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REPORT

on

HEALTH CONDITIONS

in the

NORTHWEST TERRITORIES

1976

Chief Medical and Health Officer
Government of the Northwest Territories

INDEX

REPORT ON HEALTH CONDITIONS IN THE NORTHWEST TERRITORIES - 1976

VITAL STATISTICS

POPULATION:

1976 is the eleventh 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 conclusion as may be drawn from these changes.

Health conditions vary according to 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 for 1976 consists of:

	Indian	Eskimo	Other	Total
Number (Midyear)	7,745	14,513	17,100	39,358
Actual (Year End)	7,812	14,723	17,334	39,869
Percentage	19.59%	36.93%	43.48%	100.00%

For 1966 the equivalent figures were:

	Indian	Eskimo	Other	Total
Number	6,076	9,382	10,537	25,995
Percentage	23.4%	36.1%	40.5%	100.00%

The last group includes all but the two primary native peoples and includes the metis and is largely composed of White immigrants from the South. Whilst the population totals for the two native groups are felt to be reasonably accurate, the last, or "Other" group, having a large transient component may only be at the best a rough estimate of the true figure, most probably on the low side, since records of immigration and emigration are not available. The effect of a low estimate in any population group is to introduce an error in the denominator in statistical calculations which has the effect of artificially raising those various rates which are calculated on the basis of a total population. Since most rates are indicators of undesirable situations (death rates, disease rates, etc.),

the result is to paint a picture slightly worse than in actual fact.

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 9,382 in 1966 to 14,723 in 1976 gives a net increase of 5,341. This gives an increase of 57%. 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 in 5.7% is probably one of the highest in the world.

The net increase in the Indian population is 1,736 for the past 10 years, or 28.6%, giving an annual increase over the past 10 years of 2.8%, roughly half the Eskimo rate.

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 remained almost constant over a 10 year span, whilst the Indian proportion has increased by roughly 3% and the Others have dropped by an equivalent amount. These last findings are a reversal from last year's statistics.

LIVEBIRTHS:

The livebirth rates per 1000 population were:

Indian	Eskimo	Others	All Groups
24.1	36.1	31.5	31.8

The corresponding figures for 1966 were:

37.9	54.4	28.2	40.0

For Indians this shows a marked drop during the past 10 years with a continuing drop since last year. For Eskimos as well it shows a similar drop for the past 10 years however there is a reversal to an increase since last year. For Others there is a slight increase over the past 10 years. Taking all groups together the figures still show a substantial drop over the past 10 years, however this drop is less pronounced than shown by the statistics of last year, suggesting a leveling off in the figures.

SEX RATIO AT BIRTH:

	1976	1975	1974	1973	1972	1966
Indians	908	850	1282	1097	1175	1069
Eskimos	1079	877	1371	1223	1017	1004
Others	1030	970	931	1140	992	1089

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

Indians	1034
Eskimos	1137
Others	1017
All Groups	1062

These figures are similar to the national average, the last available figures for which was 1061 in 1973.

BIRTH WEIGHTS:

Average birth weights for the three groups were as follows:

	INDIANS		ESKIMOS		OTHERS	
	Male	Female	Male	Female	Male	Female
1972	7.27 (3.30)	6.99 (3.18)	7.12 (3.24)	6.88 (3.13)	7.66 (3.48)	7.22 (3.28)
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)

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:

	INDIAN	ESKIMO	OTHER	ALL GROUPS	CANADA 1971
1974	8.9	8.58	4.98	7.01	
1975	13.1	5.4	3.8	6.0	6.8
1976	12.8	6.6	5.2	6.9	
Average	11.6	6.86	4.6		

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, more markedly so for the last two years. 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	2	Eskimo	4	Other 6

STILLBIRTHS:

1976	Indian	1	Eskimo	4	Other 4
1975	Indian	5	Eskimo	4	Other 7
1965	Indian	2	Eskimo	8	Other 4

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

HOSPITALIZED BIRTHS:

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

	Indian	98.4	Eskimo	98.4	Other 99.2

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:

	INDIAN	ESKIMO	OTHER	CANADA (1973)
Under 20	25.13%	26.90%	12.03%	12.02%
20 - 24	31.55%	30.15%	36.66%	33.65%
25 - 29	17.11%	21.56%	36.04%	34.34%
30 - 34	14.43%	13.54%	9.44%	13.92%
35 - 39	8.55%	4.77%	4.07%	4.68%
40 - 44	2.67%	1.71%	1.29%	1.17%
45 +	0	0.57%	0	0.73%
Not Stated	0	0.76%	0	0.12%

The trend noted last year 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 continued, whilst 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 expression.

