

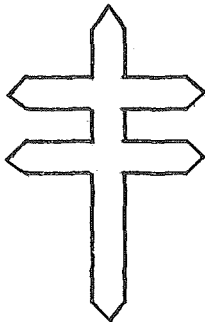
PROVINCE OF BRITISH COLUMBIA



DIVISION  
OF  
TUBERCULOSIS CONTROL  
HEALTH BRANCH  
DEPARTMENT OF HEALTH SERVICES AND HOSPITAL INSURANCE

PART II - EPIDEMIOLOGY SECTION

ANNUAL REPORT  
FOR THE YEAR  
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## FOREWORD

This is the Epidemiology Section, Part II, of the Annual Report of the Division of Tuberculosis Control for 1967. The Administrative Section, Part I, has already been distributed.

This section of the Annual Report presents the statistical information that shows the changing tuberculosis problem and analyzes some of the trends that are becoming apparent. It is compiled from information provided through the Tuberculosis Case Register of the Division of Tuberculosis Control and from other information supplied to the Division of Vital Statistics from clinics and health units.

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GENERAL PROVINCIAL STATISTICS

SECTION "A" (Tables 1 - 14)

The mortality from tuberculosis is low (2.0 per 100,000) as with the modern treatment tuberculosis is no longer a fatal disease. The incidence of active tuberculosis (cases reported in 1967) is still high (31.1 per 100,000) and is actually somewhat higher than in 1966 (30.6 per 100,000). While tuberculosis affects all ages and both sexes the rates are higher among middle-aged and elderly men. Tuberculosis is not evenly distributed among all groups of population. Its incidence is particularly high among persons with inactive tuberculosis who constitute just over 1% of the population but contribute over 20% of active cases. It is also high among contacts of active cases.

TABLE 1. - TUBERCULOSIS MORTALITY BY AGE GROUP AND SEX  
 BRITISH COLUMBIA, 1967 AND AVERAGE 1963 - 1967  
 (Rate Per 100,000 Population)

Year	Age Group (Years) and Sex																	
	0-9		10-19		20-29		30-39		40-49		50-59		60-69		70 & Over		TOTAL	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1963 - 1967																		
Total . . .	1	2	-	1	3	4	2	8	15	5	26	14	51	11	94	14	192	59
Average Rate	*	*	-	*	*	*	0.9	1.8	0.9	4.3	3.3	13.1	1.7	26.9	3.1	3.5	1.0	
1967																		
Total . . .	-	-	-	-	1	1	-	1	3	-	3	1	8	4	13	4	28	11
Rate . . . .	-	-	-	-	0.7	0.8	-	0.9	1.3	-	3.1	1.0	12.7	6.4	23.6	4.5	2.8	1.1

\* Less than 0.01 per 100,000 population

There were 39 deaths assigned to tuberculosis in 1967 in British Columbia. 29 - (74.3%) of them occurred in people over 60 years of age.

TABLE 2. - TUBERCULOSIS MORTALITY BY DIAGNOSIS AND AGE GROUP  
BRITISH COLUMBIA, 1967

D i a g n o s i s	A g e G r o u p								Total		
	0 - 19 Years	20 - 29 Years	30 - 39 Years	40 - 49 Years	50 - 59 Years	60 - 69 Years	70 - 79 Years	80 Years & Over	Male	Female	Total
	T.B. of Respiratory System . . . .	-	1	-	2	4	12	11	5	26	9
T.B. of Genito-Urinary System . . .	-	-	-	1	-	-	-	-	1	-	1
T.B. of Adrenal Glands . . . . .	-	1	-	-	-	-	-	-	-	-	-
T.B. of Heart (Pericarditis) . . .	-	-	1	-	-	-	1	-	1	2	3
Totals . . . . . Male	-	1	-	3	3	8	10	3	28		
Female	-	1	1	-	1	4	2	2		11	
GRAND TOTAL . . . . .	-	2	1	3	4	12	12	5			39

The respiratory form of tuberculosis accounted for 35 of the 39 deaths due to this disease in 1967.

TABLE 3

There were 606 active cases of tuberculosis diagnosed in British Columbia in 1967 giving a rate of 31.1 per 100,000. 387 (19.9 in 100,000) have been proven bacteriologically. The high rates among middle-aged and elderly men are one of the characteristics of tuberculous epidemiology in developed countries. The relatively high rate among young women 20-24 is noteworthy.



