

CASE DETECTION

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CASE DETECTION

DISCOVERY of previously unknown tuberculosis is an activity of prime importance in the current antituberculosis campaign aimed toward the eventual eradication of this disease.

Proven methods are being used widely and various established techniques are constantly improved and adjusted to meet the ever-changing needs of different communities within New York City.

Tuberculin testing of school children, chest X-ray examinations of the population in community surveys, and routine chest X-ray examinations of patients admitted to general hospitals account for the major portion of such organized case-finding programs.

Investigations designed to evaluate present methods and to determine how to make them more productive are under way. It is anticipated that the fruits of this research will provide better understanding, not only as to how tuberculosis in its incipient stages can be found much sooner than it is today, but also suggest ways whereby transmission of tuberculosis might be avoided.

* * * * *

TUBERCULIN TESTING IN SECONDARY SCHOOLS

THE School Health Services of the Department of Health continued tuberculin testing among adolescents entering secondary schools in New York City. (Ref.g)

This program called for tuberculin testing of all students newly admitted to the public, parochial and private high schools of New York City and yearly X-ray examination of positive reactors to the test throughout their secondary school careers. Participation of students is based upon parental request.

A seventh year of tuberculin testing in the secondary schools also marked the fourth year of testing by the Heaf multiple puncture method. Results for the four years are shown, but they are not completely comparable since a refinement in the criteria of reading the results of the test was followed in the second, third and fourth year of testing. Whereas PPD (Purified Protein Derivative) was used exclusively for testing in the last three years, OT (Old Tuberculin) was used almost exclusively in the first year.

For the 1961-1962 school year the city-wide reaction rates were slightly higher than those of the previous year, a rate of 12.5 percent positive reactors compared to 9.4 percent in 1960-1961. All boroughs showed slightly higher reaction rates except Richmond, which showed a slight decrease. In general Manhattan schools and vocational high schools had the highest positive reaction rates. A detailed study shows increased positive reaction rates in many individual schools. "This latter finding may be due to either population shifts or to the greater number of doctors doing the interpretation of the tests."

During the 1961-1962 school year 56,074 tuberculin tests were read and 7,005 were found to be positive or a rate of 12.5 percent.

TUBERCULIN TESTING IN SECONDARY SCHOOLS
Department of Health, The City of New York
1955-1962

School Year	Tested and Read	Number Positive	Percent Positive
1955 - 1956 (a) ..	46,361	3,852	8.3%
1956 - 1957 (a) ..	54,373	3,743	6.9%
1957 - 1958 (a) ..	56,842	3,577	6.3%
1958 - 1959 (b) ..	58,370	10,590	18.1%
1959 - 1960 (b) ..	56,189	5,597	10.0%
1960 - 1961 (b) ..	59,709	5,599	9.4%
1961 - 1962 (b) ..	56,074	7,005	12.5%

Note: Entering students, age range approximately 13-15 years. (a)Patch test, (b)Heaf multiple puncture test.

Upon subsequent X-raying and follow-up of positive reactors there were active cases of tuberculosis found: 1955-56=6, 1956-57=11, 1957-58=11, 1958-59=11, 1959-60=14, 1960-through December=6, 1961-62=6.

"Because of the dissatisfaction with the program as mentioned in previous reports, detailed critical analyses of the program were carried on during the year. The results of such studies show that some 200 cases of active tuberculosis in the adolescent group are reported to the Bureau of Tuberculosis annually. The high school program has picked up only 10 - 14 of these cases annually. It is felt that since this program is a voluntary one based on parental consent a large number of cases are actually within the group that does not participate and within group absent for reading (3,917), as well as within the large group of school 'drop-outs' who leave school between their sixteenth and seventeenth birthday. Therefore, as of the 1962-1963 school year, the mass tuberculosis screening of new admissions to high school will be discontinued. Instead, a tuberculin test will be required as part of the mandatory new admission physical examination for senior high school, whether such examination be performed by the private physician or school physician. As in the original program, positive reactors are to have a chest X-ray and be followed by annual X-ray throughout their high school career.

"An additional proposal to require chest X-ray of all full-time working paper applicants between 16 - 17 years of age (school drop-outs) may plug another hole in the dike.

"In this manner it is hoped that an improvement in tuberculosis case finding among adolescents may be accomplished." (Ref.g).

