.4	3.3
Mott Haven	29	11	3	13.0	5.2	1.8
Pelham Bay	7	2	4	3.8	1.0	1.8
Tremont	19	16	6	7.2	6.2	2.5
Westchester	6	7	5	2.3	2.4	1.7
BROOKLYN	209	126	49	8.0	4.8	2.0
Bay Ridge	8	8	1	2.8	2.9	0.4
Bedford	48	32	14	16.7	11.6	5.5
Brownsville	11	12	11	3.7	3.8	3.6
Bushwick	20	5	5	9.2	2.2	2.4
Flatbush	19	11	3	4.0	2.2	0.6
Fort Greene	33	19	3	15.3	9.5	1.7
Gravesend	10	11	2	3.4	3.4	0.6
Red Hook-Gowanus	17	11	5	10.5	7.8	3.8
Sunset Park	15	5	1	7.8	2.7	0.6
Williamsburg-Greenpoint	28	12	4	14.5	6.8	1.4
QUEENS	92	49	27	5.1	2.5	1.4
Astoria-Long Island City	14	6	3	5.5	2.4	1.2
Corona	8	7	2	3.7	2.7	0.8
Flushing	16	11	4	3.5	2.3	0.8
Jamaica East	24	15	10	8.2	4.4	3.0
Jamaica West	15	3	4	4.9	0.8	1.1
Maspeth-Forest Hills	15	7	4	5.3	2.4	1.4
RICHMOND	8	6	7	3.6	2.0	2.1
Non Residents	NA	7	6	-	-	NA
Residents of Institutions	NA	4	0	-	-	NA
Residents Unknown	NA	9	8	-	-	NA

TYPES OF TUBERCULOSIS DISEASE REPORTED

Out of 1,307 cases reported in 1978, 1,127 or 86.2% of the cases were diagnosed as having pulmonary disease with 64 or 5.7 % of the pulmonary cases reactivated. The remaining 180 cases or 13.8% of the total cases were extra-pulmonary with 3 or 1.7% of these cases having reactivation (see Figure 5, Table 10).

FIGURE 5

ANNUAL DISTRIBUTION of TUBERCULOSIS 1978
PULMONARY, EXTRA-PULMONARY and REACTIVATION



SOURCE OF CASE REPORT

In 1978, the private sector of medicine (private physicians, voluntary hospitals, and other non-Health Department facilities) reported 56% of the total morbidity, an increase of 7% over the 1977 morbidity. Since an increasing proportion of the total number of cases reported each year is occurring in the private sector of medicine, this Division has become increasingly dependent to the private sector for reporting.

Municipal hospitals reported 31% of the total morbidity in 1978, similar to 1977. The Health and Hospitals combined chest clinics reported 8% of the total morbidity and the Department of Health Chest Clinics reported 5% of the total morbidity (see Table 10).

These drastic changes in the reporting trends of TB cases may be a result of the extensive cutbacks in the control budget.

The Health Department presently spends money for both direct patient care and TB control activities. TB control activities is financed by New York City Health Department (tax levy) Funds and by the New York State Department of Health in the form of a contract to supplement TB control efforts. The State has annually cut the financial portion of this contract. It eliminated the contract in its entirety on September 30, 1979. This outside funding supported over 50% of the TB Control Program in New York City.

Present figures show that 56% of the newly reported cases come from the private and voluntary facilities. The Department of Health which treated in excess of 90% of the reported cases 10 years ago presently treat only 17% of all cases. The number of Health Department Chest Clinics has decreased from 22 to 9 in the last 10 years.

Due to the reduction in funds and personnel, and due to the trend toward the private sector, the Division's emphasis has shifted from direct patient care to TB control activities. The Division's present resources must be channeled into improving the relationship with the private sector.

