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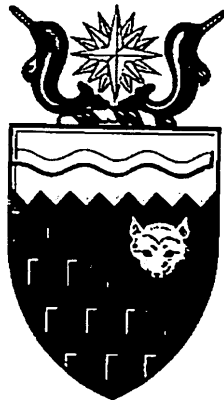
NORTHWEST TERRITORIES

8TH ASSEMBLY, 66TH SESSION

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REPORT
on
HEALTH CONDITIONS
in the
NORTHWEST TERRITORIES

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REPORT ON HEALTH CONDITIONS IN THE NORTHWEST TERRITORIES - 1977VITAL STATISTICSPOPULATION:

1977 is the twelfth year since health services to the Northwest Territories were brought under a single administration by the former Northern Region.

It is the purpose of this report, to bring attention particularly to such changes that have occurred since the previous year and to draw such conclusions as may be drawn from these changes.

Health conditions vary among the population groups within the Northwest Territories. It has always been the custom to record all statistics according to the three major ethnic groupings. Equivalent health services are available to all groups, but culture and climatic variances make for differences in success rates for services provided.

The midyear population served in 1977 comprised:

	<u>Indian</u>	<u>Eskimo</u>	<u>Other</u>	<u>Total</u>
Number (midyear)	7,882	14,930	20,809	43,621
Actual (Year End)	7,951	15,138	21,034	44,123
Percentage	18.02%	34.31%	47.67%	100.00%

For 1967 the equivalent figures were:

	<u>Indian</u>	<u>Eskimo</u>	<u>Other</u>	<u>Total</u>
Number	5,763	10,278	13,202	29,243
Percentage	19.7%	35.1%	45.2%	100.00%

The 1977 population figures are based on the preliminary report of the 1976 census figures supplied by Statistics Canada. Statistics Canada, in their 1976 census, do not break down the total population count in the Northwest Territories into the three major ethnic groups. This has been done previously, and the 1971 census figures served as a baseline for population figures for all three major ethnic groups during the past years. Thus, from 1972 to 1976, the midyear population figures were calculated by adding all births and subtracting all deaths from the 1971 census figures supplied. The 1976 census now gives us the new baseline figure for the total population only. To be able to record statistics according to the three major ethnic groupings and maintain the previously established pattern in this report, the midyear population figures for the two primary peoples for 1977 have been calculated as previously from the figures of

the year before. These figures in turn, have been subtracted from the total population figure based on the 1976 census, thus giving us a new baseline figure for the third major ethnic group, referred to as "Other". It will be noted, that it is this group, which, more than the others, is subject to both immigration and emigration and also has a large transient component which shows the greatest change since last year's report.

In view of the small numbers involved and the transient nature of the population, particularly in the "Other" group, statistical calculations based on the total population, tend not to be fully accurate.

The last group includes all but the two primary native peoples. It includes the Metis and is largely composed of White immigrants from the South.

Some rates however, such as Maternal Mortality and Infant Mortality are calculated on a different (accurately countable) denominator, and such rates are a true indicator of the health picture.

In comparing morbidity rates (not mortality) with the notorious under-reporting in the Provinces, it is obvious that many of the rates that are calculated in this report are in no way comparable with the equivalent rates for the Provinces. Therefore comparisons can only be drawn for those rates which use true denominators (e.g., per 1000 of livebirth) or report obligatory notifications (e.g., Maternal Death, Infant Mortality, Stillbirth, etc.).

In the Northwest Territories reporting is both reliable and constant. It is therefore possible to obtain useful information from a comparison of one year's figures with one or more previous figures for the same geographic area. It is therefore the purpose of this statistical report to compare the Northwest Territories how it is doing at present in reference to itself.

The change in the Eskimo population from 10,278 in 1967 to 15,138 in 1977 gives a net increase of 4,860. This gives an increase of 47%. This is almost entirely the result of natural increase, i.e., birth minus death, since immigration of Eskimos must be a very low figure. Emigration by Eskimos however from the Northwest Territories is not such a negligible factor, and an average annual increase of 4.7% is probably one of the highest in the world.

The net increase in the Indian population is 2,188 for the past 10 years, or 38%, giving an annual average increase over the past 10 years of 3.8%.

The changes in the "Other" population group are due almost entirely to immigration and no useful comparison can be made with previous figures.

The relative proportions of native Eskimo have decreased by less than 1% over a 10 year span, whilst the Indian proportion has decreased by roughly 1.5% and the Others have increased by an equivalent amount.

LIVEBIRTHS:

The livebirth rates per 1000 population were:

<u>Indian</u>	<u>Eskimo</u>	<u>Others</u>	<u>All Groups</u>
24.2	33.9	24.6	27.7

The corresponding figures for 1967 were:

42.3	53.4	25.5	38.6
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For Indians this shows a marked drop during the past 10 years. For Eskimos as well it shows a similar drop for the past 10 years with a continuing drop since the last year. For Others there is a marked drop since last year and a 1% drop over the past 10 years. Taking all groups together, the figures show a substantial drop over the past 10 years.

SEX RATIO AT BIRTH:

	<u>1977</u>	<u>1976</u>	<u>1975</u>	<u>1974</u>	<u>1973</u>	<u>1967</u>
Indians	891	908	850	1282	1097	1141
Eskimos	1103	1079	877	1371	1223	1011
Others	939	1030	970	931	1140	1106

The four year average for male births per 1000 female births is:

Indians	983
Eskimos	1107
Others	967
All Groups	1019

BIRTH WEIGHTS:

Average birth weights for the three groups were as follows:

	<u>INDIANS</u>		<u>ESKIMOS</u>		<u>OTHERS</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
1973	7.11 (3.23)	6.81 (3.10)	7.00 (3.18)	6.81 (3.10)	7.45 (3.39)	7.51 (3.41)
1974	6.66 (3.03)	6.41 (2.91)	6.80 (3.09)	6.42 (2.92)	7.25 (3.30)	7.03 (3.32)
1975	6.62 (3.01)	6.67 (3.03)	7.11 (3.23)	6.88 (3.13)	7.60 (3.45)	7.04 (3.20)
1976	6.98 (3.16)	6.70 (3.04)	7.36 (3.34)	6.87 (3.19)	7.70 (3.49)	7.24 (3.28)
1977	6.80 (3.08)	7.00 (3.18)	7.21 (3.27)	6.76 (3.07)	7.51 (3.41)	7.40 (3.36)

Birth weights are again given this year in both pounds and in brackets in kilograms.

LOW BIRTH WEIGHT INFANTS:

The rate of low birth weight infants per 100 livebirths was:

	<u>INDIAN</u>	<u>ESKIMO</u>	<u>OTHER</u>	<u>ALL GROUPS</u>	<u>CANADA 1971</u>
1975	13.1	5.4	3.8	6.0	
1976	12.8	6.6	5.2	6.9	
1977	<u>9.9</u>	<u>8.7</u>	<u>4.5</u>	7.1	6.8
Average	11.9	6.9	4.5		

Individual statistical groups are too small to be of significance. The figures for Indians however persist in being significantly higher than for the other two groups. To what extent this may be due to a possible tendency to maternal malnutrition or perhaps to an ethnic tendency to smaller birth weight infants in Indians or even to a higher incidence of smoking must be left to speculation.

MULTIPLE BIRTHS:

	Indian	0	Eskimo	12	Other	4
<u>STILLBIRTHS:</u>			(With one set of triplets)			
1977	Indian	3	Eskimo	9	Other	4
1976	Indian	1	Eskimo	4	Other	4
1975	Indian	5	Eskimo	4	Other	7
1967	Indian	4	Eskimo	13	Other	4

No particular significance can be attributed to these figures in view of the small samples.

HOSPITALIZED BIRTHS:

The proportions of births occurring in hospital or nursing station were:

Indian 99.5 Eskimo 99.0 Other 99.6

This ratio stayed essentially the same for the last three years but is a significant change from the 80% of 1965 and 65% for 1963.

MATERNAL AGE:

	<u>INDIAN</u>	<u>ESKIMO</u>	<u>OTHER</u>	<u>CANADA (1973)</u>
Under 20	23.56%	28.20%	12.69%	12.02%
20 - 24	36.12%	31.36%	34.76%	33.65%
25 - 29	17.80%	20.90%	36.13%	34.34%
30 - 34	11.51%	11.24%	12.70%	13.92%
35 - 39	9.42%	5.52%	3.32%	4.68%
40 - 44	1.04%	2.17%	0.39%	1.17%
45 +	0.52%	0.39%	0	0.73%
Not Stated	0	0.20%	0	0.12%

The trend noted the last two years of a shift in pattern amongst the Eskimos toward the White or "Other" pattern with the prime reproductive years being between 20 and 29 years has not continued. In the Indian population the prime years are still below 25 years.

Corresponding figures for 1965 for mothers less than 20 years of age were significantly lower. This change in all groups points to a tendency towards smaller families with less children being born to older mothers and therefore the greater percentage occurring in the younger age groups.

It may also point to a decreased parental emphasis on sexual morality and premarital sexual repression.

BIRTH ORDER:

The percentage distribution of livebirths by birth order and ethnic group is:

	<u>INDIAN</u>	<u>ESKIMO</u>	<u>OTHER</u>
1st Child	33.68	29.00	40.37
2nd & 3rd Child	31.55	32.44	50.55
4th & Subsequent	34.76	38.54	9.07

These figures once again reflect the larger family size of the native groups. As to the others the implied tendency is for a temporary immigration of young non-native families with a short but higher

reproductive history whilst in the Territories, followed by re-emigration after a short stay.

BIRTHS OUTSIDE THE TERRITORIES:

In 1977 there were 161 births outside the Territories. This accounted for 13.31% of the total births. The comparative figures for 1976 were 12.39%, for 1975 14.63% and for 1974 11.18%.

DEATHS:

Numbers of deaths and percentages occurring in different age groups are shown in the accompanying tables. The distribution has been remarkably similar over the past three years with the perinatal group still giving the most reason for concern.

Age Group	INDIANS		ESKIMOS		OTHERS		ALL GROUPS	
	No.	%	No.	%	No.	%	No.	%
0 - 7 days	6	11.53	9	9.78	6	9.68	21	10.19
8 - 28 days	1	1.92	0	0	0	0	1	0.48
29 - 365 days	4	7.69	11	11.96	2	3.22	17	8.25
1 - 4 years	3	5.77	3	3.26	3	4.84	9	4.37
5 - 9 years	0	0	3	3.26	2	3.22	5	2.43
10 - 14 years	1	1.92	7	7.61	1	1.61	9	4.37
15 - 19 years	0	0	8	8.70	4	6.45	12	5.82
20 - 29 years	3	5.77	10	10.87	7	11.29	20	9.71
30 - 39 years	7	13.46	7	7.61	5	8.06	19	9.22
40 - 49 years	4	7.69	7	7.61	4	6.45	15	7.28
50 - 59 years	3	5.77	7	7.61	10	16.13	20	9.71
60 +	20	38.46	20	21.74	18	29.03	58	28.15
TOTAL	52		92		62		206	

CRUDE DEATH RATE:

The crude death rate this year is 4.7 and as compared with the much higher figure for all of Canada, is still a misleading statistic resulting from a skewed population curve with an abnormal proportion in the young and young adult ages groups.

TABLE I
NORTHWEST TERRITORIES
Vital Statistics - 1977

	INDIANS ^{7,951} 1977 Pop. *7882				ESKIMOS ^{15,138} 1977 Pop. 14,930				OTHERS ^{21,034} 1977 Pop. 20,809				ALL GROUPS ^{44,123} 1977 Pop. 43,621				ALL Canada
	1977		1976	1975	1977		1976	1975	1977		1976	1975	1977		1976	1975	1974
	NO.	RATE	RATE	RATE	NO.	RATE	RATE	RATE	NO.	RATE	RATE	RATE	NO.	RATE	RATE	RATE	
Livebirths (a)	191	24.2	24.1	26.0	507	33.9	36.1	32.4	512	24.6	31.5	32.4	1210	27.7	31.8	31.2	15.6
Illegitimate Live Births (b)	101	52.8	53.5	54.0	218	43.0	38.9	36.6	110	21.5	19.4	21.1	429	35.4	32.7	32.5	
Livebirths born in Hosps, and N/S (c)	190	99.4	98.4	98.9	501	99.0	98.4	97.8	510	99.6	99.2	99.0	1201	99.2	98.8	98.5	99.7
Low Birth Weight Infants (d)	19	9.9	12.8	13.1	44	8.7	6.6	5.4	23	4.5	5.1	3.8	86	7.1	6.9	6.0	
Stillbirths (e)	3	15.7	5.3	25.2	9	17.7	7.6	8.7	4	7.8	7.4	12.9	16	13.2	7.1	13.3	7.5
Perinatal Deaths (f)	9	46.4	21.3	64.0	18	34.9	15.1	19.4	10	19.4	23.8	18.2	37	30.2	19.8	26.4	16.7
Neonatal Deaths (0-28 days) (g)	7	36.6	16.0	40.4	9	17.7	13.3	17.4	6	11.7	16.6	9.2	22	18.2	15.2	17.5	10.1
Post Neonatal Deaths (29-365 days) (h)	4	20.9	42.8	25.2	11	21.7	26.7	30.5	2	3.9	3.7	3.7	17	14.0	19.2	17.5	4.9
Infant Deaths (under 1 year) (i)	11	57.5	58.8	65.6	20	39.4	40.1	48.0	8	15.6	20.3	12.9	39	32.2	34.4	35.1	15.0
Total Deaths (Crude Death Rate) (j)	52	6.6	6.8	6.9	92	6.2	7.1	6.1	62	2.9	4.2	3.4	206	4.7	5.8	5.1	7.4
Deaths in Hospitals and N/S (k)	29	55.8	49.0	62.2	37	40.2	46.6	52.8	35	56.4	57.5	45.6	101	49.0	50.4	53.2	
Natural Increase (l)	139	17.6	17.3	19.0	415	27.8	29.0	26.2	450	21.6	27.3	29.0	1004	23.0	25.9	26.0	
Maternal Deaths (m)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8.3	1.0

- (a) rate per 1,000 population
- (b) rate per 100 live births
- (c) rate per 100 live births
- (d) rate per 100 live births
- (e) rate per 1,000 live births
- (f) stillbirths plus deaths 0-7 days per 1,000 total births (live births & stillbirths)

- (g) deaths 0-28 days per 1,000 live births
- (h) deaths 29-365 days per 1,000 live births
- (i) deaths under 1 year per 1,000 live births
- (j) crude death rate - deaths per 1,000 population
- (k) rate per 100 deaths
- (l) rate per 1,000 population
- (m) rate per 10,000 live births

N.B.: To bring Statistics into line with national compilations, rates (a), (j) and (l) have again been calculated on the Mid-Year calculated populations.