TUBERCULIN TESTING IN SECONDARY SCHOOLS, NEW YORK CITY, 1958-1962

Borough	1958-59			1959-60		
	Tests Read	Number Positive	Percent Positive	Tests Read	Number Positive	Percent Positive
Manhattan	12,816	2,973	23.2%	10,555	1,847	17.5%
Bronx	10,417	2,220	21.3%	9,587	1,287	13.4%
Brooklyn	20,473	3,434	16.7%	21,901	1,530	7.0%
Queens	12,399	1,548	12.5%	11,836	804	6.8%
Richmond	2,265	415	18.3%	2,310	129	5.6%
New York City ...	58,370	10,590	18.1%	56,189	5,597	10.0%

Borough	1960-61			1961-62		
	Tests Read	Number Positive	Percent Positive	Tests Read	Number Positive	Percent Positive
Manhattan	11,085	1,745	15.7%	11,000	2,226	20.2%
Bronx	9,620	761	7.9%	9,506	1,209	12.7%
Brooklyn	22,571	1,483	6.6%	21,035	1,833	8.7%
Queens	14,074	1,431	10.2%	12,553	1,619	12.9%
Richmond	2,359	179	7.6%	1,980	118	6.0%
New York City ...	59,709	5,599	9.4%	56,074	7,005	12.5%

Note: Entering students, age range approximately 13-15 years. In High School surveys most of the tuberculin reactors are given a chest X-ray examination within a two-month period.

X-RAY FOLLOW-UP OF POSITIVE REACTORS
TUBERCULIN TESTING IN SECONDARY SCHOOLS
Department of Health, The City of New York
1958-1962

School year:-	1958-1959	1959-1960	1960-1961	1961-1962
Positive reactors	10,590	5,597	5,599	7,005
Pathology found:				
Active cases	11	14	6†	6‡
Minimal	8	..	3	..
Moderately advanced	2	..	2	..
Far advanced	0	..	0	..
Childhood-Primary	1	..	1	..
Arrested	1	..	7	..
Apparently cured	0	..	1	..
Undetermined	0	..	2	..

(..) = Details not available.

†This number represents only cases discovered through December 1960; figures for 1961 not available because of illness of staff of Bureau of Tuberculosis responsible for analysis of these figures. ‡This number is incomplete as 70 X-ray recalls are still under investigation as of June 30, 1962. Four of these cases were found immediately following the Heaf test; two were found upon re-X-ray of previous Heaf positive reactors.

TUBERCULIN TESTING IN SECONDARY SCHOOLS, NEW YORK CITY
By Type of School, 1958-1962

Type of School	Number of Schoolst	Tested, Read*	Number Positive	Percent Positive
<u>1958-1959</u>				
Vocational	35	9,587	2,649	27.6%
Public Academic	61	34,120	6,082	17.8%
Catholic Parochial	89	14,127	1,763	12.4%
Hebrew Parochial	13	536	96	17.9%
Total	198	58,370	10,590	18.1%
<u>1959-1960</u>				
Vocational	33	8,879	1,621	18.3%
Public Academic	65	32,821	3,130	9.5%
Catholic Parochial	86	14,177	819	5.8%
Hebrew Parochial	7	312	27	8.7%
Total	191	56,189	5,597	10.0%
<u>1960-1961</u>				
Vocational	34	9,793	1,620	16.5%
Public Academic	67	34,609	2,991	8.6%
Catholic Parochial	82	14,921	965	6.5%
Hebrew Parochial	6	386	23	6.0%
Total	189	59,709	5,599	9.4%
<u>1961-62</u>				
Vocational	31	9,504	1,818	19.1%
Public Academic	62	31,615	3,793	12.0%
Catholic Parochial	85	14,375	1,336	9.3%
Hebrew Parochial	7	507	42	8.3%
Protestant Parochial ...	1	73	16	21.9%
Total	186	56,074	7,005	12.5%

*Heaf multiple puncture test. †Including annexes.



ADMINISTERING the Heaf multiple puncture test in a New York City school.

TUBERCULIN TESTING IN 22 PAROCHIAL ELEMENTARY SCHOOLS
New York City, School Years, 1959-60 and 1960-61

School Years Grade(t)	Tested, Read	Number Positive*	Percent Positive
<u>1959-60</u> - First	2,781	69	2.5%
Fourth	2,793	159	5.7%
Seventh	2,678	215	8.0%
Total	8,252	443	5.4%
<u>1960-61</u> - First	3,086	93	3.0%
Fourth	2,712	166	6.1%
Seventh	2,799	279	10.0%
Total	8,597	538	6.3%

Note: Among 443 positive reactors in 1959-60 there were 2 active tuberculosis cases, and among 538 positive reactors in 1960-61 there was 1 active tuberculosis case. In 1960-61 there were 2,145 associates to the 538 children or 4.0 per positive child reactor. Of these 1,499 associates x-rayed, 4 were found to have active tuberculosis. *Heaf multiple puncture test. Negative or 1W (1 weak) readings were defined as negative readings. Ages of children ranged from 6 to 15 years. †Children registered in schools: September 30, 1959=12,070, September 30, 1960=11,592.

TUBERCULIN TESTING IN 22 PAROCHIAL ELEMENTARY SCHOOLS, NEW YORK CITY
By Type of Reaction to Heaf Multiple Puncture Test
School Years, 1959-60 and 1960-61

School Year	Tested, Read	Negative*		Positive				Total Positive	
		Negative	1W	1s	2	3	4	Number	Percent
1959-60	8,252	7,556	253	321	64	32	26	443	5.4
1960-61	8,597	7,555	504	378	105	44	11	538	6.3
Both Years ...	16,849	15,111	757	699	169	76	37	981	5.8

*Negative or 1W (1 weak) readings were defined as negative readings.