TABLE 10

NEWLY REPORTED CASES OF TUBERCULOSIS,
BY SOURCE OF REPORT, NUMBERS AND PERCENTAGES OF TOTAL
NEWLY REPORTED CASES BY BOROUGH
New York City, 1978

SOURCE OF REPORT	NEW YORK CITY		MANHATTAN		BRONX		BROOKLYN		QUEENS		RICHMOND		SOURCE OF REPORT
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	
Private Physicians	53	4.0	13	2.7	5	2.8	20	4.9	14	6.1	1	5.3	Private Physicians
Health Department Chest Clinics	169	12.9	34	7.2	22	12.2	83	20.5	28	12.3	2	10.5	Health Department Chest Clinics
Hospitals And Non-Health Department Chest Clinics	1,077	82.4	425	89.5	152	84.5	298	73.6	186	81.6	16	84.2	Hospitals And Non-Health Department Chest Clinics
Other	8	0.7	3	0.6	1	0.5	4	1.0	4	-	0	-	Other
Total	1,307	100.0	475	100.0	180	100.0	405	100.0	228	100.0	19	100.0	Total

TUBERCULOSIS CASE COUNT BY BACTERIOLOGIC STATUS, 1977 AND 1978

Although there was an 18.5% decline in the total number of cases in 1978 compared with 1977, there was an increase in the number of cases reported with a positive culture for Mycobacterium Tuberculosis. In 1978 there were 1,257 cases (96% of the total) reported with a positive culture. In 1977 there were a total of 1,286 cases diagnosed by smear and/or culture. In order to make a proper comparision with 1978, there were actually 1,190 cases (76% of the total) reported with a positive culture in 1977. This was an increase of 67 cases (5.6%) reported with a positive culture in 1978 compared with 1977.(See Table 11A).

TABLE 11A **Tuberculosis Case Count By Site And Bacteriologic Status For 1977, 1978**

PREDOMINANT SITE	Total Cases		BACTERIOLOGIC CONFIRMATION							
			1977				1978			
	1977	1978	Positive	Negative	Not Done	Percent Confirmed	Positive	Negative	Not Done	Percent Confirmed
Pulmonary	1,373	1,127	1,136	117	120		1,081	16	30	
Extrapulmonary	232	180	150	36	46		176	3	1	
Pleural	46	30	18	17	11		29	1	0	
Lymphatic	71	69	48	8	15		68	0	1	
Bone And-Or Joint	24	14	15	3	6		13	1	0	
Genitourinary	36	34	33	0	3		34	0	0	
Miliary	21	13	12	4	5		13	0	0	
Meningeal	14	4	10	1	3		3	1	0	
Peritoneal	11	2	8	2	1		2	0	0	
Other	9	14	6	1	2		14	0	0	
Site Not Stated	0	0	0	0	0		0	0	0	
TOTAL ALL SITES	1,605	1,307	1,286	153	166	80.1%	1,257	19	31	96.2%

INDEX OF BACTERIOLOGIC CONVERSION

The index of Bacteriologic Conversion of Sputum is an evaluation of one of our program objectives - to render the infectious person noninfectious. A sputum conversion evaluation is made at three months and again at six months after each case is found to have a positive sputum culture. Ideally, after starting effective chemotherapy, 75% of patients with positive sputum should convert to negative within 3 months and 95% in 6 months. Our percentages of 32% and 49% respectively indicate a very significant problem in accomplishing our objective of rendering the infectious noninfectious (see Table 11B).

TABLE 11B

INDEX OF BACTERIOLOGIC CONVERSION, NEW YORK CITY, 1978

PART I

A. TOTAL CASES WITH POSITIVE SPUTUM (2) (excludes reported at death) 939

1. Cases with negative sputum (2) within 3 months (3) 301
2. Cases that did not have negative sputum within 3 months. 638

$$\text{Index } \frac{A1}{A} \times 100 = 32\%$$

PART II Index of Bacteriologic Conversion Within 6 Months

A. TOTAL CASES WITH POSITIVE SPUTUM (2) (Same as Part I Item A. 939

1. Cases with negative sputum (2) within 6 months (4). 415
2. Cases that did not have negative sputum within 6 months. 524

a. Positive sputum obtained aster 5th month. . . . 51
b. No sputum obtained after 5th month. 302
c. Lost, unable to locate. 71
d. Died (positive sputum at last report). 74
e. Moved, records referred. 26

$$\text{Index } \frac{A1}{A-(2d+2e)} \times 100 = 49\%$$

(1) Part 1 of summary report can only be compiled 3 months after this date and Part II can only be compiled 6 months after this date. (see schedule on back)
(2) By whatever method used.
(3) Each case has his own 3 months of observation from initial positive specimen.
(4) Each case has his own 6 months of observation from initial positive specimen.