TABLE 3. - INCIDENCE OF ACTIVE TUBERCULOSIS, BY AGE GROUP AND SEX

BRITISH COLUMBIA, 1967

(Rates per 100,000 population<sup>1</sup>)

Age Group	M A L E S				F E M A L E S				T O T A L			
	Bacillary Cases		All Active Cases		Bacillary Cases		All Active Cases		Bacillary Cases		All Active Cases	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
0 - 4 . . . .	5	5.3	11	11.6	4	4.4	15	16.6	9	4.9	26	14.0
5 - 9 . . . .	4	3.8	19	17.8	3	2.9	15	14.6	7	3.3	34	16.2
10 - 14 . . . .	2	2.0	9	9.2	5	5.3	15	16.0	7	3.6	24	12.5
15 - 19 . . . .	9	10.5	14	16.4	4	4.9	9	11.0	13	7.8	23	13.7
20 - 24 . . . .	17	23.4	19	26.2	13	18.5	28	40.0	30	21.0	47	33.0
25 - 29 . . . .	14	22.2	23	36.4	9	14.7	16	26.1	23	18.5	39	31.4
30 - 34 . . . .	13	20.8	15	24.0	12	21.2	14	24.7	25	21.0	29	24.4
35 - 39 . . . .	16	24.6	27	41.5	8	13.4	14	23.5	24	19.3	41	32.9
40 - 44 . . . .	25	40.0	29	46.4	16	25.6	24	38.5	41	32.8	53	42.4
45 - 49 . . . .	24	43.2	35	63.1	12	20.6	17	29.2	36	31.7	52	45.7
50 - 54 . . . .	25	47.3	32	60.6	6	11.3	13	24.4	31	29.2	45	42.4
55 - 59 . . . .	18	40.7	26	58.8	9	21.1	14	32.8	27	31.1	40	46.0
60 - 64 . . . .	25	70.4	36	101.4	4	11.8	8	23.7	29	41.8	44	63.5
65 & Over . . . .	66	75.8	81	93.0	19	20.0	28	29.6	85	46.8	109	60.0
TOTAL . . . .	262	26.6	376	38.1	124	12.9	230	23.9	387	19.9	606	31.1

1. Rates per 100,000 population estimated for 1967.

TABLE 4

Over 80% of all the active cases recorded in 1967 were pulmonary. Among the non-pulmonary cases by far the largest numbers are those with tuberculosis of the lymphatic system (cervical adenitis) and the genitourinary system. There were only three cases of tuberculous meningitis during 1967. The high proportion of bacteriological confirmation in many of the diagnostic groups is gratifying.

TABLE 4. - PRINCIPAL DIAGNOSIS OF ACTIVE TUBERCULOSIS, AND BACILLARY CASES  
BRITISH COLUMBIA, 1967

Diagnosis	Bacillary Only		All Active Cases		Bacillary as Percent of all Active Cases
	Number	Percent	Number	Percent	
<u>Pulmonary</u>					
Primary . . . . .	23	5.8	76	12.5	30.3
Minimal . . . . .	113	29.2	164	27.0	68.9
Moderately Advanced	110	28.4	127	21.0	86.6
Far Advanced . . .	64	16.5	73	12.0	87.7
Pleurisy . . . . .	5	1.3	23	3.8	21.7
Miliary of Lung . .	6	1.6	11	1.8	54.5
Silico-TB . . . . .	8	2.1	12	2.0	66.7
<u>Non-Pulmonary</u>					
Meninges & Central Nervous System . .	1	0.3	2	0.3	50.0
Gastro Intestinal	1	0.3	1	0.2	100.0
Bones and Joints .	5	1.3	9	1.5	55.6
Skin & Subcutaneous Cell Tissue . . .	3	0.8	5	0.8	60.0
Lymphatic System .	14	3.6	52	8.6	26.9
Genito-Urinary System . . . . .	32	8.3	44	7.3	72.7
Other Organs (eye, ear, etc.) .	2	0.5	7	1.2	28.6
TOTAL . . . . .	387	100.0	606	100.0	63.9