*Mid-Year Population Figures.

TABLE 11

NORTHWEST TERRITORIES - 1977

Vital Statistics in Zones

	Mackenzie Zone						Inuvik Zone						Keewatin Zone				Baffin Zone			
	Indians		Eskimos		Others		Indians		Eskimos		Others		Eskimos		Others		Eskimos		Others	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
*	5489		2767		1631		2393		2219		2565		3780		532		6164		1401	
Livebirths (a)	141	25.6	93	33.6	379	23.2	50	20.9	71	32.0	96	37.4	109	28.8	8	15.0	234	38.0	29	20.7
Illegitimate Livebirths (b)	78	55.3	31	33.3	71	18.7	23	46.0	49	69.0	30	31.2	35	32.1	4	50.0	103	44.0	5	17.2
Births in Hosps. or N/S (c)	140	99.3	92	99.0	377	99.5	50	100	70	99.0	96	100	109	100	8	100	230	98.3	29	100
Low Birth Weight Infants (d)	13	9.2	7	7.5	19	5.0	6	12.0	7	9.8	3	3.1	10	9.2	0	0	20	8.5	1	3.4
Maternal Deaths (e)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stillbirths (f)	3	21.3	4	43.0	4	10.5	0	0	1	14.1	0	0	3	27.5	0	0	1	4.3	0	0
Perinatal Deaths (g)	7	48.6	7	72.2	10	26.1	2	40.0	1	13.9	0	0	4	35.7	0	0	6	25.5	0	0
Neonatal Deaths (h)	5	35.5	3	32.2	6	15.8	2	40.0	0	0	0	0	1	9.2	0	0	5	21.4	0	0
Post Neonatal Deaths (i)	3	21.3	4	43.0	1	2.6	1	20.0	0	0	1	10.4	1	9.2	0	0	6	25.6	0	0
Infant Deaths (j)	8	56.3	7	75.3	7	18.5	3	60.0	0	0	1	10.4	2	18.3	0	0	11	47.0	0	0
Total Deaths (k)	37	6.7	18	6.5	49	3.0	15	6.3	11	4.9	11	4.3	25	6.6	0	0	38	6.2	2	1.4
Deaths in Hosps. or N/S (l)	21	56.7	7	38.9	31	63.3	8	53.3	4	36.4	4	36.4	9	36.0	0	0	17	44.7	0	0
Natural Increase (m)	104	18.9	75	27.1	330	20.2	35	14.6	60	27.0	85	33.1	84	22.2	8	15.0	196	31.8	27	19.3

(a) rate per 1,000 population

(b) rate per 100 live births

(c) rate per 100 live births

(d) birth weight 2500 grams and below per 100 live births

(e) rate per 10,000 live births

(f) rate per 1,000 live births

(g) stillbirths plus deaths 0-7 days per 1,000 total births (live births and stillbirths)

(h) deaths 0-28 days per 1,000 live births

(i) deaths 29-365 days per 1,000 live births

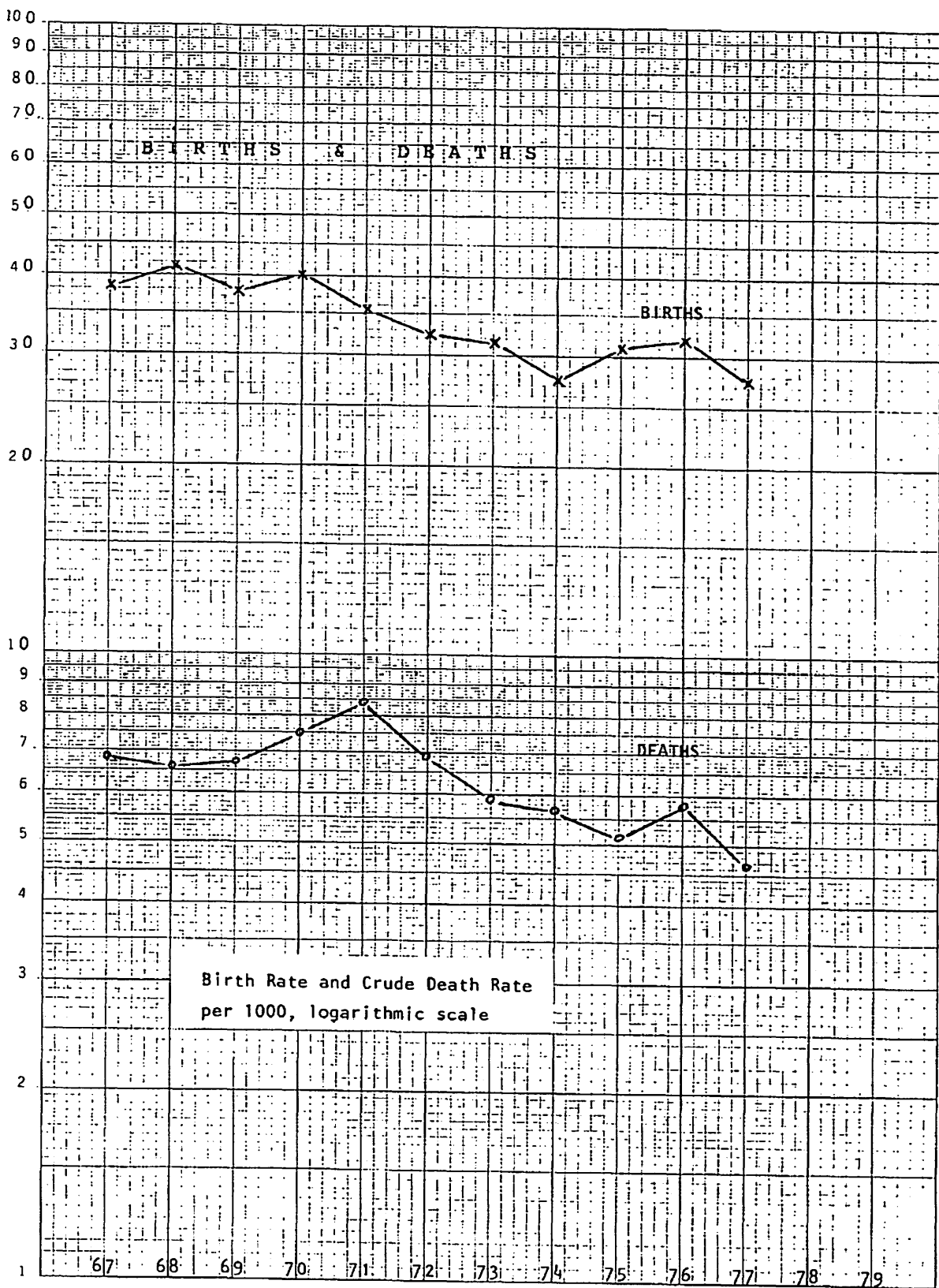
(j) deaths under 1 year per 1,000 live births

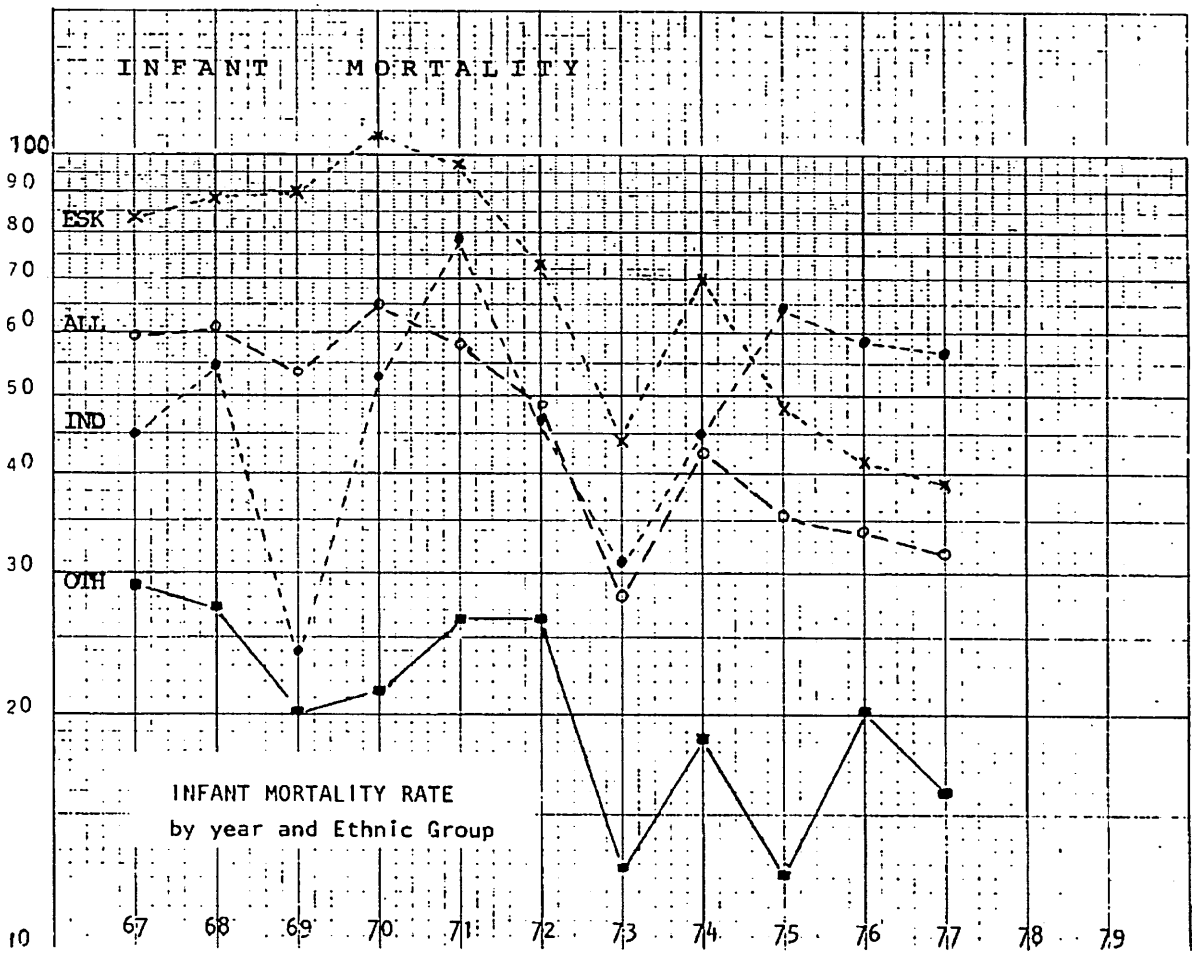
(k) crude death rate - deaths per 1,000 population

(l) rate per 100 deaths

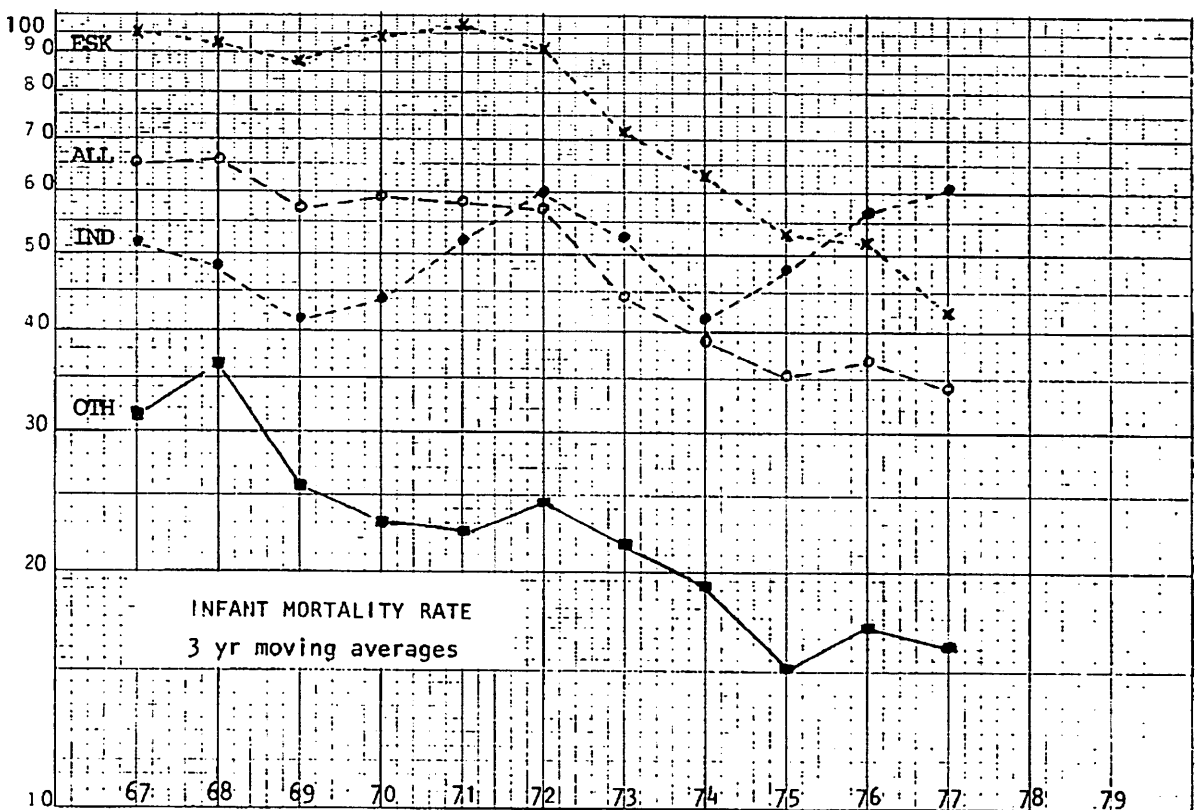
(m) rate per 1,000 population

* Mid-Year Population Figures





(In the three year moving average each point on the graph represents the average of the previous three years. Its effect is to widen the population data base (three-fold) and to reduce wild swings which characterise rates derived from small numbers. It enables one to identify more clearly long term trends.)