NOTE: "Within 3 months and 6 months" refers to when sputum specimen was taken and not date laboratory report was received.

CONTACT SUMMARY

Contact investigation and management needs to be done surrounding every diseased case of Tuberculosis who had the ability to spread his infection with tubercle bacilli. From the 1,040 cases reported in 1978, that had the ability to spread their infection, only 618 cases named contacts. The others either did not name any contact, could not be found for an interview, or refused the interview. There were 3.4 contacts identified per case, but only 2.7 contacts examined per case. This represents only an 80% examination percentage with our goal being 95%. The percentage of the examined contacts found to have infection without disease was 32.9%. Eighty percent were placed on preventive chemotherapy with our goal being 95%. Contacts examined and found to have newly diagnosed disease represented 1.48% or 14.8 cases per 1,000 contacts examined. The close contacts had higher percentages of infection and disease (37.6% infected and 1.66% diseased). (See Table 12).

TABLE 12

TUBERCULOSIS PROGRAM MANAGEMENT REPORT
CONTACT SUMMARY
New York City, 1978

Total Cases 1307 **Cases With Contacts** 618

CONTACTS	Total	Close Contacts*		Other Than Close Contacts	
		Under 15	15+	Under 15	15+
A. Contacts Identified	2,107	487	974	166	480
B. Contacts Examined	1,679	422	783	131	343
1. Not Infected	1,101	273	458	109	261
a. On Chemotherapy	191	78	75	19	19
2. Infected Without Disease	553	146	308	21	78
a. On Chemotherapy	443	134	248	15	46
3. Tuberculin Status Unknown	0	0	0	0	0
a. On Chemotherapy	0	0	0	0	0
4. Infected With Disease (TB)	25	3	17	1	4

* Household

CASE REGISTER

The Tuberculosis Case Register is a vital tool in evaluating the tuberculosis problem. This report is two-fold. Sections A through D examine what happened to the disease prevalence from January 1, 1978 to December 31, 1978. Section C points out one obvious control problem in that of the 2,946 disease prevalence closed to supervision, 39% were lost or unable to locate. Section E. evaluates the disease prevalence under ambulatory supervision in terms of their chemotherapy and bacteriology status specifically for those cases recommended for two or more TB drugs as of December 31, 1978. This section indicates that nearly 500 cases recommended for two or more TB drugs did not have an evaluation of their sputa during the past three months in order to determine their drug effectiveness and noninfectiousness. It also indicates that only 54% of the disease prevalence recommended for two or more drugs had their drugs in hand during the past three months (see Table 13).

TABLE 13

TUBERCULOSIS PROGRAM MANAGEMENT REPORT - CASE REGISTER
New York City, 1978

TUBERCULOSIS: INFECTED WITH DISEASE (CASE REGISTER)

A. Patients Under Supervision at Start of Period		4,067
B. Patients Added During Period		2,191
C. Closed to Supervision During Period		2,946
1. Supervision complete	1,485	
2. Moved out of jurisdiction	102	
3. Lost	1,161	
4. Died	198	
		3,312
D. Under Supervision at End of Period	302	
1. Hospitalized for TB in general hospital		
2. Hospitalized for TB in sanitorium		
3. In an institution or hospital primarily for another reason		
4. At home (i.e. not in an institution)	3,010	

E. Cases at Home

STATUS AT END OF PERIOD	Total	Two or More TB Drugs	One TB Drug	No TB Drugs or Unknown
1. CHEMOTHERAPY				
a. Chemotherapy recommendation	3,010	2,486	431	93
1) Cases currently on chemotherapy	1,527	1,330	197	0
2) Cases not on current chemotherapy	1,390			
2. BACTERIOLOGY				
a. Positive within the past 3 months	132	132	0	0
b. Negative within the past 3 months	286	286	0	0
c. Not recommended	2,095	1,571	431	93
d. Unknown or not done	497	497	0	0

LONG TERM STAY STUDY

Hospitals frequently discuss and advocate the need to keep alcoholic patients past the recommended 21 days of hospitalization, as recommended by the State Utilization Board, since they have a history of multiple admissions.