BIRTH ORDER:

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

	INDIAN	ESKIMO	OTHER
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 1976 there were 155 births outside the Territories. This accounted for 12.39% of the total births. The comparative figures for 1975 were 14.63%, for 1974 11.18% and for 1973 14.4%.

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 most reason for concern.

TABLE I

NORTHWEST TERRITORIES

Vital Statistics - 1976

	INDIANS 1976 POP. 7812 (7745)				ESKIMOS 1976 POP. 14,723 (14,513)				OTHERS 1976 POP. 17,334 (17,100)				ALL GROUPS 1976 POP. 39,869 (39,358)				ALL CANADA
	1976		1975	1974	1976		1975	1974	1976		1975	1974	1976		1975	1974	1974
	NO.	RATE	RATE	RATE	NO.	RATE	RATE	RATE	NO.	RATE	RATE	RATE	NO.	RATE	RATE	RATE	
Livebirths (a)	187	24.1	26.0	23.6	524	36.1	32.4	28.4	540	31.5	32.4	29.3	1251	31.8	31.2	27.8	15.4
Illegitimate Live Births (b)	100	53.5	54.0	49.4	204	38.9	36.6	29.0	105	19.4	21.1	20.3	409	32.7	32.5	28.4	-
Livebirths born in Hosps, and N/S (c)	184	98.4	98.9	97.8	516	98.4	97.8	98.9	536	99.2	99.0	99.0	1236	98.8	98.5	98.0	99.7
Low Birth Weight Infants (d)	24	12.8	13.1	8.9	35	6.6	5.4	8.6	28	5.1	3.8	5.0	87	6.9	6.0	7.0	-
Stillbirths (e)	1	5.3	25.2	0	4	7.6	8.7	20.2	4	7.4	12.9	12.4	9	7.1	13.3	13.2	7.5
Perinatal Deaths (f)	4	21.3	64.0	16.8	8	15.1	19.4	49.5	13	23.8	18.2	24.6	25	19.8	26.4	33.2	16.7
Neonatal Deaths (0-28 days) (g)	3	16.0	40.4	16.8	7	13.3	17.4	40.4	9	16.6	9.2	12.4	19	15.2	17.5	23.7	10.1
Post Neonatal Deaths (29-365 days) (h)	8	42.8	25.2	28.1	14	26.7	30.5	30.3	2	3.7	3.7	6.2	24	19.2	17.5	18.9	4.9
Infant Deaths (under 1 year) (i)	11	58.8	65.6	44.9	21	40.1	48.0	70.7	11	20.3	12.9	18.7	43	34.4	35.1	42.6	15.0
Total Deaths (Crude Death Rate) (j)	53	6.8	6.9	6.2	103	7.1	6.1	6.7	73	4.2	3.4	4.5	229	5.8	5.1	5.7	7.4
Deaths in Hospitals and N/S (k)	26	49.0	62.2	65.9	48	46.6	52.8	48.9	42	57.5	45.6	58.6	116	50.4	53.2	56.0	-
Natural Increase (l)	134	17.3	19.0	17.4	421	29.0	26.2	21.6	467	27.3	29.0	24.7	1022	25.9	26.0	22.3	8.0
Maternal Deaths (m)	0	0	0	0	0	0	21.8	25.5	0	0	0	0	0	0	8.3	9.5	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.