PLACE OF DEATH:

49% of all deaths occurred in hospital or nursing station with the ethnic distribution as follows:

Indian 55.8% Eskimo 40.2% Others 56.4%

The corresponding overall figure for 1965 was 37.2% with the ethnic breakdown being unrecorded.

MATERNAL DEATHS:

There has been no recorded maternal death in 1977.

PERINATAL MORTALITY: (0 - 7 days plus stillbirths)

The perinatal mortality for 1977 is 30.2. This is a reversal of the trend for the past two years, characterized by increases for both Indians and Eskimos.

NEONATAL MORTALITY: (0 - 28 days)

This figure is up from last year at 18.2 with a particular increase for Indians.

POST NEONATAL MORTALITY: (29 - 365 days)

This figure is down to 14.0 from 19.2 last year with a decrease in both the Indian and Eskimo population.

INFANT DEATHS: (under 1 year)

The total infant mortality decreased further this year to a rate of 32.2 down from 34.4 last year and 35.1 in 1975, almost halved in the last 10 years. This trend is particularly evident by viewing the 3 year moving averages for the infant mortality rate.

NATURAL INCREASE:

There has been a further drop in the rate of natural increase. This is down to 23.0, down from 25.9 last year, and 38.4 in 1966.

CAUSES OF DEATH:

The most common causes of death are listed in the attached table in order of frequency:

	<u>No. of Deaths</u>	<u>Percentage of Total Deaths</u>
Accidents, Injuries and Violence	74	35.92
Cardiovascular Disease	32	15.53
Malignant Neoplasm	25	12.13
Diseases of Infancy	21	10.19
Pneumonia	18	8.74
Diseases of Central Nervous System	11	5.34
Gastrointestinal Disease	9	4.37
Senility, Unknown and Other Causes	16	7.77

Accidents, Injuries and Violence maintain their lead as the most frequent cause of death. They have increased their share of the total deaths from 33.62% last year to 35.92% in 1977. They now lead Cardiovascular Diseases, the second in the list, by 20% points up 16% points from last year. With the exception of Diseases of Infancy now being in fourth place and Pneumonia in fifth, a reversal from last year, the order of frequency stays the same as last year and in 1975.

MALIGNANT NEOPLASMS (CANCERS) BY SITE, ETHNIC GROUP AND SEX

	<u>INDIAN</u>		<u>ESKIMOS</u>		<u>OTHERS</u>		<u>TOTAL</u>
	<u>MALE</u>	<u>FEMALE</u>	<u>MALE</u>	<u>FEMALE</u>	<u>MALE</u>	<u>FEMALE</u>	
Lung	-	-	3	1	2	1	7
Gastric	-	-	-	-	-	-	-
Intestinal	2	-	-	-	2	-	4
Prostate	-	-	-	-	1	-	1
Skin	-	-	-	-	-	-	-
Cervix (Uterine)	-	-	-	-	-	-	-
Parotid	-	-	-	-	-	-	-
Skeletal	1	-	-	-	-	-	1
Reticulo-Endothelial	-	-	-	-	-	-	-
Kidney (Genito-Urinary)	-	-	-	-	1	-	1
Generalized	-	-	-	2	-	-	2
Nasopharynx and Larynx	-	-	1	-	-	-	1
Breast	-	-	-	-	-	1	1
Leukemia	-	1	-	-	1	2	4
Other	1	-	-	2	-	-	3
Totals	4	1	4	5	7	4	25

DEATHS FROM ACCIDENTS, INJURIES, VIOLENCE, N.W.T. 1977

	<u>INDIANS</u>	<u>ESKIMO</u>	<u>OTHERS</u>	<u>TOTAL</u>
Exposure	2	5	2	9
Drowning	4	6	1	11
Inhalation of Gastric Contents	0	0	0	0
Asphyxia	0	0	0	0
Suicide	3	4	5	12
Burns	3	4	1	8
Aircraft Crashes	0	6	3	9
Motor Vehicle Accidents	0	0	2	2
Poisons (Excluding Alcohol)	0	1	1	2
Gunshot Wounds (Accidental)	0	2	1	3
Homicide	0	3	0	3
Alcohol Poisoning	0	5	2	7
Others (Falls, Crushing)	0	1	2	3
Crib Deaths	1	2	2	5
Totals	13	39	22	74

TABLE 111

Causes of Death by Ethnic Group and Selected Age Groups 1977

Number of Deaths

	GRAND TOTAL	INDIANS									ESKIMOS									OTHERS								
		Infants		Pre Sch	School		Young Adult	Adult	Eld	TOTAL	Infants		Pre Sch	School		Young Adult	Adult	Eld	TOTAL	Infant		Pre Sch	School		Young Adult	Adult	Eld	TOTAL
		0-28 days	29-365	1-4 yrs	5-9 yrs	10-14 yrs	15-34 yrs	35-64 yrs	65+ yrs		0-28 days	29-365	1-4 yrs	5-9 yrs	10-14 yrs	15-34 yrs	35-65 yrs	65+ yrs		0-28 days	29-365	1-4 yrs	5-9 yrs	10-14 yrs	15-34 yrs	35-64 yrs	65+ yr	
Injuries & Accidents (E 47-50)	74	1		2			7	2	1	13		3	3	1	7	20	5		39		1	2	1		11	7		22
Diseases of infancy & Malformations (B41-44)	21	6								6	8	2						10	5								5	
Cardiovascular Diseases (B24-29)	32								8	8			1		1	6	6	14	1					3	6		10	
Pneumonia (B31)	18		2	1				1	5	9		2				3	3	8							1	1		
Malignant Neoplasms (B18)	25					1	1	1	2	5						4	5	9		1	1			7	2		11	
Senility, Unknown & Other Diseases (B45-46)	10							2	2	4	1	1			1		1	4						1	1		2	
Diseases of the Nervous System (B22-23)	11		1					4		5					1		1	1	1	1		1		1	2		5	
Gastrointestinal Diseases (B33-36)	3											1	1			1		3										
Other Respiratory Diseases (B30 & 32)	2		1							1							1	1										
Infective & Parasitic Diseases (B3-17)	3											2						2							1		1	
Cirrhosis of Liver & Hyperplasia of Prostate (B37-39)	6							1		1														3	2		5	
Benign Neoplasms																1		1										
Others	1																1	1										
	206	7	4	3		1	8	11	18	52	9	11	3	3	7	23	20		92	6	2	3	2	1	11	22	15	62

MATERNAL AND CHILD HEALTH

Prenatal clinics and classes have been held regularly in all major centres and a few of the smaller centres where there have been sufficient numbers in the antenatal category to make the classes worthwhile. In some major centres these prenatal classes were deferred in December 1977 due to budgetary restraints which necessitated a reduction in overtime by our nursing staff. These are to be resumed early in the next year. In some communities prenatal examinations and counselling has been offered on an individual basis.

All primiparae and multiparae with more than four previous children have been evacuated to major centres for delivery under a physician's care. The same has been the case for actual or anticipated complications of pregnancy.

Postnatal examinations at six to eight weeks following delivery are undertaken either by a nurse or by a physician.

Newborns are given a full examination according to standard guidelines within 24 hours of birth and as many as possible are visited at home within two or four weeks of birth. Infants are seen on a regular basis thereafter. The guidelines of care recommend eight examinations during the first year and five during the preschool years.

Child health clinics are held in all settlements. Examinations, assessment, counselling and immunization are offered. Home and office visits supplement these clinics.

Additional emphasis is being placed on the importance of an adequate period of breastfeeding and avoidance of too early introduction of solid foods to the infant's diet. A television commercial promoting breastfeeding was produced during this year. It will be released to the C.B.C. Northern Service in 1978.

Family planning and counselling on contraceptive measures is available in all facilities and teaching on these topics is included at clinics wherever it is appropriate.

Papanicolau smears are encouraged on a regular basis for all women who are sexually active.

Visits of pediatric consultants twice yearly to all larger settlements are arranged under the University contracts.

A Regional Committee including a Pediatric Consultant has continued to review, revise and consolidate the infant nutrition health education material for both health professionals and parents in an attempt to provide consistent guidelines. These guidelines should be available to field personnel in the near future.

The Special Care Register continues to be a useful tool and further development of its operation is presently taking place.

The Report of the Northwest Territories Perinatal Infant Mortality and Morbidity Study has been further delayed and is now expected to be published in 1978.

The Alberta Safety Council have expressed an interest in cooperating with the Northwest Territories Region Medical Services to modify their existing Baby Sitter Course for use in the Northwest Territories.

A review of the premature infants born in the Northwest Territories during 1977 is presently being undertaken by the Maternal and Child Health Nurse Consultant who was appointed to the Regional Office in March 1977.

SCHOOL HEALTH:

All nurses hold regular consultations with the school teaching staff regarding both current health problems of individual pupils, and also regarding health matters as they are to be included in the teaching curriculum. Although the nurse is normally considered advisory some do direct teaching, where this can be more appropriately handled by Medical Services staff.

Emphasis is placed on the School Readiness Program with parents being encouraged to bring children for physical examination by the nurse early, so that defects discovered may have the benefit of correction, before actually starting into school.

NURSING COVERAGE:

Nurse staffing as in previous years was fairly stable for most of the year with the exception of an acute shortage during the summer months.

ZONE	NUMBER OF POSITIONS	VACANCIES DEC.31/77	TERMINATED IN 1977	HIRED 1977	% OF TURNOVER
Baffin - field	30	7	6	4 (6)	20%
Frobisher Bay Hospital	19	3	10	8 (3)	57%
Inuvik - field	23	0	6	6 (5)	26%
Inuvik Hospital	25	4	11	12	44%
Keewatin	18	1	4	7 (7)	22%
Mackenzie - field	39	1	7	13 (12)	18%
Cottage Hospitals	12	0	8	17 (4)	67%
TOTALS	166	16	52	67 (37)	31%

Number of Positions - indicates number of positions which were allotted man years for the 1977-78 fiscal year.

Terminated - includes all nurses who terminated their employment or transferred to another Region. It does not include nurses who transferred within the Region.

Hired - includes all new permanent employees as well as those who transferred to Northwest Territories Region from another Region. It does not include employees who transferred within Northwest Territories Region.

() - Numbers in brackets indicate term appointments.

% of Turnover - The ratio of terminations to number of positions - includes permanent employees only.

Educational leave for studies at the university level was granted to 9 nurses including 6 in bachelor's degree programs, 2 for diplomas in public health nursing and 1 in outpost nursing. Northwest Territories Region also sponsored 7 nurses for the Clinical Training for Nurses Courses making the total number of nurses trained in this specialty 79 of whom 28 remain in the Northwest Territories.

Of the 150 nurses employed at year's end, 23 had bachelor's degree in nursing, 27 had public health nursing certificates, 37 had midwifery or advanced obstetrics training, 4 had outpost nursing (midwifery and public health) and 1 had psychiatric nursing post-graduate training.

PHYSICIAN SERVICES:

The areas of Yellowknife and Hay River are covered by private practitioners. In addition to them there is one private practitioner specializing in Ophthalmology in Fort Smith and a part time private practitioner in Inuvik. Among the physicians in Hay River one is a

certificated surgeon. In Yellowknife there are two specialist surgeons, one gynecologist and obstetrician, one internist, one orthopedic surgeon, one paediatrician, one ear, nose and throat surgeon, one ophthalmologist and one psychiatrist. The ophthalmologist and the otolaryngologist are employed by the Stanton Yellowknife Hospital. The psychiatrist is a full time Federal government employee. In addition there are six physicians attached to Inuvik Hospital of which one is a general practitioner surgeon and one a general practitioner anaesthetist. Frobisher Bay has five physicians of which one is a general practitioner surgeon and one a general practitioner anaesthetist. One of the Frobisher Bay physicians is stationed in Nanisivik, from where the five High Arctic communities are covered. There are also three general practitioners in Fort Smith, one general practitioner in Edzo, one in Fort Simpson and one in Cambridge Bay. The Keewatin Zone is covered on a rotational basis through a contractual arrangement with the University of Manitoba by two of the six resident physicians in Churchill, Manitoba. Specialist services for the Northwest Territories are provided to the Mackenzie and Inuvik Zones by the University of Alberta, to the Keewatin Zone by the University of Manitoba and to the Baffin Zone by McGill University. In addition there is a contract for psychiatric services to Baffin through the Clarke Institute of the University of Toronto.

The turnover of physicians, as always, was relatively high though recruitment posed no particular problems during 1977.

PUBLIC SERVICE HEALTH:

The numbers of medical assessments is still rising. They have reached 1211, up 9% from the previous year. This increase is partly accounted for by the rising population and the persisting high turnover of employees in the Northwest Territories. Nonetheless this figure is still far short of the desired number, as a large number of Territorial government employees are still hired without prior medical clearance. Ultimately this is to their own detriment if unsuitable for isolated posting, and a great expense to their own departments who carry the financial responsibility of their evacuation on medical grounds. To our own staff they are an increasing burden, where in isolated areas, nursing stations and their staff, have to deal with problems that could have easily been avoided by proper pre-employment screening. There is a definite need to establish a well organized public service health program for all Territorial employees.

TREATMENT SERVICES:

There were no significant changes to the pattern of provision of health care through the nursing stations. The utilization of inpatient facilities in the nursing stations decreased in all Zones. Admissions in the various Zones were as follows:

	<u>ADMISSIONS</u>	<u>PATIENT DAYS</u>
Baffin Zone	402	744
Inuvik Zone	183	266
Keewatin Zone	191	296
Mackenzie Zone	<u>726</u>	<u>2525</u>
Regional Total	1502	3831

ENVIRONMENTAL HEALTH SERVICES:

There is a point in time at which increased investment in treatment programs does not bring about an equivalent decline in illness. This does not mean that the health of the inhabitants of the Northwest Territories cannot be further improved. However the emphasis by now should be on improving sanitation through good water supply, a safe and clean food supply, proper sewage disposal and proper garbage disposal. This is achieved through the work of the Environmental Health Officer.