Intestines . . . . .	M	-	-	-	-	-	-	-	-	-	-	-	-
	F	-	-	-	-	-	-	-	-	-	-	1	1
Bones and Joints . . . . .	M	-	-	-	-	-	1	-	1	-	-	-	2
	F	-	1	-	-	-	-	1	1	-	1	3	7
Skin . . . . .	M	-	-	-	-	-	-	-	-	1	1	-	2
	F	-	-	-	-	-	-	-	1	1	1	-	3
Lymphatic System . . . . .	M	2	-	-	4	1	3	3	1	2	2	3	21
	F	3	2	-	1	7	4	2	3	4	3	2	31
Genito-Urinary System . . . . .	M	-	-	-	-	3	3	2	10	2	3	3	26
	F	-	-	-	-	1	1	2	7	5	2	-	18
Other Non-Pulmonary . . . . .	M	-	-	-	-	-	-	-	-	2	1	1	4
	F	-	-	-	-	-	-	-	1	1	-	1	3
Total Non-Pulmonary . . . . .	M	2	-	-	4	4	7	5	12	8	7	7	56
	F	3	3	1	1	8	5	5	13	11	7	7	64
	T	5	3	1	5	12	12	10	25	19	14	14	120
TOTAL NOTIFICATIONS OF ACTIVE CASES . . . . .	M	11	19	9	14	19	23	42	64	58	64	53	376
	F	15	15	15	9	28	16	28	41	27	18	18	230
	T	26	34	24	23	47	39	70	105	95	82	71	606

1. Includes active and reactivated cases.

The predominance of males with active tuberculosis is mainly due to the higher rate of pulmonary (minimal, moderately advanced and far advanced) disease among them. The sex distribution of the non-pulmonary cases is about equal.

TABLE 6. - BACTERIOLOGICAL STATUS OF ACTIVE CASES OF TUBERCULOSIS  
BRITISH COLUMBIA, 1967

	Positive Smear	Positive Culture Only	Negative and Not Examined	TOTAL
<u>TOTAL MALES AND FEMALES</u>				
Number of Cases . .	202	185 <sup>1</sup>	219 <sup>2</sup>	606
Percent . . . . .	33.3	30.6	36.1	100.0
<u>MALES</u>				
Number of Cases . .	144	119	113	376
Percent . . . . .	38.3	31.6	30.1	100.0
<u>FEMALES</u>				
Number of Cases . .	58	66	106	230
Percent . . . . .	24.2	29.1	46.7	100.0

1. Includes 112 cases in which smear was apparently not done.
2. This group consists of 133 cases with negative bacteriology and 86 with no examination.

About 2/3 of the cases of active tuberculosis in British Columbia have been confirmed bacteriologically. Half of them showed acid-fast bacilli on microscopic examination, while half were positive on culture only.

TABLE 7. - EXTENT OF POST-PRIMARY  
OR ADULT PULMONARY TUBERCULOSIS  
BRITISH COLUMBIA, 1967

Extent of Disease	Number of Cases	Percentage
Minimal . . . . .	162	45.4
Moderately Advanced . . . . .	122	34.2
Far Advanced . . . . .	73	20.4
TOTAL . . . . .	357	100.0

The post primary pulmonary tuberculosis is the most important form of tuberculosis. The fact that the percentage of minimal cases continues to increase while that percentage of far advanced cases continues to decrease is a measure of an earlier diagnosis.

TABLE 8. - CONTRIBUTION OF REACTIVATIONS TO TOTAL ACTIVE TUBERCULOSIS  
 CASES BY AGE GROUPS  
 BRITISH COLUMBIA, 1967

Type of Case	Age Group (Years)				TOTAL
	0 - 19	20 - 39	40 - 59	60 and Over	
<u>All Active Cases</u>					
Total Cases . . . . .	108	155	190	153	606
Reactivations . . . . .	6	27	49	41	123
Percent of Reactivations . . . . .	5.6	17.4	25.9	26.8	20.3
<u>Bacteriologically Confirmed Cases Only</u>					
Total Cases . . . . .	36	102	135	114	387
Reactivations . . . . .	3	15	36	31	85
Percent of Reactivations . . . . .	8.3	14.7	26.7	27.2	22.0

Table 8.

About one fifth of all active cases of tuberculosis arise in patients with known inactive disease. As expected this proportion is greatest among the patients over the age of 40.