TABLE II

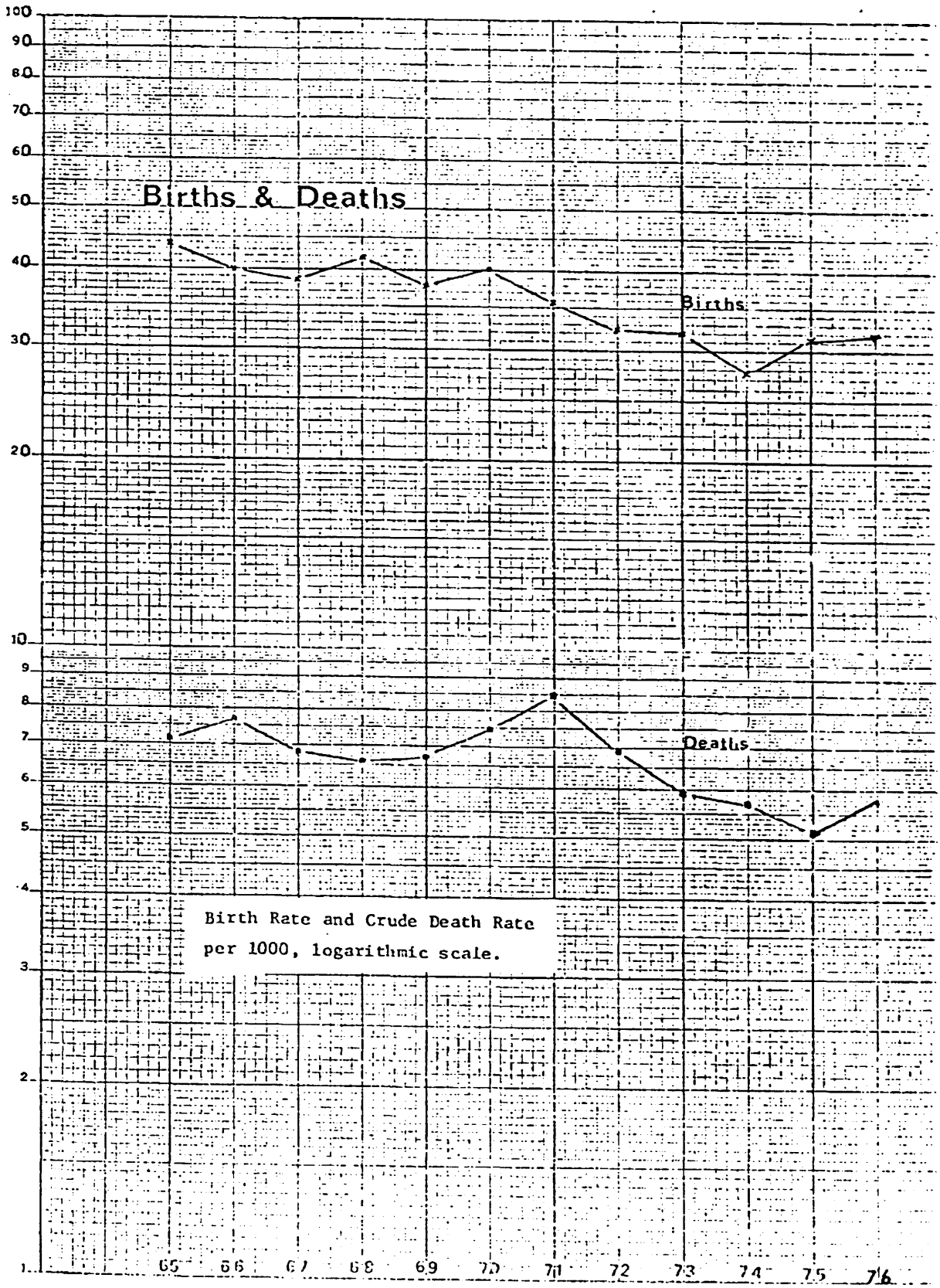
NORTHWEST TERRITORIES - 1976

Vital Statistics in Zones

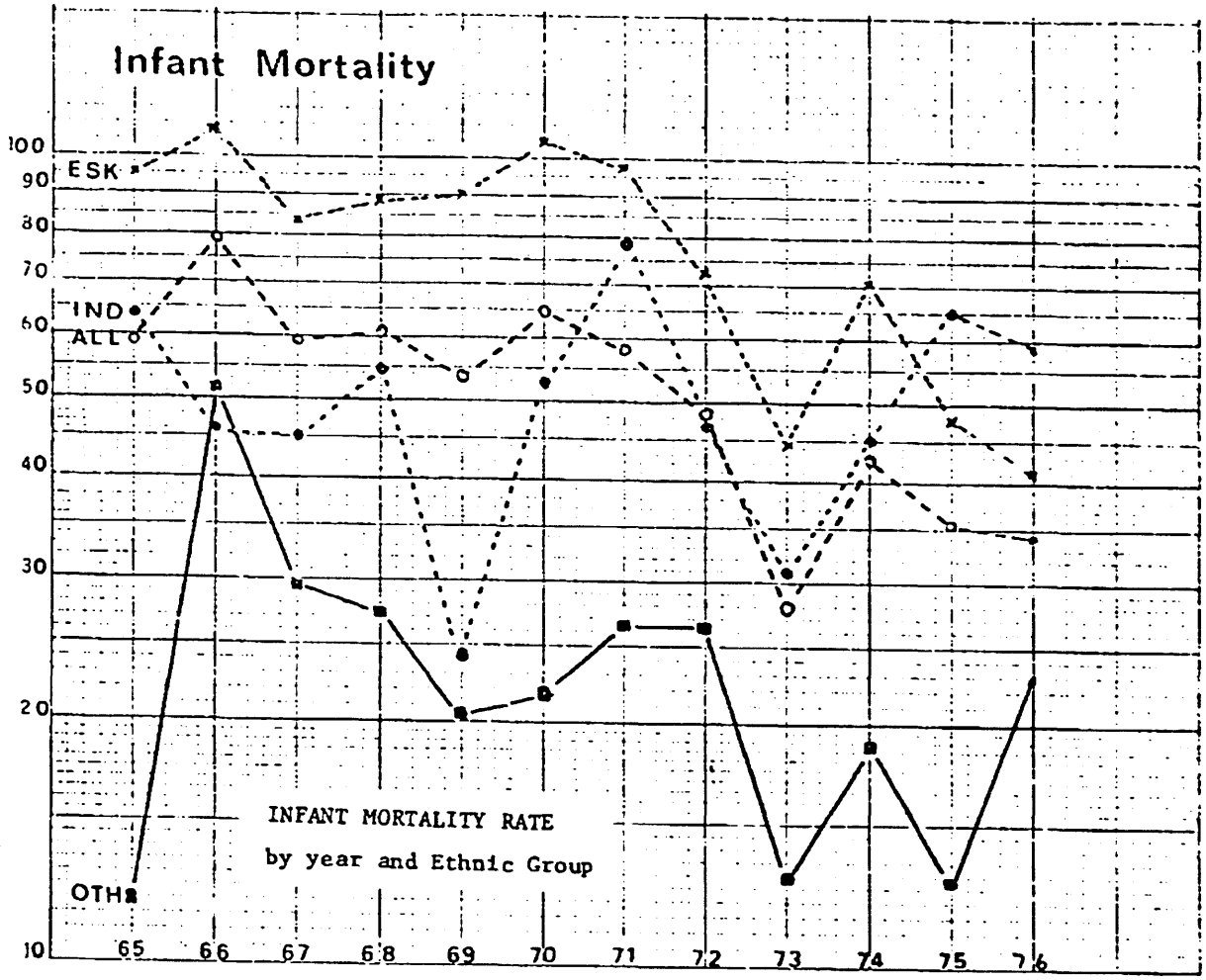
	Mackenzie Zone						Inuvik Zone						Keewatin Zone				Baffin Zone			
	Indians		Eskimos		Others		Indians		Eskimos		Others		Eskimos		Others		Eskimos		Others	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
*	5389		2704		13431		2356		2171		2083		3705		436		5933		1150	
Livebirths (a)	134	24.8	90	33.3	384	28.6	53	22.4	54	24.8	101	48.4	90	24.9	18	41.2	290	48.8	37	32.1
Illegitimate Livebirths (b)	76	56.7	32	35.5	70	18.2	24	45.2	39	72.2	29	28.7	28	31.1	1	5.5	105	36.2	5	13.5
Births in Hosps. or N/S (c)	132	98.5	90	100.	381	99.2	52	98.1	52	96.3	101	100.	90	100.	18	100.	284	97.9	36	97.2