The number of Environmental Health Officers employed throughout the Northwest Territories is now eight. Besides water, sewage garbage and food supply control, their activities are gradually extending into the Occupational Health field, particularly as it pertains to the expanding mining activities in the Northwest Territories.

Rabies among wild animals was shown to be remarkably high. The R.C.M.P. has continued to be willing to continue their Rabies control responsibilities, and wherever there has been a relaxation of this control it was due to a local shortage of manpower and vaccine.

Environmental Health Officers are now stationed - two in Yellowknife, one in Hay River, two in Inuvik, one in the Keewatin and two in Frobisher Bay.

NORTHWEST TERRITORIES WATER BOARD:

Medical Services representation on the Water Board is in the first instance by Dr. W. H. Frost of Ottawa. Regional representation on the technical committee is through our Regional Public Health Engineer and at the local level in Yellowknife through the Environmental Health Officers.

FACILITIES

Several major construction projects were initiated this year and are nearly all finished.

1. Frobisher Bay Hospital expansion: Materials were all sent in by last summer's sea lift and construction started in the fall. Favourable weather allowed the Contractor to proceed and the building to be closed in for continued winter construction. At this time the building is ahead of schedule and an early completion is expected.
2. Frobisher Bay Staff Housing: Two prefabricated houses that were purchased the previous year were shipped to site and erected adjacent to the hospital. These units were occupied since October and appear satisfactory. Some on site work remains and will be carried out next summer when the hospital access roadways will be finished as well.
3. Storage for Oxygen Cylinders: A separate building was supplied and erected behind the hospital to provide storage for oxygen cylinders in close proximity to the hospital in Frobisher Bay.
4. Eskimo Point Nursing Station: A new Nursing Station addition and renovation to the old station to provide for living accommodation for the staff was completed and occupied late in the year. Our storage house and transient trailer were relocated on our property to allow room for this addition.
5. Norman Wells Nursing Station: Construction began in the fall for a new station to replace the old building which has been in service since the early 1940's. Interior work is now being completed and should be ready for occupancy early this spring.
6. Dental Therapist Residence - Tuktoyaktuk: A prefabricated residence was purchased and erected in Tuktoyaktuk. This unit was set up and occupied in the fall of 1977.
7. Rae-Edzo Nurses Residence: Since tenders received for this project were so far above budget it was decided not to proceed. Accommodation is being provided by leasing houses for our staff.

A few additional projects were undertaken and completed during the year. These projects were to improve our existing facilities or maintain them in an operable condition.

- (a) Hall Beach Nursing Station: New windows were installed as well as new metal siding and shingles. A stairway was changed to stretcher access and floors and counters recovered and walls repanelled.
- (b) Repairs were made to the Dental Therapist residence in Pond Inlet and the oil storage tank was diked at the Nursing Station.
- (c) A new boiler was installed at Baker Lake Station and the heating system changed to a two pipe system from the old mono-flow type.
- (d) Coral Harbour Station: This was reshingled and other minor repairs were attended to.
- (e) The Nursing Station in Coppermine was equipped with new heating boilers and a new emergency generator.
- (f) An emergency generator was installed at the Fort Norman Station and a new air cooled Diesel generator was put in at the Tuktoyaktuk Station.
- (g) A new access has been provided to the mechanical room in the Inuvik Hospital, and air conditioning was installed in the operating room area.
- (h) Smoke Detectors have been installed throughout the Stations in the Mackenzie and Keewatin Zones while they have been supplied to the Inuvik and Baffin Zones for installation by our own personnel. This is being carried out as men are dispatched to the field in conjunction with other work.
- (i) Outside stands for safe storage of oxygen cylinders have been supplied to all stations which require them.

DENTAL SERVICES PROGRAM

Dental services are provided in the Northwest Territories on a tri-disciplinary approach by private practitioners, government dentists, and dental therapists. This is coordinated by the Regional Dental Officer, who came on staff in the spring of 1977 and left for educational leave in September. Four or five private practitioners operate out of Yellowknife and Hay River and serve not only these communities but also most communities in the Mackenzie Zone. Six Federal government dentists work out of Inuvik and Frobisher Bay and there is one dentist in the Keewatin Zone. Two of these positions were vacant almost throughout 1977. Dental therapists are dispersed throughout the Northwest Territories, currently in about 10 or 12 isolated communities. These therapists are administratively responsible to the Zones in which they work. They receive their professional support, in most cases, from both the staff of the School of Dental Therapy and Zone Dentists. Federal government dentists also participate in the Dental Therapist Program by acting as supervisors in conjunction with the staff of the School of Dental Therapy to ensure that therapists are operating according to the procedures as designed at the School. The impact of dental therapists is growing and they are able to increase the delivery of primary dental care leaving those procedures beyond their level of training to dentists. There is a regular annual turnover of dental therapists but the following communities received considerable service from resident dental therapists during 1977: Fort McPherson, Tuktoyaktuk, Fort Simpson, Fort Smith, Cambridge Bay, Eskimo Point, Cape Dorset, Pangnirtung, Pond Inlet and Baker Lake. Many additional satellites were also serviced as identified on the appended chart which is a resume for 1977 of the dental therapists' productivity.

Dental services provided by dental therapists remained much the same in 1977 as it did in 1976. The School graduated 11 more therapists in 1977, and all were destined to work in the Northwest or Yukon Territories, although they often filled positions left vacant by therapists transferring to other Regions. Twelve new graduates are expected for 1978.

The satellite clinic program of the School of Dental Therapy was very active and a considerable amount of work has been carried out for communities in the Inuvik Zone not regularly serviced by other personnel during 1977. It is expected that in 1978 there

will be more field clinics necessary to maintain adequate work experience for the students because Fort Smith is limited in its supply of patients for teaching purposes.

Considerable effort has been put into developing a preventive program. This is possible because in some communities, with the presence of a dental therapist, Medical Services has moved out of the emergency phase of treatment into the restorative phase and, in some cases, into a comprehensive preventive program. Therapists are encouraged to spend up to 20% of their time in preventive endeavours and the School has developed a considerable amount of material to assist therapists in conducting preventive programs.

The original principles of the Dental Therapist concept have been maintained with little change. This Regional program requires a consistent approach under the continuing supervision of the staff of the School of Dental Therapy to ensure a high standard of dental care, and Zone Dental Officers assist to ensure that standardization is maintained for procedures and methods and that there is professional control over the work that therapists are asked to carry out.

The following is a summary of procedures performed by dental therapists for 1977, which includes field trips by students but not work completed in Fort Smith at the School of Dental Therapy.

Examinations (recall and complete)	3,183
# X-rays	2,291
Restorations: 1 surface	4,252
2 surface	2,278
3 surface	661
Multi surface	271
Other	269
Extractions: Deciduous Teeth	1,083
Permanent Teeth	1,966
Prophylaxis and/or Fluoride	2,832
Miscellaneous	1,527
Teaching Sessions	718

DENTAL THERAPIST FIELD REPORT - RESUME FOR 1977 - NORTHWEST TERRITORIES

Location	Exams		# of X-rays	Restorations							Surgery		Prophy	Fluoride	Hrs. Misc.	Teaching PHI	Months Worked	Sat. Clinic Visits	
	Compl.	Recall		1 Sur.	2 Sur.	3 Sur.	Mult.	Pin	Pulp.	Crown	Dec.	Perm.							
Aklavik	549	5	44	494	300	71	41	43	27	4	108	162	27	12	85	9	4	1	
Arctic Red River	--	38	--	28	5	--	--	--	--	--	1	6	3	1	6	--		1	
Baker Lake	12	92	432	148	88	33	11	18	--	3	118	242	45	39	92	69	10		
Cambridge Bay	101	128	201	187	134	63	20	12	2	4	50	53	163	112	51	34	10		
Cape Dorset	153	42	58	178	110	42	13	10	--	--	11	90	98	61	123	39	4		
Chesterfield	80	--	--	78	43	15	2	--	--	--	31	30	100	100	16	6		2	
Coppermine	--	41	--	99	27	3	1	--	--	--	31	30	21	32	9	6		2	
Coral Harbour	5	--	2	19	32	8	3	5	--	--	22	79	6	--	3	10		3	
Eskimo Point	66	30	83	101	83	36	8	4	1	--	79	154	28	14	58	27	8		
Fort McPherson	10	111	165	149	39	11	2	1	--	--	45	92	55	37	114	8	6		
Fort Resolution	112	103	--	251	132	24	16	11	9	11	33	58	60	58	40	49		3	Includes Field Trp.
Fort Simpson	67	38	363	473	248	80	17	5	2	3	32	39	226	114	197	24	9		
Fort Smith	4	37	56	24	21	10	1	--	--	--	2	19	14	5	20	17	2		24
Gjoa Haven	5	72	--	5	10	5	-	--	1	1	11	25	2	--	3	--		2	
Holman Island	--	33	--	71	43	10	5	11	--	--	17	34	27	25	12	6		2	
Igloodik	274	--	--	97	47	25	28	4	2	8	121	117	55	55	142	33	3		
Inuvik	16	31	113	169	75	24	7	6	--	--	33	36	95	18	161	95	8		
Pangnirtung	11	119	52	371	232	37	19	19	2	1	86	203	154	133	116	67	11		
Pond Inlet	142	95	225	425	120	44	21	12	3	2	96	134	223	75	199	76	10		
Rankin Inlet	4	16	62	95	50	13	10	6	--	1	37	103	32	7	142	33	6		
Repulse Bay	2	--	--	45	13	2	1	2	--	--	18	19	1	1	3	17		2	
Sanikiluaq	--	17	--	64	8	1	1	5	1	--	19	52	6	--	18	6		2	
Spence Bay	7	74	18	59	45	18	4	1	1	6	13	27	74	48	37	24	3		
Tuktoyaktuk	163	24	417	152	66	25	16	16	--	3	27	61	140	135	171	20	5		
Whale Cove	--	4	--	76	33	10	2	1	1	4	15	60	2	--	12	6		3	
Fort Good Hope	152	--	--	275	116	33	15	11	4	--	21	35	6	1	8	5		1	Field Trip
Norman Wells	103	--	--	219	106	18	7	6	2	1	6	6	54	32	18	36		1	Field Trip
Totals	2033	1150	2291	4252	2278	661	271	189	58	52	1083	1966	1717	1115	1827	718			

COMMUNICABLE DISEASES

Once again the variations and incidence of communicable diseases follow an erratic pattern with few if any explanations to account for changes from previous years. Poor sanitation and overcrowding remain a perpetual problem. Marked differences between outside temperatures, and overheating of insides of houses, may also play a large contributing part, particularly in the incidence of respiratory infections.

Infectious Hepatitis Type A showed an increase of 32% over 1976 for the Northwest Territories. However, both Baffin and Keewatin Zones showed a marked drop in incidence. Inuvik Zone reported a relatively small number of cases but the incidence rose from 7 in 1976 to 12 cases in 1977. Mackenzie Zone had a considerable increase of 120%. Apart from 22 cases at Cambridge Bay early in the year, most of the cases came from the lower Mackenzie district. The total for the Northwest Territories was 230. Fort Liard had a total of 53 cases.

There was one isolation of *Salmonella typhi* from the Great Slave Lake area.

There was a total decrease of 47% of reported cases of Bacillary Dysentery throughout the Northwest Territories.

Measles and Rubella showed a steady decline of cases over the last two years.

There was a total of well over 100 isolates of toxigenic *Corynebacteria Diphtheriae* (Gravis Type) organisms from noses and throats in the Central Arctic. The main areas affected were Cambridge Bay, Gjoa Haven and Coppermine. All came from fully immunized individuals and in most cases they constituted laboratory diagnosis, and were thus regarded as carriers. A total of 10 cases were reported as true cases of Diphtheria during the year.

Two cases of Botulism as well as 4 cases of Trichinosis came from the Baffin Zone.

DISEASE	Year	INUVIK	MACKENZIE	KEEWATIN	BAFFIN	TOTAL - N.W.T.
Hepatitis A	1977	12	214	3	1	230
	1976	7	97	61	8	173
	1975	2	23	155	4	184
Hepatitis B	1977	0	0	0	0	0
	1976	0	11	0	0	11
	1975	1	6	0	0	7
Typhoid Fever	1977	0	1	0	0	1
	1976	0	0	0	0	0
	1975	0	0	0	0	0
Bacillary Dysentery	1977	9	105	1	5	120
	1976	9	195	16	7	227
	1975	50	53	248	99	450
Gastro - Enteritis (Unspecified)	1977	110	321	49	136	616
	1976	6	484	15	92	597
	1975	125	94	34	410	663
Meningococcal Meningitis	1977	0	4	0	0	4
	1976	0	1	2	1	4
	1975	0	1	1	0	2
Salmonellosis	1977	1	10	0	2	13
	1976	0	6	0	2	8
	1975	2	15	2	2	21
Streptococcal Sore Throat & Scarlatina	1977	65	733	197	111	1106
	1976	208	656	99	107	1070
	1975	87	671	67	194	1019
Sore Throat (unspecified)	1977	102	299	152	658	1211
	1976	187	267	396	485	1335
	1975	10	286	580	298	1174
Measles	1977	15	10	0	4	29
	1976	14	16	7	5	42
	1975	23	52	6	57	138
Rubella	1977	14	26	3	1	44
	1976	32	11	19	6	68
	1975	34	54	2	13	103
Influenza-like Infections	1977	221+	464	239	124	1048+
	1976	314	4082+	606	1216	6218+
	1975	155	1169+	652	821+	2797+
Diphtheria	1977	0	10	0	0	10
	1976	1	17	0	0	18
	1975	6	0	0	0	6
Botulism	1977	0	0	0	2	2
	1976	0	0	0	0	0
	1975	0	0	0	3	3

(continued)

DISEASE	Year	INUVIK	MACKENZIE	KEEWATIN	BAFFIN	TOTAL - N.W.T.
Whooping Cough (Figures in Parenthesis - Pertussis-like Syndrome)	1977	0	1	0	0	1
	1976	0	1	0	0	1
	1975	7	5	0	3(26)	15(26)
Tularaemia	1977	0	2	0	0	2
	1976	0	33	0	0	33
	1975	0	0	0	0	0
Trichinosis	1977	0	0	0	4	4
	1976	0	1	0	13	14
	1975	0	0	0	0	0

VENEREAL DISEASE

Once again the incidence of syphilis was low with only two primary cases being reported. As the vast majority of treatment units are using procaine penicillin in conjunction with probenecid in the treatment of gonorrhoea and one can speculate that the amount of penicillin used in the treatment of gonorrhoea will also cure syphilis during its early incubation period, this may account for the persisting low incidence of syphilis in the presence of a high rate of gonorrhoea.