ASSOCIATES OF POSITIVE REACTORS
Study: Tuberculin Testing in 22 Parochial Elementary Schools
New York City, 1960-1961

Age Group	Total Asso- ciates	Tuberculin Tested and Read(x)			X-Ray Examinations			
		Negative	Positive	Percent Positive	TB Not Present	Tuberculosis Present		
						In- active*	Active	Percent†
0- 9..	551	336	26	7.2	384	2	1	0.8
10-19..	452	189	37	16.4	304	1	..	0.3
20-29..	102	6	2	25.0	59	..	..	..
30-39..	474	20	26	56.5	340	9	..	2.6
40-49..	324	20	36	64.3	234	5	1	2.5
50-59..	114	1	9	90.0	80	3	2	5.9
60+ ...	63	..	4	100.0	37	5	..	11.9
Unknown	65	5	2	28.6	31	1	..	3.1
Total..	2,145	577	142	19.7	1,469	26	4	2.0

†Percent positive of those tested and read. *Active and inactive.
*Childhood pulmonary, healed, not included. (x)Tested by all methods.
There were four associates per child reactor. Of all associates 719 or 33.5 percent were tuberculin tested and read by all methods and 142 or 19.7 percent were found positive to the tests. Of the total, 1,499 or 70 percent were x-rayed and 4 persons were discovered to have active tuberculosis.

TUBERCULOSIS INFECTION RATES

The record for New York City in respect to rates of infection is somewhat incomplete since there has been relatively little systematic testing of the general population. At present tuberculin testing is confined almost exclusively to children and testing of adults is sporadic.

Thirty years ago one-third of the children in the 10 to 15 year age group reacted to intracutaneous tuberculin tests. Of adults tested and particularly older adults in congested areas in New York City a very high proportion was found to be infected.

Since then decline in tuberculosis incidence rates has been concomitant with corresponding lowering of the infection rates. Consistently throughout the years infection rates for adults have been several times as high as those found among children and young adults.

It is estimated that currently there are in New York City 2,700,000 people, or one of every three residents, who have been infected with the tubercle bacillus. Around 75,000 of these are children under 15 years of age.

On a city-wide average, approximately 2 percent of the children under 5 years of age show a positive reaction to the new multiple puncture tuberculin tests, 4 percent in the group 5 to 9 years, 8 percent in the group 10 to 14, and 20 percent in the group 15 to 20; however, in different neighborhoods wide variations from these figures are observed.

Among adults the reaction rates are substantially higher than among children, insofar as can be determined from available survey data.

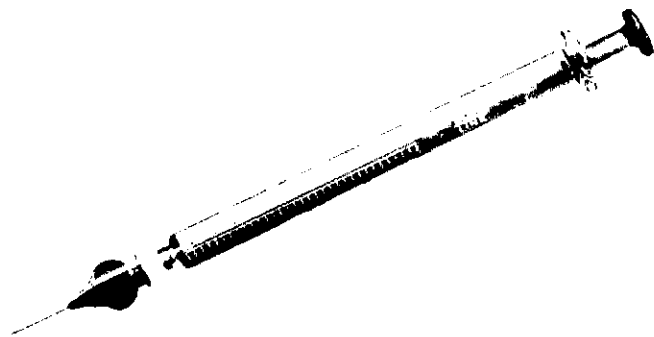
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Long term comparisons of infection rates must be made with a certain degree of caution since findings are not always based on the same method, technique, or tuberculin. Occasionally even modification of the same test or reading procedure may influence the result.

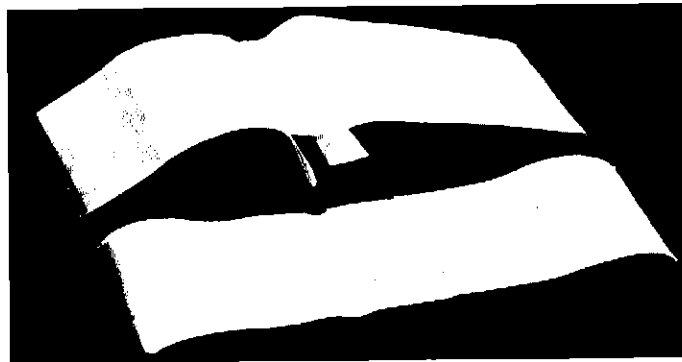
Following Koch's original subcutaneous test the literature was replete with references to a variety of tuberculin tests. The three early methods that survived were the Pirquet cutaneous test, the Moro patch (percutaneous) test and the Mantoux intracutaneous test. There were various applications of these tests. More recently the multiple puncture tests such as the Heaf and Tine tests are used widely.