TABLE 9. - ACTIVE TUBERCULOSIS ARISING IN PERSONS IN VARIOUS DIAGNOSTIC CATEGORIES  
ROUTINELY FOLLOWED UP BY TUBERCULOSIS CONTROL CLINICS  
BRITISH COLUMBIA, 1967

Diagnosis	Number in this Category in TB Control Files	Number of Cases	Risk
Inactive Tuberculosis (Previously Documented)			
<u>Reactivation I</u> . . . . .	11,819	79	1:137
Inactive Tuberculosis (Not Previously Documented)			
<u>Reactivation II</u> . . . . .	8,273	22	1:376
Apical Scarring . . . . .	5,250	22	1:250
Pneumoconiosis . . . . .	870	4	1:218
Pulmonary Fibrosis			
Localized and Diffuse . . . . .	5,138	11	1:467
Old Pleurisy . . . . .	7,128	12	1:594
Healed Primary Complex . . . . .	7,818	12	1:652

Table 9.

Patients with inactive tuberculosis, apical scarring and pneumoconiosis prove a very fruitful source of active cases. The risk in these cases is so appreciable that chemoprophylaxis may be indicated. In other diagnostic categories the risk is lower.

TABLE 10. - TYPE OF DISEASE AND INITIAL ANTIMICROBIAL THERAPY OF ACTIVE TUBERCULOSIS<sup>1</sup>  
BRITISH COLUMBIA, 1967

Initial Therapy	Primary		Minimal		Moderately Advanced		Far Advanced		Pleurisy		Other Pulmonary		Non-Pulmonary		TOTAL	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
3 Drug Regimen	20	26.3	37	22.6	65	51.2	28	38.4	6	26.1	7	30.4	40	33.3	203	33.5
2 Drug Regimen	55	72.4	117	71.3	46	36.2	30	41.1	12	52.2	9	39.1	71	59.2	340	56.1
INH Only	-	-	2	1.2	2	1.6	-	-	-	-	1	4.4	2	1.7	7	1.2
Other Drugs	1	1.3	2	1.2	7	5.5	4	5.5	1	4.3	1	4.4	4	3.3	20	3.3
Other <sup>2</sup>	-	-	6	3.7	7	5.5	11	15.0	4	17.4	5	21.7	3	2.5	36	5.9
TOTAL	76	100.0	164	100.0	127	100.0	73	100.0	23	100.0	23	100.0	120	100.0	606	100.0

1. Includes new active and reactivated cases.

2. Includes dead on notification and ex-province.

More serious and more advanced cases of tuberculosis tend to receive triple therapy as an initial antimicrobial regimen more often than the less extensive cases.

TABLE 11. - TUBERCULIN STATUS OF HOUSEHOLD CONTACTS  
AND THE SOURCE OF INFECTION, BY AGE GROUPS  
BRITISH COLUMBIA, 1967

	Age Group (Years)							TOTAL
	0-4	5-9	10-14	15-19	20-29	30-39	40 & Over	
<u>Positive Smear, Positive Culture</u>								
Total contacts . . . . .	53	80	87	71	69	51	181	592 <sup>2</sup>
Tuberculin tested . . . . .	48	67	78	63	47	39	136	479
Positive . . . . .	15	20	39	23	26	19	83	225
Percent positive . . . . .	31.3	29.9	50.0	36.5	55.3	48.7	61.0	47.0
<u>Positive Culture Only<sup>1</sup></u>								
Total contacts . . . . .	69	52	48	62	57	37	132	457 <sup>3</sup>
Tuberculin tested . . . . .	62	43	40	50	42	24	91	352
Positive . . . . .	3	2	4	12	14	12	46	93
Percent positive . . . . .	4.8	4.7	10.0	24.0	33.3	50.0	50.5	26.4
<u>Negative Smear, Negative Culture</u>								
Total contacts . . . . .	46	50	42	22	31	34	60	285 <sup>4</sup>
Tuberculin tested . . . . .	37	47	39	21	27	28	45	244
Positive . . . . .	-	3	6	8	18	14	26	75
Percent positive . . . . .	-	6.4	15.4	38.1	66.7	50.0	57.8	30.7

1. Includes positive culture, negative or no smear.

2. Excludes 25 cases age not given.

3. Excludes 4 cases age not given.

4. Excludes 10 cases age not given.

Table 11.

Contacts of those patients with active tuberculosis who excrete large enough numbers of bacilli to be visible on microscopic smear show a much higher rate of positive reactors than do the contacts of patients with only positive culture or those with negative bacteriological findings. Nevertheless, only half of the household contacts of smear positive cases become infected.