Confirmed cases of gonorrhoea during 1977 showed an increase of 4% in incidence over the previous year. Considering that 1976 was a low year with a 31% decrease over the previous year (1975), this 4% increase need not change our optimism expressed last year following the drastic drop in incidence.

Despite our comprehensive venereal disease program, the incidence of gonorrhoea in the Northwest Territories remains high. Bigger centres, particularly Yellowknife, Hay River, Fort Smith and Rankin Inlet show a continuing high rate of gonorrhoea.

It should be pointed out however that it is estimated that in the provinces only 1 in 10 of all treated cases of gonorrhoea reach national statistics. With the rapid increase in the size of both Yellowknife and Hay River we must safeguard against a more "provincial" pattern of disease reporting.

Gonorrhoea cases have been divided for statistical purposes into two groups:

1. Confirmed - this includes all clinically accepted cases as well as those with positive laboratory findings.
2. Unconfirmed - this includes all suspected cases of gonorrhoea not included in 1 above.

All confirmed cases are reported to Statistics Canada on a weekly basis. Unconfirmed cases are not reported.

CHANGES IN INCIDENCE OF GONORRHOEA IN N.W.T.

<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1977 change from 1976</u>
2270 Confirmed	1546 Confirmed	1615 Confirmed	Increase 4%
1363 Unconfirmed	1204 Unconfirmed	1413 Unconfirmed	Increase 17%
3633 Total	2750 Total	3028 Total	Increase 10%

CHANGES IN INCIDENCE OF GONORRHOEA BY ZONE (CONFIRMED CASES)

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1977 change from 1976</u>
Inuvik	792	564	409	Decrease 27%
Mackenzie	918	671	863	Increase 28%
Keewatin	135	96	113	Increase 17%
Baffin	425	215	230	Increase 6%

CHANGES IN INCIDENCE OF GONORRHOEA BY ZONE (UNCONFIRMED)

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1977 change from 1976</u>
Inuvik	309	305	348	Increase 14%
Mackenzie	702	617	700	Increase 13%
Keewatin	56	78	150	Increase 92%
Baffin	296	204	215	Increase 5%

CHANGES IN INCIDENCE OF GONORRHOEA BY ZONE (CONFIRMED & UNCONFIRMED, COMBINED)

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1977 change from 1976</u>
Inuvik	1101	869	757	Decrease 12%
Mackenzie	1620	1288	1563	Increase 21%
Keewatin	191	174	263	Increase 51%
Baffin	721	419	445	Increase 6%

GONORRHOEA BY SEX AND ETHNIC GROUP (CONFIRMED & UNCONFIRMED, COMBINED)

<u>Indian</u>		<u>Eskimo</u>		<u>Other</u>		<u>Total</u>		<u>Total</u>
M	F	M	F	M	F	M	F	
470	479	569	532	761	217	1800	1228	3028

GONORRHOEA INCIDENCE (PROPORTIONAL) BY ETHNIC GROUP (CONFIRMED & UNCONFIRMED COMBINED)

<u>INDIAN</u>	<u>ESKIMO</u>	<u>OTHER</u>	<u>Total</u>
31/34%	36/36%	32.29%	3028
(33.67% -1976)	(34.69%-1976)	(31.63%-1976)	

GONORRHOEA INCIDENCE BY SEX AND AGE GROUP (MICRO-POSITIVE AND CLINICAL)

- Yr.		1 - 4		5 - 9		10 - 14		15 - 19		20 - 24		25 - 29		30 - 39		40 - 59		60+		Age ?		
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
					2				22	215	182	371	163	228	84	171	60	78	31	4	2	2

Total - 1615

GONORRHOEA INCIDENCE BY SEX AND AGE GROUP (UNCONFIRMED)

- yr.		1 - 4		5 - 9		10 - 14		15 - 19		20 - 24		25 - 29		30 - 39		40 - 59		60+		Age ?		
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
						1	40	111	288	227	231	129	81	121	92	57	30	2		2		1

Total - 1413

GONORRHOEA INCIDENCE BY SEX AND AGE GROUPS (ALL CATEGORIES, COMBINED)

- Yr.		1 - 4		5 - 9		10 - 14		15 - 19		20 - 24		25 - 29		30 - 39		40 - 59		60+		Age ?	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
					2	1	62	326	470	598	394	357	165	292	152	135	61	6	2	4	1

TOTALS:

Males 1800 (59.45%)

Females 1228 (40.55%)

3028 (confirmed & unconfirmed,
combined)GONORRHOEA EPIDEMIOLOGY - (SEE ALSO APPENDIX #1)

	<u>No. of contacts Reported</u>	<u>No. of contacts Located & treated</u>	<u>Percentage Located & treated</u>
Inuvik	1068	765	71%
Mackenzie	1828	1215	66%
Keewatin	383	323	84%
Baffin	581	411	70%
N.W.T. Total	3866	2714	70%
(OUTSIDE CONTACTS) (241)		(50)	(20%)

GONORRHOEA RATE PER 100,000 (MICRO-POSITIVE & CLINICAL DIAGNOSIS)

Based on population of	43621	<u>Cases</u> 1615	3702	<u>Rate</u> per 100,000
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GONORRHOEA RATE PER 100,000 (UNCONFIRMED)

Bases on population of	43621	<u>Cases</u> 1413	3239	<u>Rate</u> per 100,000
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GONORRHOEA RATE PER 100,000 (ALL CATEGORIES, COMBINED)

Bases on population of	43621	<u>Cases</u> 3028	6941	<u>Rate</u> per 100,000
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GONORRHOEA - Confirmed Cases

ETHNIC GROUP	TOTAL BY SEX		Age Groups							AGE NOT STATED
			0 - 9	10-14	15-19	20-24	25-39	40-59	60+	
			M	F						
INDIANS % OF INDIANS	301	214	1 .19	8 1.5	137 26.6	168 32.6	158 30.6	40 7.7	3 .58	
ESKIMOS % OF ESKIMOS	336	233		11 1.9	172 30.2	168 29.5	184 32.3	32 5.6	2 .35	
OTHERS % OF OTHERS	432	99	1 .18	3 .56	88 16.5	198 37.2	201 37.8	37 6.9	1 .18	2 .37
TOTAL CASES 1615	1069	546	2	22	397	534	543	109	6	2
% OF TOTAL	66.1	33.8	.12	1.3	24.5	33.	33.6	6.7	.37	.12

Micro-positive and Clinical cases by sex-age distribution in three ethnic groups.
(Unconfirmed cases not included)

The disease rate of micro-confirmed and clinical cases among the various groups was:

INDIANS	6533	per 100,000 (of Indians)
ESKIMOS	3811	per 100,000 (of Eskimos)
OTHERS	2551	per 100,000 (of Others)
ALL GROUPS	3702	per 100,000

Comparative Rates

N.W.T.	3702	<u>1977</u>	per 100,000	<u>1976</u>	3928	per 100,000	<u>1975</u>	5896	per 100,000
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Canada

Figures not yet available, probably a slight fall in rate

229.5 per 100,000 222.6 per 100,000

SYPHILIS and other diseases not including GonorrhoeaReported cases of SYPHILIS.

	<u>Health District</u>	<u>Stage of Disease</u>	<u>Age</u>	<u>Sex</u>	<u>Status</u>	<u>Comments</u>
INUVIK	Inuvik	PRIMARY	24	M	Indian	-
MACKENZIE	Yellowknife	PRIMARY	26	M	Other	-
<u>TOTAL N.W.T.</u>						<u>- 2</u>

	<u>1977</u>	<u>1976</u>	<u>1975</u>	<u>1974</u>	<u>1973</u>
<u>Incidence</u>	2	4	0	4	8
<u>RATE</u>		4.5		per 100,000	
<u>ESTIMATED POPULATION</u>	43621				

TOTAL CASES 1977 - 2

CHANCROID

	<u>Health District</u>	<u>Sex</u>	<u>Age</u>	<u>Status</u>
MACKENZIE	Pelly Bay	M	32	Other

TOTAL CASES - 1

LYMPHOGRANULOMA VENEREUM

	<u>Health District</u>	<u>Sex</u>	<u>Age</u>	<u>Status</u>
MACKENZIE	Yellowknife	M	44	Indian