Since there is no practical way of standardizing retroactively the results of earlier surveys, except in a very general way, interpretation of apparent trends in infection must be based in part on deduction.

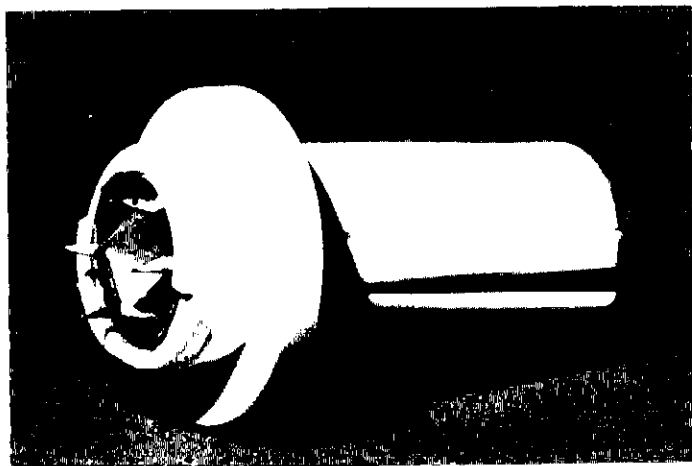
SOME TUBERCULIN TESTING TECHNIQUES



TUBERCULIN syringe and needle used to inject liquid tuberculin under skin in the Mantoux Test.



ADHESIVE tape holds tuberculin saturated dry pads against skin surfaces in the Patch Test.



FOUR tines coated with dried tuberculin are pressed into top layer of skin in the Tine Test.



SIX pin-points of the Heal Multiple Puncture Apparatus carry liquid tuberculin into top layer of skin.

X-RAY EXAMINATIONS FOR TUBERCULOSIS

DURING 1961, 786,038 chest X-ray examinations for tuberculosis were reported upon by public and private agencies in New York City. The majority of the people so examined were adults. Included were community-wide surveys as well as X-rays taken of patients in the Department of Health clinics, persons admitted to general hospitals, and examinations by the three Tuberculosis and Health Associations.

The Department of Health reported taking 123,421 chest X-rays in connection with survey and clinic activities, the three local tuberculosis associations 51,140, and 10 general hospitals 311,477, a total of 786,038 examinations for the year.

X-RAY EXAMINATIONS FOR TUBERCULOSIS
New York City, 1950-1961

Year	Department of Health*	Brooklyn TB and Health Assn.	Queensboro TB and Health Assn.	New York TB and Health Assn.	General Hospital Admissions	Total X-ray Examinations for TB
1950 ..	437,931	44,268	56,654	22,754	...	561,607
1951 ..	523,683	49,133	27,904	24,970	...	625,690
1952 ..	421,702	48,765	29,618	27,590	...	527,675
1953 ..	456,529	46,441	27,905	33,949	...	564,824
1954 ..	511,415	30,261	26,290	25,755	...	593,721
1955 ..	619,247	28,231	35,199	34,663	17,264	734,604
1956 ..	770,954	23,688	33,776	30,846	106,747	966,011
1957 ..	691,467	21,341	32,881	23,759	246,630	1,016,078
1958 ..	432,392	14,198	21,236	19,499	312,815	800,140
1959 ..	427,702	19,690	20,866	20,569	299,389	788,216
1960 ..	458,568	13,294	17,897	21,699	307,732	819,190
1961 ..	423,421	15,187	17,323	18,630	311,477	786,038

*Including x-ray examinations other than for case finding. In addition, chest x-ray examinations were made by the Department of Hospitals Clinics, Private Clinics, and Private Physicians for which agencies data were not available.

DEPARTMENT OF HEALTH

Of the 123,421 examinations reported upon by the Department of Health, 282,747 chest X-rays were taken in connection with surveys and 140,697 at the clinics during 1961.

X-Ray Examinations
BUREAU OF TUBERCULOSIS, DEPARTMENT OF HEALTH
City of New York

X-rays for patients	1955	1956	1957	1958	1959	1960	1961
Attending clinics..	162,848	172,319	160,111	150,323	147,828	141,047	140,674
Survey cases	456,399	598,635	531,356	282,069	279,874	317,521	282,747
(a) In clinics ..	(61,025)	(62,611)	(40,037)	(38,744)	(41,149)	(45,396)	(42,575)
(b) In field	(395,374)	(536,024)	(491,319)	(243,325)	(238,725)	(272,125)	(240,172)
Total	619,247	770,954	691,467	432,392	427,702	458,568	423,421

MASS X-RAY SURVEYS
Department of Health, The City of New York
1955-1961

Survey and Year	Number Persons X-rayed	Active Pulmonary Tuberculosis Not Previously Registered	
		Number	Rate†
South Bronx (1955-56)	271,225	216	0.8
Crown Heights (1956)	93,826	145	1.5
Lower East Side (1957)	140,417	154	1.1
Sunset Park, Bay Ridge (1957)	90,777	73	0.8
East Harlem (1959)	51,935	50	1.0
Morningside (1960)	87,193	93	1.1
Riverside (1961)	27,246	21	0.8
Brooklyn Neighborhoods (1961)	39,909	24	0.6

†Per 1,000 persons X-rayed.