TABLE 12. - INCIDENCE OF ACTIVE TUBERCULOSIS AMONG HOUSEHOLD CONTACTS  
AND AMONG TUBERCULIN POSITIVE HOUSEHOLD CONTACTS  
BRITISH COLUMBIA, 1967

	Under 20			Over 20			Age Not Stated			TOTAL		
	Total Contacts	Number Active	Morbidity Percent	Total Contacts	Number Active	Morbidity Percent	Total Contacts	Number Active	Morbidity Percent	Total Contacts	Number Active	Morbidity Percent
<u>Positive Smear &amp; Culture</u>												
All contacts ..	291	33	11.3	301	8	2.7	25	-	-	617	41	6.6
Tuberculin pos. contacts .....	97	33	34.0	128	8	6.3	2	-	-	227	41	18.1
<u>Positive Culture Only<sup>1</sup></u>												
All contacts ..	231	1	0.4	226	-	-	4	-	-	461	1	0.2
Tuberculin pos. contacts .....	21	1	4.8	72	-	-	1	-	-	94	1	1.1
<u>Negative Smear &amp; Culture</u>												
All contacts ..	160	1	0.6	125	-	-	10	-	-	295	1	0.3
Tuberculin pos. contacts .....	17	1	5.9	58	-	-	1	-	-	76	1	1.3

1. Positive culture, negative or no smear

NOTE: This table excludes cases not examined

Table 12.

The morbidity among household contacts of cases of active tuberculosis is high. It is highest among those exposed to sources with positive sputum smears.



TABLE 13

As in previous years the positive reactions tend to be smaller among the persons under the age of 20 and those over 50 than those seen between 20 and 49.

TABLE 14

There has been a slight decrease of the percentage of positive reactors in all age groups compared with 1966 findings. This may however, merely reflect the fact that testing was done in different areas in 1967 than in 1966. In future years the group 50 and over will be further subdivided.

TABLE 13. - TUBERCULIN TESTING RESULTS BY AGE GROUP AND SIZE OF REACTION,  
BRITISH COLUMBIA, 1967

Age Group	Size of Reaction								TOTAL
	0	1-5	6-10	11-15	16-20	21-25	26+	Not Stated	
0 - 9	43,052	249	282	139	98	34	40	2	43,896
10 - 19	45,271	309	726	479	377	211	308	11	47,692
20 - 29	16,270	96	661	739	607	341	789	8	19,511
30 - 39	12,372	90	638	1,108	893	707	1,965	15	17,788
40 - 49	8,940	103	703	1,294	1,052	722	2,448	15	15,277
50 & Over	10,773	205	1,317	2,148	1,655	982	2,602	8	19,690
Not Stated	686	8	24	27	25	23	21	2	816
TOTAL	137,364	1,060	4,351	5,934	4,707	3,020	8,173	61	164,670
Percent	83.4	0.6	2.6	3.6	3.0	1.8	5.0	*	100.0

\* Less than 0.05 Percent

TABLE 14. - TUBERCULOSIS TESTING RESULTS BY AGE GROUP, SEX AND PERCENT POSITIVE  
BRITISH COLUMBIA, 1967

Age Group	Total Tested			Number Positive			Percent Positive		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
0 - 9	22,177	21,704	43,881	285	308	593	1.3	1.4	1.4
10 - 19	23,557	24,122	47,679	1,020	1,090	2,110	4.3	4.5	4.4
20 - 29	8,063	11,447	19,510	1,305	1,840	3,145	16.2	16.1	16.1
30 - 39	8,195	9,592	17,787	2,779	2,547	5,326	33.9	26.6	29.9
40 - 49	6,837	8,440	15,277	3,452	2,782	6,234	50.5	33.0	40.8
50 & Over	9,629	10,059	19,688	5,134	3,577	8,711	53.3	35.6	44.2
Not Stated	407	395	802	71	50	121	17.4	12.7	15.1
TOTAL	78,865	85,759	164,624	14,046	12,194	26,240	17.8	14.2	15.9

Excludes 46 cases for which sex was not stated.





TUBERCULOSIS IN THE HEALTH UNIT AREAS

SECTION "B" (Tables 15 - 17)

In this section the mortality rate, the incidence of tuberculosis in 1967 and the prevalence of inactive tuberculosis is shown for individual health units.

Table 15

The number of deaths from tuberculosis in 1967 is too small to serve as a good epidemiological index. The average annual mortality rate in 1963-1967 shows the highest rates in Cariboo, Skeena and remote areas not served by Health Units.