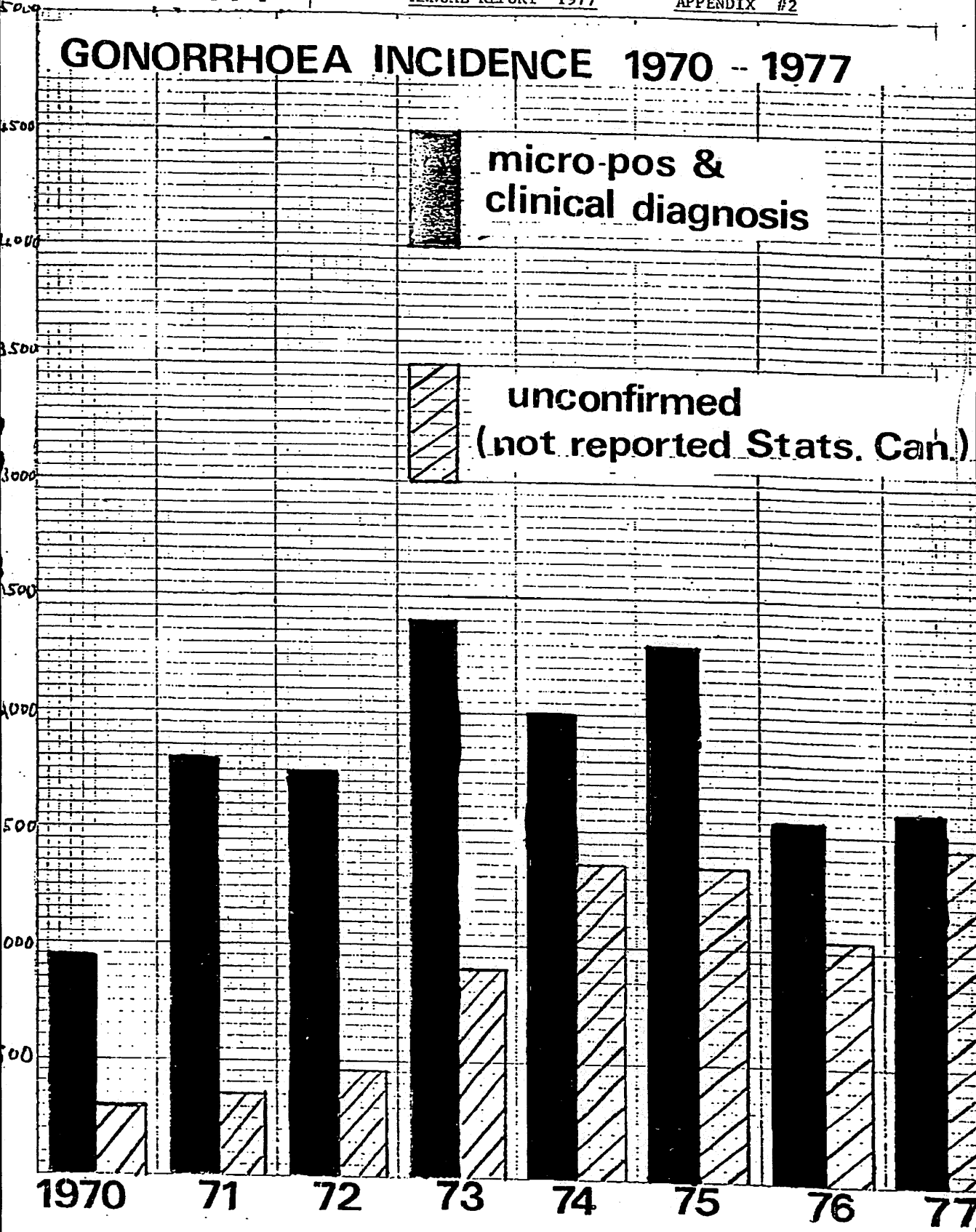
TOTAL CASES - 1

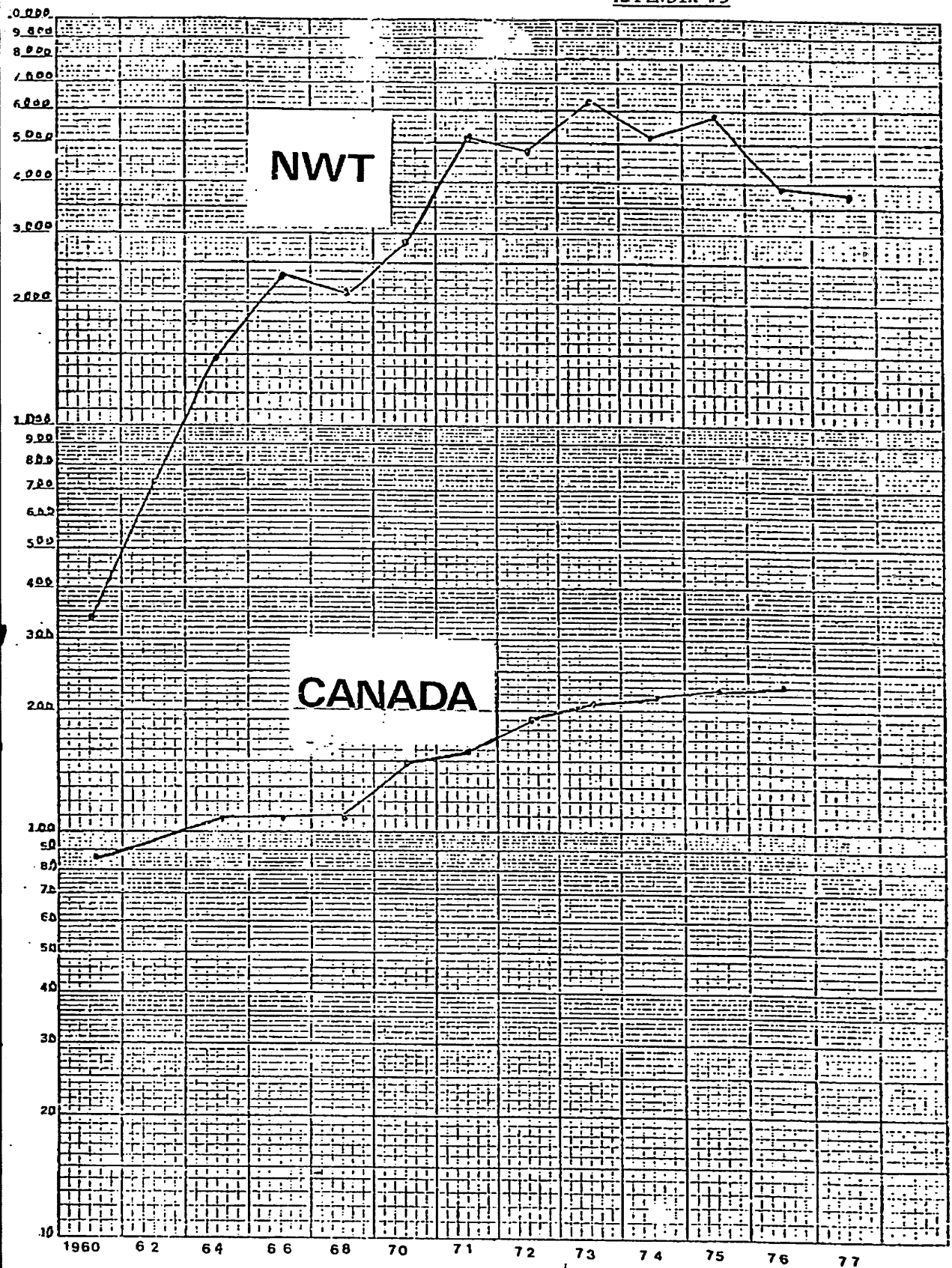
APPENDIX #1GONORRHOEA EPIDEMIOLOGY REPORTNORTHWEST TERRITORIES

ZONE or AREA	No. of Gonorrhoea cases treated during Year	No. of sources & contacts reported to be in Zone or Outside	No. of sources & contacts located & treated	No. of sources & contacts from prev. months	No. of sources & contacts reported as unknown
INUVIK ZONE	409 (348)	1068	516	249	78
MACKENZIE ZONE	863 (700)	1828	855	360	280
KEEWATIN ZONE	113 (150)	383	242	81	18
BAFFIN ZONE	230 (215)	581	313	98	66
OUTSIDE		241	50		2
TOTALS	1615 (1413)	4101	1976	788	444

Figures in parenthesis - unconfirmed cases.

GONORRHOEA INCIDENCE 1970 - 1977





gonorrhoea rate per 100,000

(unconfirmed cases not included)

TUBERCULOSIS SURVEILLANCE

A total of 57 cases of new or reactivated tuberculosis were detected in a total recorded population of 43,621. Of these 48 cases were of pulmonary tuberculosis (potentially transmissible) and 9 were extra-pulmonary. Fourty were treaty Indians, 13 Eskimos and 4 were non-treaty or white status patients.

In terms of population these rates are 507 per 100,000 among treaty Indians (total population - 7,882), 87 per 100,000 among Eskimos (total population - 14,930) and 19 per 100,000 among non-natives (Metis and Whites - total population - 20,809). The total rate for the Northwest Territories was 130 per 100,000. The overall Canadian incidence was 13.7 per 100,000 for 1977.

Of the total of 57 cases, 31 came from the community of Fort Rae alone. This accounts for 54% of the total. Seven cases or 12% came from Yellowknife, and 8 cases or 14% from Frobisher Bay. The 3 communities of Fort Rae, Yellowknife and Frobisher Bay account for over 30% of the total cases of tuberculosis in the Northwest Territories in 1977.

This year again well over half of the cases were detected at an early stage of the disease, either showing minimal involvement or being cases of primary tuberculosis. This reflects the intensity of surveillance.

The number of people on antituberculous drugs has decreased again from last year from a figure of 946 to 747 this year. 126 of these were for chemotherapy and 621 for chemoprophylaxis.

Once again it is noteworthy that of the 57 active cases found 44 were detected through laboratory tests, 12 by referred films and only 1 through community surveys.

To detect 1 active case of tuberculosis it took either 3,445 x-ray survey films or 1,109 referred films or 125 sputum examinations. Whereas the total incidence of tuberculosis remained relatively steady throughout the past 5 years, this year has been characterized by a relatively high incidence of cases of primary tuberculosis, and a definite concentration into 3 problem areas, in particular to Fort Rae.

On the whole the computer recall system is functioning well. It is a persistent reminder to nursing station staff (where changes tend to defeat continuity of service) of the current tuberculosis status and the need for individual follow-up at pre-determined times. At present only native people (Eskimos and treaty Indians) are routinely put into the computer recall system. Other population groups including Metis appear only randomly, thus considerable quantities of pertinent data have to be tabulated separately and are not included in the computer recall. This may also give a distorted or inaccurate picture of tuberculosis surveillance measures or results.

In general the striking reduction in tuberculosis mortality achieved in recent years (5 deaths in 1965 and none since 1973) plus the reduced need for prolonged treatment has tended to reduce the impact of tuberculosis in the overall program. Transmission rates and reactivation rates are, however, still sufficiently high that relaxation of surveillance would be extremely dangerous. Surveillance methods may change in the light of experience but active surveillance must remain a high priority if we are to avoid losing the hard won gains.

NEW & REACTIVATED TUBERCULOSIS CASES BY DISTRICT & YEARNORTHWEST TERRITORIES

ZONE	1977	1976	1975	1974	1973	1972
MACKENZIE	40	27	21	33	22	25
INUVIK	4	7	6	7	8	5
KEEWATIN	-	2	10	13	6	11
BAFFIN	13	15	17	13	13	27
TOTAL	57	51	54	66	49	68

TUBERCULOSIS ACTIVITY REPORT

NORTHWEST TERRITORIES - 1977

ETHNIC GROUP	INDIANS			ESKIMOS			OTHERS			ALL GROUPS		
	1977	1976	1975	1977	1976	1975	1977	1976	1975	1977	1976	1975
POPULATION	7,882	7,745	7,605	14,930	14,513	14,107	20,809	17,100	16,626	43,621	39,358	38,338
NEW ACTIVE CASES	39	18	12	7	18	28	4	8	8	50	44	48
INCIDENCE	0.49	0.23	0.16	0.05	0.12	0.20	0.02	0.05	0.05	0.11	0.11	0.12
REACTIVATED CASES	1	4	2	6	2	4	-	1	0	7	7	6
CASES ON HOME CHEMOTHERAPY	281	210	272	318	513	634	148	223	234	747	946	1,140
TUBERCULIN TESTS										12,361	12,293	12,117
B.C.G.										241	501	773
NO. OF X-RAY SURVEY FILMS										3,455	4,319	9,702
NO. OF REFERRED FILMS										13,305	15,084	20,111
BACTERIOLOGY TESTS										5,497	6,355	14,774

SUMMARY OF ACTIVITIES - CHRONIC DISEASE CONTROL

NORTHWEST TERRITORIES - 1977

ZONE	COMMUNITY SURVEYS	REFERRED FILMS	TUBERCULIN	BACTERIOLOGICAL TESTS	TOTAL
MACKENZIE	3,381	6,495	7,189	2,244	19,309
INUVIK	74	2,189	2,195	955	5,413
KEEWATIN	-	1,655	1,089	570	3,314
BAFFIN	-	2,966	1,888	1,728	6,582
TOTAL	3,455	13,305	12,361	5,497	34,618

NEW AND REACTIVATED CASES OF TUBERCULOSIS BY EXTENT AND TYPE

INDIANS, ESKIMOS AND OTHERS - NORTHWEST TERRITORIES

	1977	1976	1975	1974	1973	1972	TOTAL
Far Advanced	4 7.1%	1 1.9%	1 1.8%	5 7.6%	-	-	11
Moderately Advanced	6 10.5%	11 21.6%	10 18.6%	22 33.3%	13 26.5%	27 39.7%	89
Minimal	11 19.3%	16 31.4%	26 48.2%	17 25.7%	28 57.2%	27 39.7%	125
Primary	25 43.9%	9 17.7%	8 14.8%	10 15.2%	3 6.1%	7 10.3%	62
Miliary	1 1.7%	1 1.9%	1 1.8%	-	-	-	3
Pleurisy	1 1.7%	-	-	-	-	-	1
Extra-Pulmonary	9 15.8%	13 25.5%	8 14.8%	12 18.2%	5 10.2%	7 10.3%	54
TOTALS	57 100.0%	51 100.0%	54 100.0%	66 100.0%	49 100.0%	68 100.0%	345

CASE FINDING SOURCENORTHWEST TERRITORIES - 1977

	<u>NUMBER OF X-RAYS</u>	<u>ACTIVE CASES FOUND</u>	<u>NUMBER OF EXAMINATIONS PER CASE</u>
X-RAY SURVEYS	3,455	1	3,455
REFERRED FILMS	13,305	12	1,109
SPUTUM SURVEYS	5,497	44	125

NEW AND REACTIVATED CASES OF TUBERCULOSISNORTHWEST TERRITORIES

1977	1976	1975	1974	1973	1972	1971
57	51	54	66	49	68	93

NEW AND REACTIVATED TB CASESNORTHWEST TERRITORIES - 1977

ZONE	NEW CASES	REACTIVATED CASES	TOTAL
MACKENZIE	39	1	40
INUVIK	4	-	4
KEEWATIN	-	-	-
BAFFIN	7	6	13
TOTAL	50	7	57

CASE FINDING METHODSNORTHWEST TERRITORIES - 1977

ZONE	COMMUNITY SURVEYS	REFERRED FILMS	LABORATORY	TOTAL
MACKENZIE	1 2.5%	8 20.0%	31 77.5%	40
INUVIK	-	1 25.0%	3 75.0%	4
KEEWATIN	-	-	-	-
BAFFIN	-	3 23.0%	10 77.0%	13
TOTAL	1 1.5%	12 21.0%	44 77.5%	57

NORTHWEST TERRITORIES - 1977

	FAR ADVANCED	MODERATELY ADVANCED	MINIMAL	PRIMARY	PLEURISY	MILIARY	EXTRA- PULMONARY	TOTAL
NEW CASES	2	4	8	25	1	1	9	50
% OF TOTAL	4%	8%	16%	50%	2%	2%	18%	100%
REACTIVATED CASES	2	2	3	-	-	-	-	7
% OF TOTAL	29%	29%	42%	-	-	-	-	100%

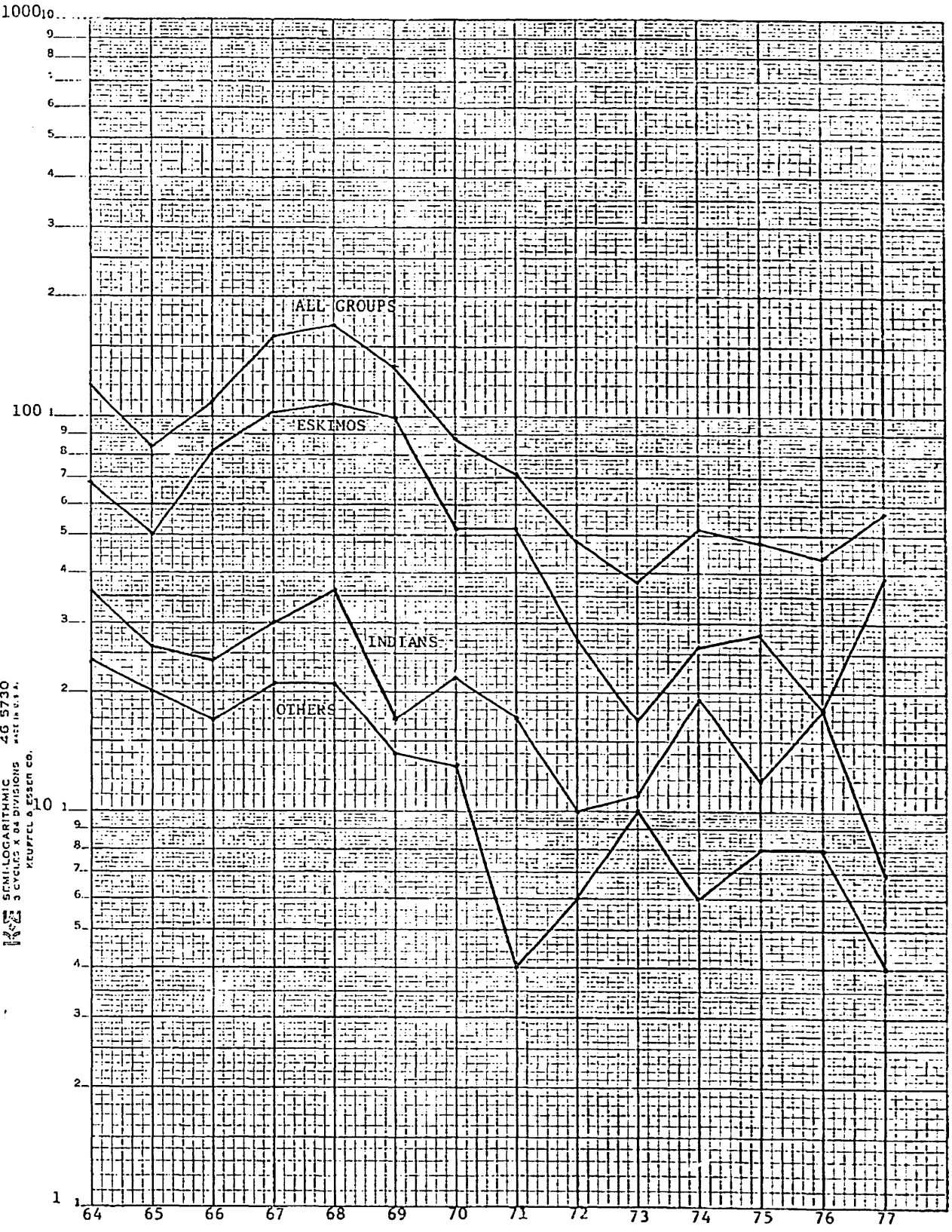
NEW AND REACTIVATED CASES OF TUBERCULOSIS