Note: Mass X-ray Surveys by the Bureau of Tuberculosis, Department of Health, The City of New York.



1962--mass X-ray survey of Manhattan neighborhoods was launched in Chinatown.

RIVERSIDE
MASS X-RAY
SURVEY

THE Riverside Mass X-ray Survey, conducted from April 24 to June 1, 1961 resulted in the X-raying of 27,246 persons. Of these, it is estimated that 19,062 or 70 percent were residents of the Riverside Health Center District. The remaining 30 percent lived outside the district.

There were 496 persons, or 1.8 percent of all those X-rayed called in for further examination. Of these, 325 or 65 percent responded.

Twenty-three persons were diagnosed as having active pulmonary tuberculosis(*). Of these, 21 were not previously registered, yielding a new case-finding rate of 0.8 per thousand persons X-rayed. Eighteen of these 21 persons were diagnosed after re-examination, while 5 had only survey X-rays.

Case-finding rates were higher for the males than for the females.

This survey was a cooperative venture sponsored by The Department of Health of the City of New York and The New York Tuberculosis and Health Association. The Department of Health furnished technical service including personnel who took X-rays, interpreted films, and examined patients who required further study. The New York Tuberculosis and Health Association was responsible for promoting public participation through publicity, mass media, and attention-getting activities at the scene of X-ray units.

RIVERSIDE MASS X-RAY SURVEY, 1961
Active Pulmonary Tuberculosis, Not Previously Registered

Sex and Age	Number X-rayed (+)	Active Pulmonary Tuberculosis Not Previously Registered	
		Number	Rate per 1,000 X-rays
MALE	15,501	16	1.0
Under 25	2,986	2	0.7
25-44	7,205	9	1.2
45+	5,060	4	0.8
Unknown	250	1	4.0
FEMALE	11,745	5	0.4
Under 25	1,740	1	0.6
25-44	5,271	3	0.6
45+	4,569	1	0.2
Unknown	165	..	..
BOTH SEXES	27,246	21	0.8
Under 25	4,726	3	0.6
25-44	12,476	12	1.0
45+	9,629	5	0.5
Unknown	415	1	2.4

(*)In addition, other tuberculosis findings were: 7 persons with activity undetermined, 133 arrested or inactive, 87 apparently cured or with no significant findings. (+)Tabulation of number x-rayed based on 10 percent sample.

BROOKLYN
NEIGHBORHOODS
MASS X-RAY
SURVEY

THE Brooklyn Neighborhoods Mass X-ray Survey conducted from October 2 to November 10, 1961 X-rayed 39,909 persons. This survey encompassed a number of selected Brooklyn neighborhoods and was not limited to the health center district. The Survey was carried out for two weeks in the Fort Greene Health Center District and two weeks in the Red Hook Health Center District. The remaining two weeks of the survey were in various locations in Brooklyn. Because of the diffuse coverage estimates of the target population could not be made.

There were 848 persons or 2.1 percent of all those X-rayed called in for further examination. Of these 637 or 75 percent responded.

Twenty-eight persons were diagnosed as having active pulmonary tuberculosis. Of these, 24 were not previously registered, yielding a new case-finding rate of 0.6 per thousand persons X-rayed. All of the 24 newly discovered cases were diagnosed after re-examination.

This survey was a cooperative venture sponsored by the Department of Health of the City of New York and the Brooklyn Tuberculosis and Health Association. The Department of Health furnished technical service including personnel who took X-rays, interpreted the films, and examined patients who required further study. The Brooklyn Tuberculosis and Health Association was responsible for prompting public participating through publicity, mass media, and attention-getting activities at the scene of X-ray units.

BROOKLYN NEIGHBORHOODS MASS X-RAY SURVEY, 1961
Tuberculosis Not Previously Registered

Sex and Age	Active Pulmonary				Other Active TB	Activity Undetermined
	Minimal	Mod. Adv.	Far Adv.	Total		
MALE	2	6	4	12	--	10
Under 25..	--	--	--	--	--	--
25-44	2	5	1	8	--	3
45+	--	1	3	4	--	7
Unknown ..	--	--	--	--	--	--
FEMALE	6	4	2	12	2	7
Under 25..	2	1	--	3	1	--
25-44	4	3	2	9	1	4
45+	--	--	--	--	--	--
Unknown ..	--	--	--	--	--	--
BOTH SEXES..	8	10	6	24	2	17
Under 25..	2	1	--	3	1	--
25-44	6	8	3	17	1	7
45+	--	1	3	4	--	10
Unknown ..	--	--	--	--	--	--

Note: 39,909 persons were x-rayed in this survey. In addition there were 4 persons with active tuberculosis but previously known, 1 person with activity undetermined previously reported, 223 arrested or inactive, and 126 with no significant tuberculosis findings.