Table 16

There are appreciable differences between the incidence of active tuberculosis in different health units. As this disease is more common among Indians these differences reflect to an appreciable extent the varying proportion of Indians in the population.

Table 17

The overall prevalence of inactive tuberculosis in British Columbia in 1967 was 102.2 per 100,000. It was 11 times greater among Indians than among the non-Indian population. As reactivations have become so important in the overall tuberculosis picture the differences in the rate seen in different health unit areas are of importance.

TABLE 15. - TUBERCULOSIS MORTALITY BY HEALTH UNIT OF RESIDENCE<sup>1</sup>

BRITISH COLUMBIA, 1963 - 1967  
(Rates per 100,000 Population)

Health Unit	Total Number of Deaths 1963-1967	Number of Deaths 1967	Mean Annual Rate 1963-1967	Rate 1967
East Kootenay . . . . .	4	1	1.7	2.1
Selkirk . . . . .	1	1	0.8	4.4
West Kootenay . . . . .	1	-	0.4	-
South Okanagan . . . . .	12	1	3.3	1.4
North Okanagan . . . . .	10	1	4.1	2.1
South Central . . . . .	13	2	4.1	3.2
Cariboo . . . . .	9	1	5.2	3.2
Northern Interior . . . . .	4	3	1.1	4.2
Upper Fraser Valley . . . . .	5	1	1.6	1.6
Boundary . . . . .	8	-	1.3	-
Metropolitan Board of Health of Greater Vancouver . . . . .	125	22	3.6	3.1
Simon Fraser . . . . .	6	3	1.2	3.0
Central Fraser . . . . .	6	-	2.1	-
Coast-Garibaldi . . . . .	2	-	1.1	-
Skeena . . . . .	14	1	5.0	1.8
Peace River . . . . .	4	-	1.9	-
Greater Victoria Metropolitan Board of Health . . . . .	18	2	2.0	1.1
Central Vancouver Island . . . . .	8	-	1.5	-
Upper Island . . . . .	5	-	2.1	-
Areas Not Served by Health Units	5	-	7.4	-
<b>TOTAL . . . . .</b>	<b>251</b>	<b>39</b>	<b>2.6</b>	<b>2.0</b>

1. In order to achieve comparability between years, all numbers and rates are shown for the health unit areas as defined in 1967.

TABLE 16. - ACTIVE TUBERCULOSIS<sup>1</sup> BY HEALTH UNIT OF RESIDENCE  
FOR BACILLARY CASES AND ALL ACTIVE CASES  
BRITISH COLUMBIA, 1967

Health Unit	Bacillary Only		All Active Cases	
	Number	Rate <sup>2</sup>	Number	Rate <sup>2</sup>
East Kootenay . . . . .	8	15.2	15	30.5
Selkirk . . . . .	3	15.8	4	19.8
West Kootenay . . . . .	5	11.2	5	11.2
North Okanagan . . . . .	3	6.1	9	18.3
South Okanagan . . . . .	10	14.0	18	25.2
South Central . . . . .	7	10.7	11	15.3
Upper Fraser Valley . . . . .	11	17.9	18	29.3
Central Fraser Valley . . . . .	10	17.6	13	22.8
Boundary . . . . .	14	10.8	23	18.4
Simon Fraser . . . . .	14	13.8	24	23.7
Coast Garibaldi . . . . .	7	13.8	10	22.1
Central Vancouver Island . . . . .	26	24.0	39	36.5
Upper Island . . . . .	6	12.2	8	16.3
Cariboo . . . . .	11	32.3	14	41.1
Skeena . . . . .	38	63.1	56	93.0
Peace River . . . . .	14	31.0	32	73.9
Northern Interior . . . . .	17	23.3	33	45.1
Greater Victoria Metropolitan Board of Health .	26	14.0	40	21.6
Greater Vancouver Metropolitan Board of Health	150	21.0	222	31.3
School Districts not in Health Unit <sup>3</sup> . . . . .	7	45.7	12	78.3
TOTAL . . . . .	387	19.5	606	30.8