Low Birth Weight Infants (d)	16	11.9	4	4.4	17	4.4	9	16.9	3	5.5	8	7.9	8	8.8	1	5.5	20	6.7	2	5.4
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)	0	0	1	11.1	2	5.2	1	18.8	3	55.5	2	19.8	0	0	0	0	0	0	0	0
Perinatal Deaths (g)	2	14.9	1	10.9	8	20.7	2	37.0	4	70.1	5	48.5	2	22.2	0	0	1	3.4	0	0
Neonatal Deaths (h)	2	14.9	0	0	6	15.6	1	18.8	1	18.5	3	29.7	3	33.3	0	0	3	10.3	0	0
Post Neonatal Deaths (i)	5	37.3	6	66.6	1	2.6	3	56.6	2	37.0	1	9.9	1	11.1	0	0	5	17.2	0	0
Infant Deaths (j)	7	52.2	6	66.6	7	18.2	4	75.5	3	55.5	4	39.6	4	44.4	0	0	8	27.5	0	0
Total Deaths (k)	38	7.0	38	14.0	59	4.4	15	6.3	18	8.3	12	5.7	23	6.2	0	0	24	4.0	2	1.7
Deaths in Hosps. or N/S (l)	16	42.1	12	30.7	36	61.0	10	66.6	12	66.6	6	50.0	14	60.8	0	0	10	41.6	0	0
Natural Increase (m)	96	17.8	52	19.2	325	24.2	38	16.1	36	16.6	89	42.7	67	18.0	18	41.2	266	44.8	35	30.4