ROUTINE CHEST X-RAY EXAMINATIONS OF PATIENTS
ADMITTED TO GENERAL HOSPITALS

PRIOR to 1955 no organized program to provide routine chest X-ray examinations of patients admitted to general hospitals was in operation in New York City, although in Upstate New York such a plan had been started in 1947 by the New York State Health Department. In 1955, New York State made funds available to provide photofluorographic units on a loan basis and for a modest payment to general and chronic disease hospitals for admission X-rays taken by them under the terms of the plan. The New York City Department of Health was made directly responsible for the supervision of this program and it serves as the liaison agency between the hospitals and the New York State Department of Health. By the end of 1956, 26 hospitals in the city were cooperating and, in 1961, 40 institutions.

During 1956, 106,747 X-rays were taken and among them there were 851 cases of active pulmonary tuberculosis, a rate of 8 per 1,000 persons examined. In 1961, according to the New York City Department of Health, the total was 311,477 with 1,599 active cases, a rate of 5.1 per 1,000 examined. Of these 1,599 cases, 976 or 61 percent had not been previously registered. The general hospitals admission program has accounted for about one-fifth of all new active cases diagnosed annually (1959 = 21.1%, 1960 = 18.8%, 1961 = 22.4%).

HOSPITAL ADMISSION CHEST X-RAYS, NEW YORK CITY

Year	Number of Hospitals	Total Number X-rayed	Active Pulmonary Tuberculosis†			
			Total Cases Diagnosed		Not Previously Registered	
			Number	Rate‡	Number	Rate‡
1955*.....	5	17,264	131	7.6	..	--
1956	26	106,747	851	8.0	..	--
1957	39	246,630	1,644	6.7	1,083	4.4
1958	41	312,815	1,727	5.5	..	--
1959	41	299,389	1,589	5.3	1,040	3.4
1960	42	307,732	1,419	4.6	883	2.9
1961	40	311,477	1,599	5.1	976	3.1

*New York State plan started July 1, 1955 in New York City.

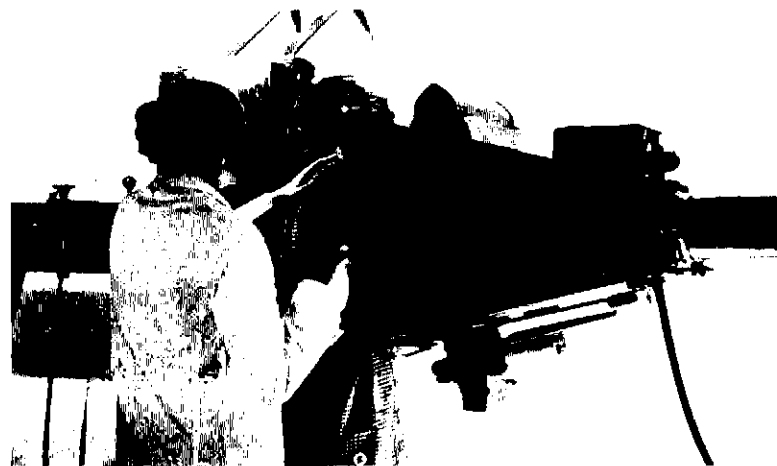
†X-ray diagnosis. ‡Active pulmonary tuberculosis cases per 1,000 examined.

Persons not previously registered compared to total cases diagnosed: 1957=66%, 1959=65%, 1960=62%, 1961=61%.

HOSPITAL ADMISSION CHEST X-RAY SURVEY
New York City, 1959-1961

Year	Total Number X-rayed	Active Pulmonary Tuberculosis			
		Total Cases Diagnosed		Not Previously Registered	
		Number	Rate*	Number	Rate*
<u>1959</u>					
In-patients	111,433	930	8.3	585	5.2
Out-patients	151,565	618	4.1	422	2.8
Employees	31,160	25	0.8	19	0.6
Not reported	5,231	16	3.1	14	2.7
Total	299,389	1,589	5.3	1,040(a)	3.5
Municipal hospitals(17)	206,746	---	..	941	4.6
Voluntary hospitals(24)	92,643	---	..	99	1.1
<u>1960</u>					
In-patients	112,966	819	7.2	489	4.3
Out-patients	157,519	564	3.6	368	2.3
Employees	31,760	25	0.8	17	0.5
Not reported	5,487	11	2.0	9	1.6
Total	307,732	1,419	4.6	883(b)	2.9
Municipal hospitals(17)	215,722	---	..	811	3.8
Voluntary hospitals(25)	92,010	---	..	72	0.8
<u>1961</u>					
In-patients	112,074	985	8.8	592	5.3
Out-patients	162,498	583	3.6	362	2.2
Employees	32,344	19	0.6	12	0.4
Not reported	4,561	12	2.6	10	2.2
Total	311,477	1,599	5.1	976(c)	3.1
Municipal hospitals(17)	223,276	---	..	925	4.1
Voluntary hospitals(23)	88,201	---	..	51	0.6

*Active pulmonary tuberculosis cases per 1,000 examined.
(a)1959=Minimal 293(28.7%), Moderately advanced 494(47.5%), Far advanced 253(24.3%); (b)1960=Minimal 197(22.3%), Moderately advanced 409(46.3%), Far advanced 277(31.4%); (c)1961=Minimal 201(20.6%), Moderately advanced 433(44.4%), Far advanced 342(35.0%).