1. Active and Reactivated cases.

2. Rates per 100,000 estimated population.

3. Includes 1 address unknown and 5 ex-province.

TABLE 17. - KNOWN CASES AND RATES OF INACTIVE TUBERCULOSIS BY HEALTH UNIT  
BRITISH COLUMBIA, 1967

Health Unit and School District	Pulmonary			Non-pulmonary			TOTAL		
	Excluding Indians	Indians <sup>1</sup> Only	Total	Excluding Indians	Indians <sup>2</sup> Only	Total	Excluding Indians	Indians <sup>3</sup> Only	Total
<u>East Kootenay, Cranbrook</u>									
Number . . . . .	261	65	326	14	3	17	275	68	343
Total Rate . . . . .	-	-	67.6	-	-	3.5	-	-	71.1
<u>Selkirk, Nelson</u>									
Number . . . . .	156	3	159	13	-	13	169	3	172
Total Rate . . . . .	-	-	69.5	-	-	5.6	-	-	75.1
<u>West Kootenay, Trail</u>									
Number . . . . .	223	3	226	18	-	18	241	3	244
Total Rate . . . . .	-	-	50.7	-	-	4.0	-	-	54.7
<u>South Okanagan, Kelowna</u>									
Number . . . . .	453	63	516	44	6	50	497	69	566
Total Rate . . . . .	-	-	72.2	-	-	7.0	-	-	79.2
<u>North Okanagan, Vernon</u>									
Number . . . . .	273	81	354	15	5	21	288	86	374
Total Rate . . . . .	-	-	72.0	-	-	4.2	-	-	76.2
<u>South Central, Kamloops</u>									
Number . . . . .	417	346	763	27	35	62	444	381	825
Total Rate . . . . .	-	-	116.7	-	-	9.5	-	-	126.2
<u>Cariboo, Williams Lake</u>									
Number . . . . .	182	306	488	9	28	37	191	334	525
Total Rate . . . . .	-	-	143.4	-	-	10.9	-	-	154.3
<u>Northern Interior, Prince George</u>									
Number . . . . .	234	263	497	16	26	42	250	289	539
Total Rate . . . . .	-	-	68.0	-	-	5.7	-	-	73.7

Upper Fraser Valley,  
Chilliwack

Number . . . . .	372	113	485	31	13	44	403	126	529
Total Rate . . . . .	-	-	78.9	-	-	7.1	-	-	86.1

Boundary, Cloverdale

Number . . . . .	706	19	725	52	4	56	758	23	781
Total Rate . . . . .	-	-	60.5	-	-	4.7	-	-	65.2

Metropolitan Board of  
Health of Greater  
Vancouver

Number . . . . .	6,785	166	6,951	503	24	527	7,288	190	7,478
Total Rate . . . . .	-	-	98.8	-	-	7.5	-	-	106.3

Simon Fraser,  
New Westminster

Number . . . . .	903	22	925	60	7	67	963	29	992
Total Rate . . . . .	-	-	91.3	-	-	6.6	-	-	97.9

Central Fraser, Mission

Number . . . . .	383	107	490	28	15	43	411	122	533
Total Rate . . . . .	-	-	86.1	-	-	7.6	-	-	93.7

Coast-Garibaldi,  
Powell River

Number . . . . .	221	143	364	19	12	31	240	155	395
Total Rate . . . . .	-	-	100.5	-	-	8.6	-	-	109.1

Skeena, Prince Rupert

Number . . . . .	360	906	1,266	28	88	116	388	994	1,382
Total Rate . . . . .	-	-	210.3	-	-	19.3	-	-	229.6

Peace River,  
Dawson Creek

Number . . . . .	175	119	294	11	11	22	186	130	316
Total Rate . . . . .	-	-	70.1	-	-	5.2	-	-	75.3

TABLE 17. - (Continued)

Health Unit	Pulmonary			Non-pulmonary			TOTAL		
	Excluding Indians	Indians <sup>1</sup> Only	Total	Excluding Indians	Indians <sup>2</sup> Only	Total	Excluding Indians	Indians <sup>3</sup> Only	Total
<u>Greater Victoria Metro-</u>									
<u>politan Board of Health</u>									
Number . . . . .	1,528	71	1,599	119	5	124	1,647	76	1,723
Total Rate . . . . .	-	-	87.4	-	-	6.8	-	-	94.2
<u>Central Vancouver Island</u>									
<u>Nanaimo</u>									
Number . . . . .	683	323	1,006	76	40	116	759	363	1,122
Total Rate . . . . .	-	-	96.7	-	-	11.2	-	-	107.9
<u>Upper Island, Courtenay</u>									
Number . . . . .	273	189	462	31	13	44	304	202	506
Total Rate . . . . .	-	-	97.5	-	-	9.3	-	-	106.8
<u>School Districts Not</u>									
<u>Served by Health Units</u>									
Number . . . . .	38	201	239	5	25	30	43	226	269
Total Rate . . . . .	-	-	127.6	-	-	16.0	-	-	143.6
<u>Unorganized</u> <sup>4</sup> . . . . .	14	253	267	1	24	25	15	277	292
<u>TOTAL</u>									
Number . . . . .	14,640	3,762	18,402	1,120	384	1,504	15,760	4,146	19,906
Total Rate . . . . .	77.0	823.2	94.5	5.9	84.0	7.7	82.9	907.2	102.2