(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

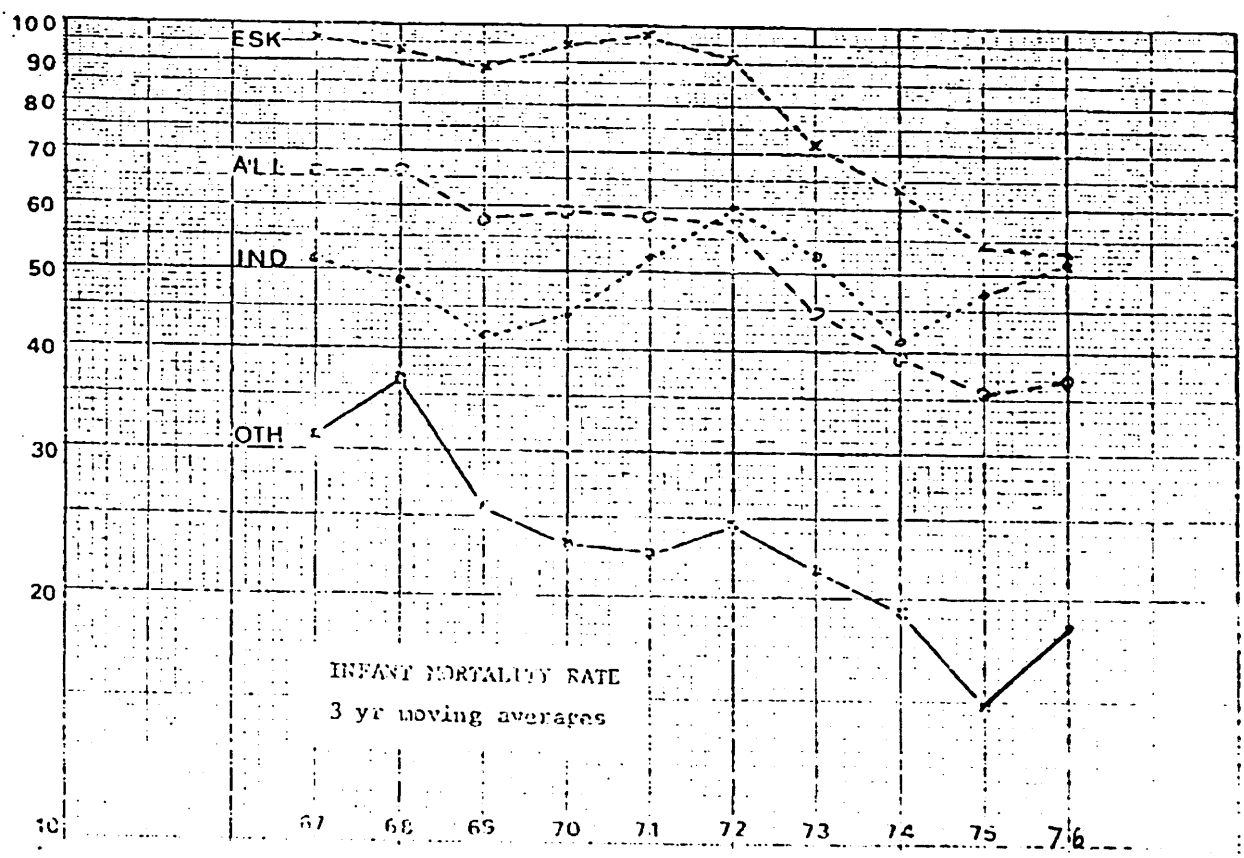
* Mid year population figures.