IDEALLY, hospital's admission X-ray unit is located near admitting office.

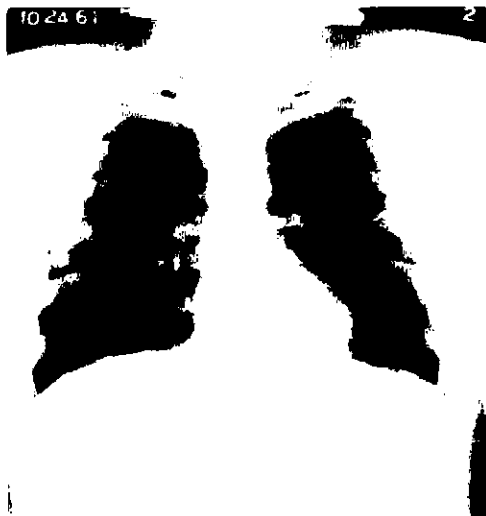
HOSPITAL ADMISSION CHEST X-RAY SURVEY
Persons Examined, Age and Sex
New York City, 1961

Age	Persons Examined			Percent Distribution		
	Male	Female	Both Sexes	Male	Female	Both Sexes
0-14	673	629	1,302	0.6%	0.3%	0.4%
15-24	18,373	42,838	61,211	15.1%	22.6%	19.7%
25-34	21,493	47,230	68,723	17.7%	24.9%	22.1%
35-44	19,792	31,025	50,817	16.3%	16.4%	16.3%
45-54	18,146	23,053	41,199	14.9%	12.2%	13.2%
55-64	18,626	18,213	36,839	15.3%	9.6%	11.8%
65+	23,287	24,453	47,740	19.1%	12.9%	15.3%
Not stated	1,366	2,280	3,646	1.0%	1.1%	1.2%
Total ..	121,756	189,721	311,477	100%	100%	100%

HOSPITAL ADMISSION CHEST X-RAY SURVEY
Diagnosis According to Sex
New York City, 1961

Diagnosis	Male	Female	Both Sexes
TUBERCULOSIS:			
Confirmed-			
Active	903	410	1,313
Inactive	2,145	1,926	4,071
Suspect	426	284	710
Pleural effusion ..	20	20	40
Unconfirmed	808	667	1,475
OTHER CONDITIONS:			
Neoplasm	644	314	958
Other	28,020	27,840	55,860

MANY HOSPITALS USE 70 mm. ROLL FILM FOR
ROUTINE ADMISSION CHEST X-RAY EXAMINATIONS



No demonstrable abnormality.



Active tuberculosis.

HOSPITAL ADMISSIONS CHEST X-RAY SURVEY
Newly Reported Active Pulmonary Tuberculosis
New York City, 1959-1961