BY AGE, SEX AND RACIAL ORIGIN

NORTHWEST TERRITORIES - 1977

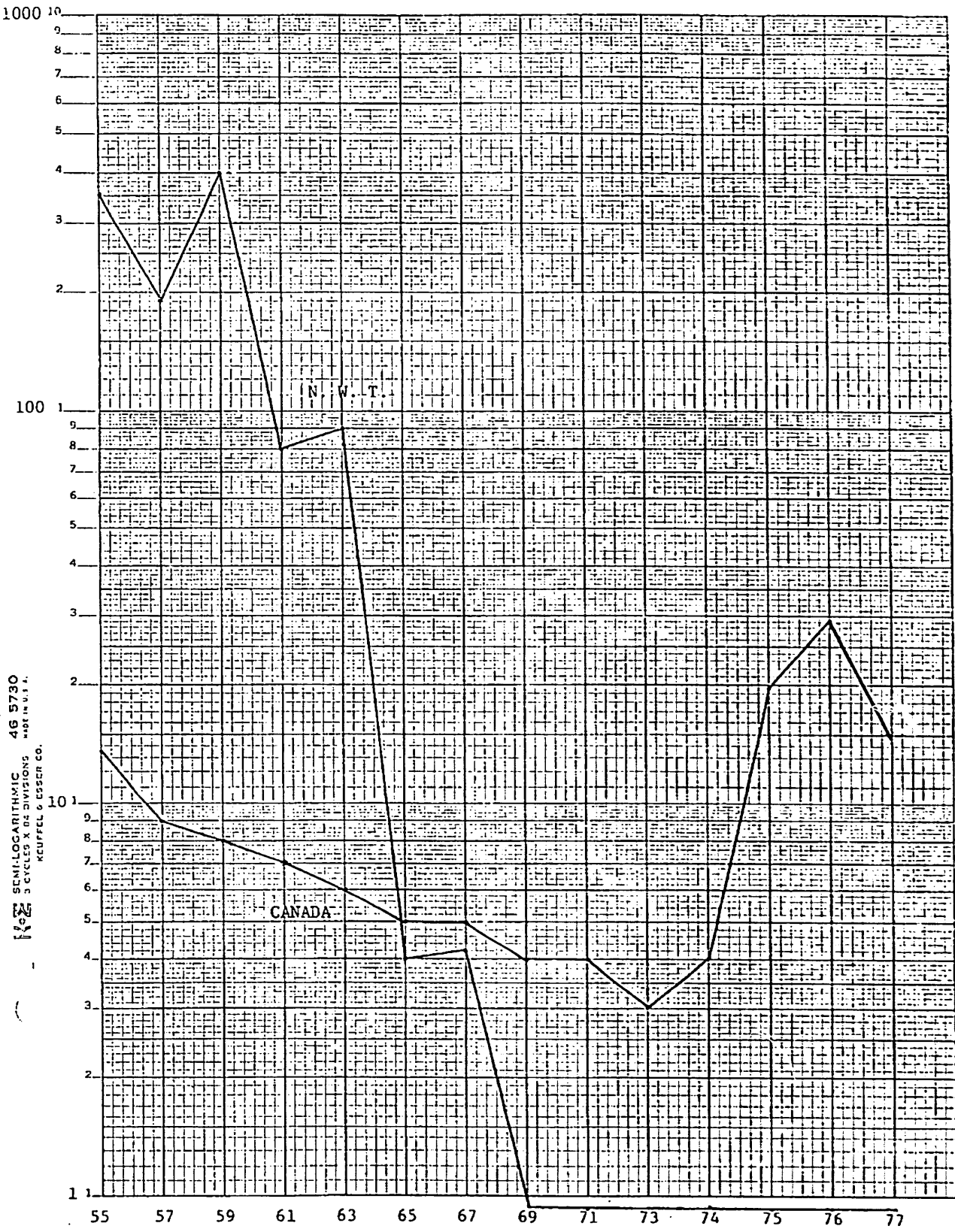
AGE GROUP	TOTAL			INDIANS			ESKIMOS			OTHERS		
	T	M	F	T	M	F	T	M	F	T	M	F
0 - 4	1	-	1	1	-	1	-	-	-	-	-	-
5 - 9	6	3	3	5	3	2	1	-	1	-	-	-
10 - 14	15	6	9	11	5	6	3	-	3	1	1	-
15 - 19	8	5	3	7	4	3	1	1	-	-	-	-
20 - 24	5	1	4	3	-	3	1	1	-	1	-	1
25 - 29	3	1	2	-	-	-	3	1	2	-	-	-
30 - 49	12	3	9	8	2	6	3	-	3	1	1	-
50 - 69	4	3	1	2	2	-	1	-	1	1	1	-
70 & Over	3	-	3	3	-	3	-	-	-	-	-	-
TOTAL	57	22	35	30	16	24	13	3	10	4	3	1

NEW ACTIVE CASES OF TUBERCULOSIS - N.W.T.



45 5730
 SEMI-LOGARITHMIC
 3 CYCLES X 04 DIVISIONS
 KEUFFEL & ESSER CO.

TUBERCULOSIS DEATH RATE PER 100,000 POPULATION - N.W.T.

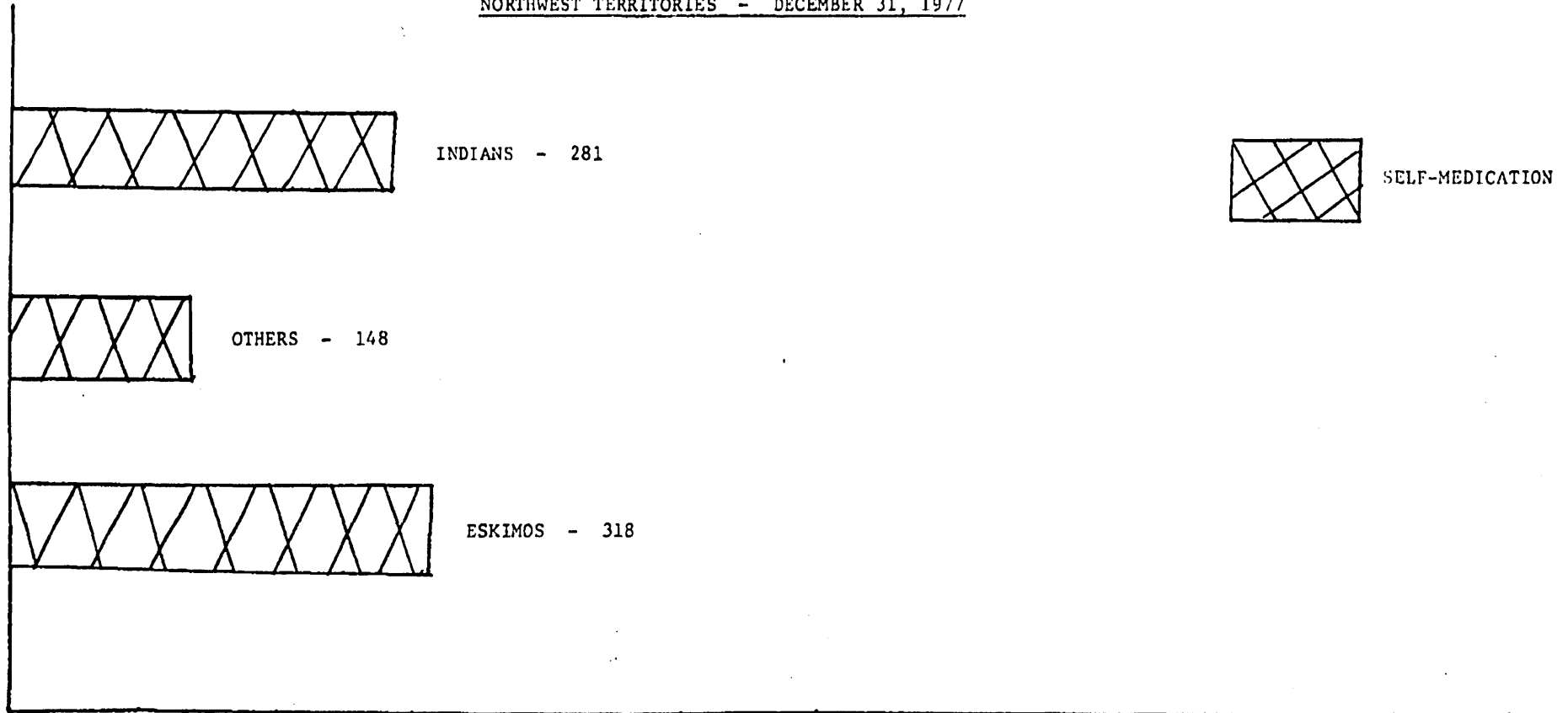


46 5730
 SEMI-LOGARITHMIC
 5 CYCLES X 104 DIVISIONS
 MADE IN U.S.A.
 KEUFFEL & ESSER CO.

TREATMENT AT HOME

PREVENTION AND TREATMENT OF TUBERCULOSIS (CHEMOTHERAPY AND CHEMOPROPHYLAXIS)

NORTHWEST TERRITORIES - DECEMBER 31, 1977



MENTAL HEALTH PROGRAMResident Psychiatric Services

1977 was highlighted by problems in recruitment and staff turnover. During 1977 the full complement of mental health personnel together with vacancies was as follows:

(a) Mackenzie Zone:

The Zone Psychiatrist was based in Yellowknife and travelled throughout Mackenzie Zone to all of the major centres, providing a basic consulting service.

The Zone Psychologist, also based in Yellowknife, departed from the Northwest Territories in 1977 and at the present time this position is vacant although a replacement has been hired effective the summer of 1978. Recruitment of a qualified Clinical Psychologist is difficult.

Mental Health Nurse - The mental health nurse left the Northwest Territories in 1977 but a replacement has been working out of Yellowknife since the fall of 1977.

(b) Inuvik Zone: The mental health nurse in Inuvik left in 1977 and to date we have been unsuccessful in filling this position although the position has been widely advertised and several interview boards have been held.

(c) Baffin Zone:

The position for mental health nurse in Frobisher Bay is still vacant even though this position was very widely advertised and several candidates were interviewed.

We are experiencing great difficulties in recruiting a suitably qualified mental health nurse and in order to circumvent some of these problems an application has been made for reclassification of this position, thus making the position more attractive and allowing a broader selection of candidates than is possible with a rigid nursing classification. We are hopeful that this manoeuvre will enable us to fill our vacant positions in 1978.

Visiting Psychiatric Services

Mackenzie Zone is of course serviced by the mental health team based in Yellowknife. Baffin Zone is provided with visiting psychiatric services from the Clarke Institute of Psychiatry in Toronto. A formal agreement exists between Medical Services and the Clark Institute of Psychiatry. Keewatin Zone is provided with visiting psychiatric services by the University of Manitoba and this is part of the contract between Medical Services and the University of Manitoba. Inuvik Zone is provided with visiting psychiatric services by the Regional Mental Health Consultant.

We continue to be extremely fortunate in being able to maintain continuity of service, as the visiting psychiatrists have a personal commitment to continue servicing the Northwest Territories. Such continuity is of course essential in the provision of a mental health program.