Data from the Division show 32% of alcoholic patients to be multiple admission patients with an average length of stay well in excess of 21 days. Only 8% of non-alcoholic patients are multiple admission patients with an average length of stay in excess of 21 days.

The single admission patient, whether alcoholic or non-alcoholic spends an average in excess of 50 days in hospitals. Hospitals are not differentiating between the two types of patients, but are keeping all patients in hospitals as long as necessary to enhance care!

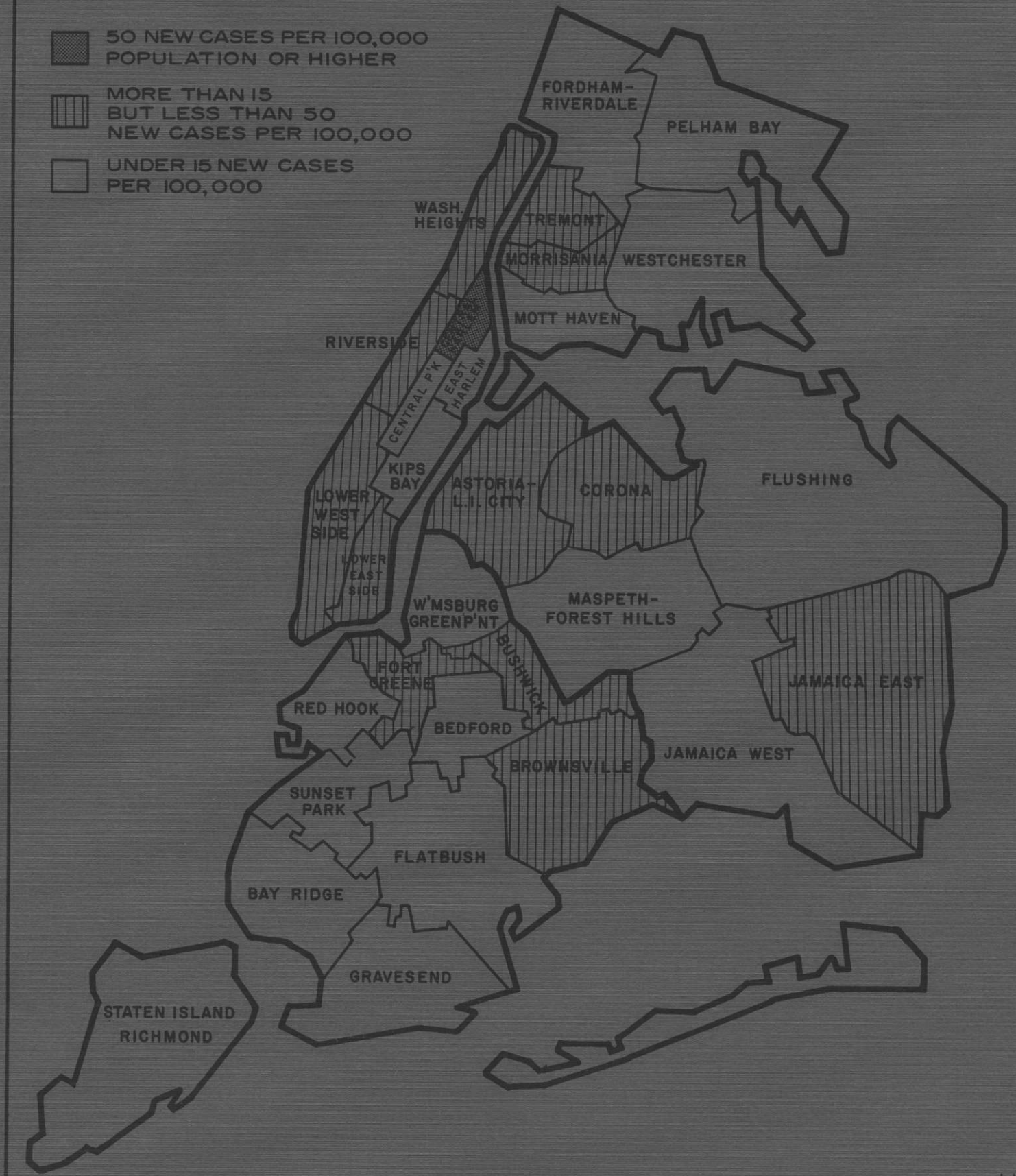
HOW DOES NEW YORK CITY COMPARE WITH OTHER LARGE CITIES?