1. Includes 449 Indians under the supervision of the Provincial Division of Tuberculosis Control.

2. Includes 64 Indians under the supervision of the Provincial Division of Tuberculosis Control.

3. Includes 517 Indians under the supervision of the Provincial Division of Tuberculosis Control.

4. Estimated population not available - rates not calculated.

TUBERCULOSIS IN VARIOUS RACIAL GROUPS

SECTION "C" (Tables 18 - 19)

Tuberculosis rates are at least ten times greater among the Indian population than among the white population. This is shown by every epidemiological index such as mortality (Table 19), incidence of active tuberculosis (Table 20) and prevalence of inactive tuberculosis (Table 18). The problem among the British Columbians of Chinese origin is almost as great as among the Indian extraction.

Table 18

Although the mortality rate is no longer a very precise epidemiological index the differences between races are both large and consistent over the past 10 years. Tuberculosis mortality rate is about ten times higher among native Indians and the Chinese population than in the white group.

Table 19

The incidence of active tuberculosis in 1967 was twelve times higher among the Indians than among the white population. The incidence is of the same high order among those Chinese and Japanese people who were born outside of Canada while the members of these two ethnic groups born in Canada do not appear to show excessive rates. The incidence among the white people born outside Canada is two times greater than among those born in Canada. Undoubtedly some of these differences are a reflection of varied age structures of various groups.

TABLE 18. - TUBERCULOSIS MORTALITY FOR THE TOTAL POPULATION,  
 THE INDIAN, CHINESE AND JAPANESE POPULATION,  
 AND THE POPULATION EXCLUDING INDIANS AND ORIENTALS  
 BRITISH COLUMBIA, 1958 - 1967  
 (Rates per 100,000 Population)

Year	Total Province		Indians		Excluding Indians	
	Total Number	Average Annual Rate	Total Number	Average Annual Rate	Total Number	Average Annual Rate
1958 - 1962	294	3.6	42	21.7	252	3.2
1963 - 1967	251	2.7	44	19.7	207	2.3
1967	39	2.0	6	13.1	33	1.7

Year	Chinese		Japanese		Excluding Indians and Orientals	
	Total Number	Average Annual Rate	Total Number	Average Annual Rate	Total Number	Average Annual Rate
1958 - 1962	29	23.9	6	11.5	217	2.8
1963 - 1967	30	21.2	4	6.7	173	1.9
1967	6	20.5	1	8.1	26	1.4



TABLE 19. - INCIDENCE OF ACTIVE<sup>1</sup> TUBERCULOSIS  
IN CANADIAN AND NON-CANADIAN BORN PERSONS  
BRITISH COLUMBIA, 1967

Ethnic Group and Racial Origin	Bacteriologically Confirmed Cases		Total Active Tuberculosis	
	Number of Cases	Rate <sup>2</sup>	Number of Cases	Rate <sup>2</sup>
<u>Canadian Born</u>				
White and Others . . . .	143	10.4	244	17.7
Indian . . . . .	81	177.2	129	282.3
Chinese . . . . .	-	-	2	12.3
Japanese . . . . .	2	18.5	2	18.5
<u>Non-Canadian Born</u>				
White and Others . . . .	124	25.6	171	35.4
Chinese . . . . .	25	192.3	36	277.0
Japanese . . . . .	8	535.0	11	735.0
<u>Total</u>				
White and Others . . . .	271 <sup>3</sup>	14.6	426 <sup>4</sup>	22.9
Indian . . . . .	81	177.2	129	282.3
Chinese . . . . .	25	85.6	38	130.1
Japanese . . . . .	10	81.3	13	105.7

1. Activated and reactivated cases.
2. Rates per 100,000 population based on estimated population only.
3. Includes 4 cases where birth place was not given.
4. Includes 11 cases where birth place was not given.