Mental Health Statistics

Suicides

The total number of suicides in the Northwest Territories in 1977 was 12. The breakdown of the suicides is as follows:

Sex:

Male - 12

Female - 0

Ethnic Group :

Inuit - 4

Indian Status - 3

Other - 5

Mode of Suicide:

Gunshot Wounds - 10

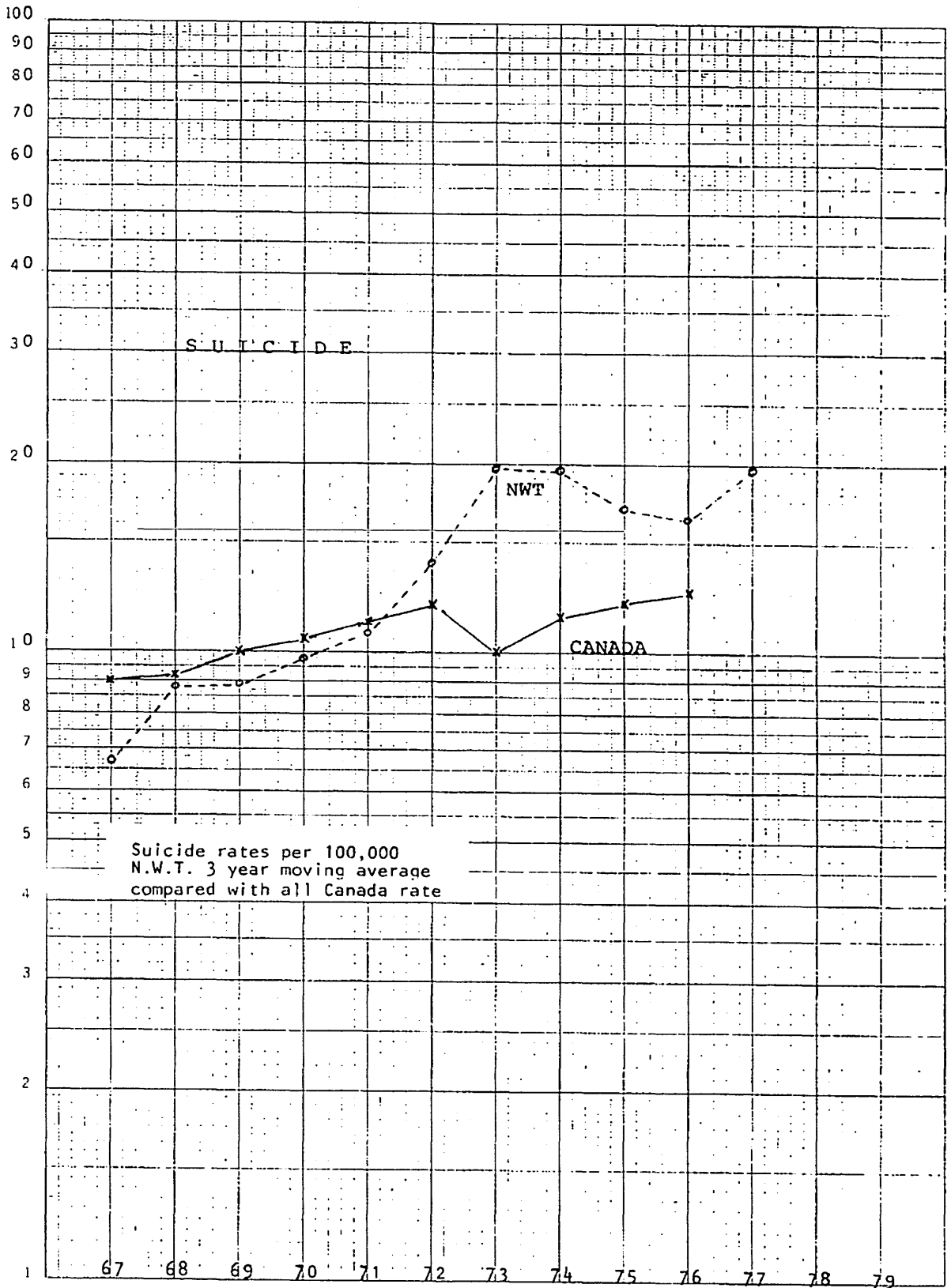
Carbon Monoxide Poisoning - 1

Overdose of Drugs - 1

Age of Suicide Range:

19 - 44 years (average age 23 years)

It is highly significant that all of the suicides occurred in males and that the vast majority were from gunshot wounds. These two factors are closely associated in most studies and no doubt reflect the accessibility of firearms that occurs in the Northwest Territories. The involvement of alcohol in these suicides is not documented on death certificates and previously available information in this area from the Royal Canadian Mounted Police is no longer available. However, it would be a very fair guess that a large number of suicides were alcohol related.



NATIVE ALCOHOL ABUSE PROGRAM

This program has been active ever since 1976 when a Consultant in native alcohol problems came on staff. One of the major responsibilities of the Consultant is to facilitate the functioning of the Native Alcohol Abuse Program. This program has been initiated jointly by the Department of National Health and Welfare and the Department of Indian Affairs and Northern Development and provides funds for locally sponsored and locally run alcohol programs.

The Consultant has travelled to many settlements in the Northwest Territories on invitation, to discuss local alcohol problems and to assist communities in formulating ideas for proposals for programs to combat alcohol problems. Proposals from the communities are then forwarded to the Regional Board which reviews them and makes recommendations to the National Board in Ottawa.

In the Northwest Territories a special agreement has been reached between the Commissioner of the Northwest Territories and the Minister of National Health and Welfare whereby the Alcohol Coordinating Council of the Northwest Territories functions as a Regional Board for the Native Alcohol Abuse Program.

By working closely with the Alcohol Coordinating Council, of the Northwest Territories, it is hoped that there can be a good coordination between the Native Alcohol Abuse Program and the Alcohol Program of the Government of the Northwest Territories.

Quite apart from the Consultant's responsibilities as regards funding, the Consultant has also been involved in 1977 in the area of alcohol education both within the Department of National Health and Welfare where he has played an active role in the Community Health Representative Training Program and in other areas such as schools.

In the past year funds have been made available through the Native Alcohol Abuse Program for programs in the following centres:

Fort Smith	Fort Good Hope
Grise Fiord	Pond Inlet
Fort McPherson	Fort Providence
Resolute Bay	Fort Franklin
Yellowknife	

HEALTH EDUCATION

The objective of the health education activity in the Northwest Territories Region is to improve knowledge and understanding of health matters so that all people in the North will accept the responsibility for improving their health status and will be motivated to observe the personal and community practices conducive to physical, mental and social health.

To achieve this objective Northwest Territories Region employs two Regional Health Educators. One Health Educator is responsible for the Mackenzie and Inuvik Zones, the other for the Keewatin and Baffin Zones. For more than half of the year Northwest Territories Region was without one of its Health Educators. The responsibility of the staff is to provide consultative services in health education and audio-visual resources to the Region and Zones.

The Health Education Program was strengthened by the recruitment and training of a second class of Community Health Representatives in 1977. Inuvik and Mackenzie Zone's Community Health Representatives received the first part of their training in Yellowknife; Baffin and Keewatin Zone's Community Health Representatives received theirs in Pangnirtung in March and in Baker Lake in October. New for both courses was the Home Nursing Course provided by the St. John Ambulance Society.

Unique in this year's training of Community Health Representatives was having conferences as part of their course. At the end of December there were 26 Community Health Representatives in the Northwest Territories Region, 17 of them new recruits.

The Audio-Visual Resource Centre at Region was increasingly utilized though the year. A new program of the Centre is to start providing video copies on the most needed subject areas to each nursing station and health centre to offset distribution problems. Special emphasis was given to pre-natal and post-natal material, in cooperation with the Regional Nursing Officer, Maternal and Child Health.

The Community Health Representatives continued making appropriate health education materials for their own communities, and sharing these with other places through the Regional Audio-Visual Centre. There is a continued emphasis on having materials produced in the local language of any area as needed.

There was continued distribution, on a limited scale, of the staff bulletin "V.I.P." and of the "Northern Health Abstract". "How To Teach", which was formerly an occasional newsletter for the Community Health Representatives, is now distributed to all nursing stations and health centres to spread the successful teaching and program ideas of the Community Health Representatives and to give support to health education and community projects, particularly those of health committees.

NUTRITION

The Northwest Territories Region now employs two Regional Nutritionists, each responsible for the development of nutrition programs in two Zones. This increase in personnel at Region and a corresponding increase within the Government of the Northwest Territories has greatly increased the number of nutrition programs possible and the need to promote close cooperation between agencies and departments. The Coordinating Committee for Nutrition, established in May 1976, continues to meet on a regular basis to exchange information and to co-ordinate specific nutrition programs. In addition contacts are maintained with both Federal and Territorial consultants and educators in the field and occasionally joint programs are delivered. The Regional Nutritionist, Inuvik and Mackenzie Zones, was also invited to participate in the Teacher's Conference held in Yellowknife.

The Regional Nutritionists continue to provide inservice education, related to nutrition, to the medical and dietary personnel in the Frobisher Bay, Inuvik, Fort Simpson and Edzo Hospitals. They also participated in and were available to provide inservice education at the Zone Nursing Conferences.

Requests to visit various communities throughout the Region, and the Inuit Nutrition Workshop held in Baker Lake continue to underline the emphasis which is being placed on the preventive approach to health through nutrition education. At the same time, within these communities the Nurses, Community Health Representatives, Health Committees, Teachers and Home Management and Adult Educators are being involved in a co-operative approach to nutrition programs.

The Infant Nutrition Committee for the Northwest Territories has circulated for comments the first draft of the Guidelines for Infant Nutrition.

The quantity and quality of food supplies varies seasonally and from community to community in the Northwest Territories. This factor and the high cost of store foods pose important problems which have become the basis for the development of several nutrition programs for individuals with special delivery problems and for families.

The vitamin and mineral supplement program, jointly funded by the Federal and Territorial governments, has become more generally accepted in the past year. An active awareness program, initiated at the request of the Department of Education, continues with the involvement of both the Regional Nutritionists and the Nurses.

Prenatal and Infant Nutrition, including the continued emphasis on breastfeeding remain high priorities of the nutrition program.

EMERGENCY HEALTH

Through a joint project of Emergency Health Services, Emergency Planning Canada, and Health and Welfare Canada, airport disaster kits are presently being placed at all "B" and "C" class airports and airstrips in the Northwest Territories. Once distribution is complete and locations documented, Zone Directors will be responsible for regular inspections to ensure that the kits are complete.

During meetings and discussions with Emergency Health Services, the Armed Forces, and the Government of the Northwest Territories (Northern Air Crash Casualty Evacuation) procedures for back loading casualties from the North in the event of a major air crash have been coordinated.

Casualty collection units have been placed at all "A" class airport locations, documented and inventory checked.

Survival kits are maintained at all nursing stations for the use of staff personnel and accompanied medical evacuees on both scheduled and chartered flights.

EMERGENCY PLANNING - REMISSION ORDER

Implementation procedures have been established at the request of Revenue Canada regarding imported goods for emergency use.

Use of the procedures will facilitate the clearance of emergency shipments of goods regulated under the Food and Drug Act and Radiation Emitting Devices required for an emergency situation beyond the capabilities of local resources.

MEDICAL RESEARCH

The staff remained at two plus one secretary/typist.

Activities included:

A health and nutrition survey in the town of Inuvik. Data was collected on representatives of all three ethnic groups, but with prior emphasis on Indian and Inuit.

A similar format was used to that in the Arctic Bay Study of 1976 enabling a comparison between a relatively urbanized and a settlement population.

The Northwest Territories Mercury Survey was continued so that by the end of 1977 all but three or four communities had been sampled. However, results had been received from only about one third of the total.

In two communities in which above average (for the Northwest Territories) levels of mercury were encountered a routine antenatal survey was instituted with the aim of identifying at risk fetuses. To the end of the year this had been a non-productive exercise, but is being continued.

The planned seal liver toxicity study using experimental cats was completed on schedule. Analysis data was incomplete as of December 31, but results gathered to that date gave no indications of toxicity resultant from the high intake of mercury - containing seal liver. Final documentation of this study will be completed in 1978. A follow-up study is planned for 1978.

There was some involvement with the Canadian Public Health Association Task Force Study of Arsenic in the Yellowknife environment and much effort went into the collection of documents for study by the Task Force. There is continuing involvement of the Northern Medical Research Unit following conclusion of the Task Force activities.

The projected Circumpolar Health Conference at Novosibirsk continued to provide extra work as did participation in committees preparing the report on the Perinatal Infant Morbidity and Mortality Study and writing a new chapter on Infant Nutrition in the Guide for Nurses. A parasitological diagnostic and consultant service has been continued.

The unit has continued to cooperate with government departments and universities to the greatest extent possible, and indeed has received great benefit from such cooperation in many of our activities.

Participation in Zone Conferences and Nurse Practitioner Courses has maintained liaison with the treatment and public health staff of the Northwest Territories Region, and much time is devoted to the answering of mail inquiries from the field and from outside the service.

ENVIRONMENTAL CONTAMINANTS

The Environmental Contaminants Program is operated as a part of the duties of the Northern Medical Research Unit. A close liaison is maintained with the Northwest Territories Environmental Contaminants Coordinator and the Tripartite Committee on Environmental Contaminants; with constant interchange of relevant information.

During 1977 Medical Services has:

1. Completed a sampling of permanent communities of the Northwest Territories.
2. Completed an experimental project designed to investigate possible mercury toxicity from seal liver consumption.
3. Collected data on mercury levels in polar bears (the other major food chain apex in the fish - seal - carnivore system), to give an index of mercury levels across the Northwest Territories in an unchanging system (as compared with the fish - seal - man system which is changeable).
4. Collected data on mercury and selenium levels in seal liver in the Holman Island area.
5. Collected some data on cadmium, zinc, lead and metallothionein levels in seal livers.
6. Completed an investigation of cadmium levels in the inhabitants of Arctic Bay, and in the process identified a significant source of error in the laboratory determination of cadmium.
7. Maintained a watching brief over the Yellowknife arsenic problem and assisted the Canadian Public Health Association Task Force with the collection of data.
8. Provided data for other departments of the government and for the Department of Environment compilation of mercury data.
9. Attended all meetings held in Yellowknife of the Tripartite Committee on Environmental Contaminants and the Committee on Arsenic.
10. Compiled and forwarded regular progress reports on various phases of the program to Medical Services Branch and to the Tripartite Committee.
11. Advised through the settlement nurses all participants of the results of their individual assay results.

12. Provided each settlement council with a compilation of their results, but omitting names of individuals.
13. Followed up on all persons found to have hair mercury levels in excess of the defined "hazard" level of 30 p.p.m.

Finally the research unit has tried to maintain a balanced viewpoint of potential changes of mercury containing foodstuffs vis-a-vis the nutritional hazards of interference with an established way of life.

UNIVERSITY AND MAJOR SPECIALIST CONTRACTS

During 1977 Northwest Territories Region maintained the following major contracts:

1. With the University of Alberta for Specialist Services to Inuvik and Mackenzie Zones.
2. With the University of Manitoba for Specialist and General Practitioner Services to the Keewatin Zone.
3. With the University of McGill for Specialist Services to the Baffin Zone.
4. With the University of Toronto for the School of Dental Therapy in Fort Smith.
5. With the Clarke Institute of the University of Toronto for Psychiatric Services to the Baffin Zone.
6. With the Hay River Dental Clinic for Dental Services to the Mackenzie Zone.
7. With Dr. Sigstad for Orthodontic Services to Yellowknife.
8. With the Stanton Yellowknife Hospital for Ophthalmological Services to the Mackenzie Zone.

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8. $\int_{-\infty}^{\infty} \delta(x) dx = 1$ (The Dirac delta function is normalized to 1.)
7. $\int_{-\infty}^{\infty} \delta(x) x dx = 0$ (The Dirac delta function is centered at 0.)
6. $\int_{-\infty}^{\infty} \delta(x) x^2 dx = 0$ (The Dirac delta function is centered at 0.)