HOSPITALS	Number of Patients X-Rayed			Active Pulmonary Tuberculosis Cases Not Previously Registered					
	1959	1960	1961	1959	1960	1961	Rate per 1000 X-rays		
							1959	1960	1961
MUNICIPAL:									
Bellevue	23,080	19,983	24,177	315	172	201	13.6	8.6	8.3
Bellevue Psychiatric ....	..	2,112	2,373	..	0	2	..	..	0.9
B. S. Coler	1,181	1,337	1,280	3	2	2	2.5	1.5	1.6
City Hospital Elmhurst ..	11,571	11,909	12,698	41	24	44	3.5	2.0	3.5
Coney Island	12,730	11,635	13,504	5	6	12	0.4	0.5	0.9
Cumberland	11,424	10,231	9,500	53	30	43	4.6	2.9	4.5
Fordham	11,649	12,008	12,179	9	21	50	0.8	1.7	4.1
Goldwater Memorial	1,773	1,563	1,794	3	1	1	1.7	0.6	0.6
Gouverneur	4,328	3,948	1,871	54	12	5	12.5	3.0	2.7
Greenpoint	4,136	7,780	7,682	17	30	19	4.1	3.9	2.5
Harlem	16,824	11,619	12,208	75	42	9	4.5	3.6	0.7
Jacobi	15,686	14,258	14,456	25	22	4	1.6	1.5	0.3
Kings County	24,060	30,300	23,550	219	241	285	9.1	8.0	12.1
Kings County Psychiatric ..	..	2,057	2,450	..	29	13	..	14.1	5.3
Lincoln	12,752	12,745	13,178	7	39	45	0.5	3.1	3.4
Metropolitan	22,733	27,029	35,349	62	52	103	2.7	1.9	2.9
Morrisania	15,006	13,909	12,190	34	15	23	2.3	1.1	1.9
Queens General	13,039	16,436	18,318	12	63	47	0.9	3.8	2.6
Sydenham	4,774	4,863	4,569	7	10	17	1.5	2.1	3.7
Municipal Hospitals	206,746	215,722	223,276	941	811	925	4.6	3.8	4.1
VOLUNTARY:									
Beth El	9,724	9,909	9,683	1	0	3	0.1	..	0.3
Booth Memorial	1,362	2,055	1,490	0	0	0	..	..	..
Bronx	5,861	6,588	6,911	7	4	3	1.2	0.6	0.4
Columbus	3,800	3,727	3,812	18	17	10	4.7	4.6	2.6
Flushing	1,134	1,227	1,244	0	0	0	..	..	..
Grand Central	203	2,994	1,872	0	4	0	..	1.3	..
Jewish Chronic	1,238	2,295	2,155	0	0	1	..	..	0.5
Joint Diseases	3,689	2,458	2,127	0	1	1	..	0.4	0.5
Knickerbocker	2,536	1,865	858	3	2	2	1.2	1.1	2.3
Lebanon .....	..	696	1,446	..	0	1	..	..	0.7
Long Island Jewish	528	..	..	0	..	..	..	..	..
Methodist	2,259	2,731	2,179	0	2	0	..	0.7	..
Misericordia	2,100	1,738	2,212	8	0	1	3.8	..	0.5
Montefiore	12,794	13,404	17,602	1	0	0	0.1	..	..
Mother Cabrini	3,014	1,895	2,684	15	1	4	5.0	0.5	1.5
N.Y. Infirmiry	4,003	2,092	..	0	1	..	..	0.5	..
N.Y. Polyclinic	3,425	3,183	891	2	1	0	0.6	0.3	..
Presbyterian	12,692	12,221	12,801	21	18	15	1.7	1.5	1.2
Roosevelt	2,309	1,582	..	0	3	..	..	1.9	..
St. Barnabas	1,805	1,928	1,498	3	4	1	1.7	2.1	0.7
St. Francis	5,255	4,726	5,410	16	6	4	3.0	1.3	0.7
St. John's Episcopal	2,560	4,204	4,726	0	5	1	..	1.2	0.2
St. John's, L.I.C.	1,289	1,065	1,364	0	2	2	..	1.9	1.5
St. Luke's	3,163	530	292	3	0	0	0.9	..	..
St. Vincent's, S.I.	5,880	4,533	4,359	1	0	2	0.2	..	0.5
Staten Island .....	..	2,364	585	..	1	0	..	0.4	..
Voluntary Hospitals	92,643	92,010	88,201	99	72	51	1.1	0.8	0.6
ALL HOSPITALS	299,389	307,732	311,477	1,040	883	976	3.5	2.9	3.1

TUBERCULOSIS AMONG HOMELESS MEN

A centralized tuberculosis case-finding program for homeless men in New York City provided the Department of Health an opportunity for determining the prevalence of new cases in this susceptible segment of the population. The program utilized the Men's Shelter of the Department of Welfare as a center of operation. In 1960, this facility processed 17,206 such persons. (Ref.1)

Approximately 9,000 men had at least one chest photo-roentgenogram taken during the year. In 120 instances the findings were considered sufficiently characteristic to warrant an immediate working diagnosis of active pulmonary tuberculosis and prompt referral to a hospital. In the other 24 cases, roentgenographic findings of tuberculosis of undetermined activity led to the submission of a sputum specimen for culture and tubercle bacilli were eventually demonstrated. Thus a total of 144 new cases of active pulmonary tuberculosis was discovered among 9,000 homeless men or a rate of 16.0 per 1,000 clients examined.

Also uncovered were 107 patients with previously known and registered active tuberculosis, almost all of whom had left a hospital against medical advice.

An additional 56 patients, among 887 who were followed for "inactive" pulmonary tuberculosis (i.e. all forms of non-infectious pulmonary tuberculosis with or without discernible cavitation), were found to have reactivation of their disease. Therefore a total of 307 patients with active pulmonary tuberculosis was identified among 9,000 homeless males during 1960.

It was stated that "All persons diagnosed as having active pulmonary tuberculosis were promptly referred to a hospital. About 20 percent disappeared before being admitted to the hospital, and another 30 percent left the hospital against advice within four months. On the other hand, looking at the same statistics optimistically, it can be said that 50 percent of the men referred to a hospital remained there for at least four months."



SIXTEEN out of every thousand homeless men examined in chest X-ray surveys were found to have previously unreported active tuberculosis. In surveys of the general population, one to two persons are reported to have active disease out of every thousand examined.