New York's Tuberculosis Program is greater than that of any other city in the United States with a total of 1,307 newly reported cases. However, when the size of the population is taken into account, New York City's case rate per 100,000 population ranks 33rd. Among the 57 cities with 250,000 or more population (see Table 14) this was a drop from 28th place in 1977.

TABLE 14
Newly Reported Tuberculosis Cases
In Cities of 250,000 or More
Population Numbers and Rates 1978

Cities	Tuberculosis Cases		Case Rate		Rank According To Rate		Population Estimates
	1978	1977	1978	1977	1978	1977	1978
San Francisco, Cal.	332	274	50.4	41.3	1	6	658,700
Baltimore, Md.	381	391	48.3	47.7	2	4	788,900
Washington, D.C.	314	342	46.6	49.6	3	3	674,000
Honolulu, Hawaii	159	334	44.6	94.8	4	1	356,500
Detroit, Mich.	583	498	43.7	37.3	5	9	1,335,100
Jersey City, N.J.	92	96	40.4	40.4	6	7	227,900
Newark, N.J.	168	196	39.6	59.3	7	2	423,800
Birmingham	103	118	38.1	43.2	8	5	270,000
Atlanta-Fulton Co., Ga.	211	228	37.2	38.6	9	8	566,600
New Orleans, La.	186	148	33.3	26.4	10	19	559,200
Chicago, Ill	997	1,079	29.6	32.0	11	12	3,367,000
Tampa, Fla.	84	102	28.5	34.6	12	11	294,900
Boston, Mass.	170	186	27.5	29.2	13	14	618,300
Los Angeles, Cal.	730	761	26.2	27.6	14	17	2,787,900
Cleveland, Ohio	160	139	25.8	22.4	15	24	619,200
Houston, Texas	452	445	25.4	28.0	16	16	1,782,100
Jacksonville, Fla.	134	126	23.3	21.8	17	25	575,200
Norfolk, Va.	66	49	23.1	17.8	18	36	285,900
Philadelphia, Pa	412	412	23.1	22.7	19	22	1,787,100
Portland, Ore.	82	81	22.4	21.1	20	29	366,700
Dallas, Texas	191	229	20.8	25.7	21	20	916,300
Pittsburgh, Pa.	92	80	20.8	16.6	22	39	443,000
El Paso, Tex.	79	108	20.7	29.9	23	13	381,300
Oakland, Cal.	67	76	20.4	22.5	24	23	327,800
Miami-Dade Co., Fla.	294	276	20.0	19.3	25	35	1,472,000
Cincinnati, Ohio	77	115	19.4	28.6	26	15	397,300
San Diego, Cal.	153	165	19.2	20.7	27	31	797,400
Nashville-Davidson Co., Tenn.	87	125	18.9	27.0	28	18	460,000
Memphis-Shelby Co., Tenn.	141	150	18.5	19.6	29	34	761,800
Tucson, Ariz.	55	51	17.9	16.7	30	38	307,100
Long Beach, Cal.	61	53	17.7	15.5	31	44	344,200
Indianapolis-Marion Co., Ind.	135	135	17.2	17.3	32	37	785,700
New York, N.Y.	1,307	1,605	17.2	21.1	33	28	7,614,000

GEOGRAPHIC CONCENTRATION OF TUBERCULOSIS NEW YORK CITY, 1978



RETURN TO

MARIE DORSINVILLE