Birth Rate and Crude Death Rate per 1000, logarithmic scale.



(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.)



	INDIANS		ESKIMOS		OTHERS		ALL GROUPS	
Age Group	No.	%	No.	%	No.	%	No.	%
0 - 7 days	3	5.66	4	3.88	9	12.32	16	6.98
8 - 28 days	-	-	3	2.91	-	-	3	1.31
29 - 365 days	8	15.09	14	13.59	2	2.73	24	10.40
1 - 4 years	2	3.77	6	5.82	-	-	8	3.49
5 - 9 "	2	3.77	6	5.82	3	4.10	11	4.80
10 - 14 "	2	3.77	4	3.88	2	2.73	8	3.49
15 - 19 "	2	3.77	3	2.91	1	1.36	6	2.62
20 - 29 "	6	11.32	8	7.76	3	4.10	17	7.42
30 - 39 "	1	1.88	4	3.88	10	13.69	15	6.55
40 - 49 "	2	3.77	6	5.82	5	6.84	13	5.67
50 - 59 "	4	7.54	21	20.38	18	24.65	43	18.77
60 +	21	39.62	24	23.30	20	27.39	65	28.38
TOTAL	53		103		73		229	

CRUDE DEATH RATE:

The crude death rate this year is 5.8 and as compared with 7.4 for all of Canada is still a misleading statistic as pointed out in last year's report, resulting from a skewed population curve with an abnormal proportion in the young and young adult age groups.

PLACE OF DEATH:

50.4% of all deaths occurred in hospital or nursing station with the ethnic distribution as follows:

Indian 49.0% Eskimo 46.1% Others 57.5%

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 1976.

PERINATAL MORTALITY: (0 - 7 days plus stillbirths)

The perinatal mortality was again down from 1975 giving a figure of 19.8 for 1976. This improvement is particularly due to a reduction in the figure for Indians that had peaked unusually high for 1975.

NEONATAL MORTALITY: (0 - 28 days)

This figure again shows a continuing downward trend over the past three years now being at 15.2 for 1976.

POST NEONATAL MORTALITY: (29 - 365 days)

This figure is slightly up from last year to 19.2 (1975 it was 17.5) whereas last year's figures were poorest among Eskimos this year they are highest among Indians.

INFANT DEATHS: (under 1 year)

The total infant mortality is yet slightly down to 34.4 as compared to 35.1 last year, and down from 79.9 in 1966. The remarkable drop has been among the Eskimos to 40.1 from a figure of 157 in 1966 the year of establishment of Northern Health Region.

NATURAL INCREASE:

There has been no significant change in the rate of natural increase. The figure for this year was 25.9 as compared to 26.0 for 1975.

This is down from 38.4 in 1966.

CAUSES OF DEATH:

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

	No. of Deaths	Percentage of Total Deaths
Accidents, Injuries and Violence	77	33.62
Cardiovascular Disease	40	17.39
Malignant Neoplasm	32	13.91
Pneumonia	27	11.73
Diseases of Infancy	19	8.26
Diseases of Central Nervous System	13	5.65
Gastrointestinal Diseases	9	3.91
Senility, Unknown and Other Causes	12	5.2

The order of frequency stays exactly the same as in 1975 emphasizing even further the supremacy of pneumonia over diseases of infancy. Death due to accidents, injuries and violence are unfortunately up again from last year, by 42.6%.

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

	INDIANS		ESKIMOS		OTHERS		
	Male	Female	Male	Female	Male	Female	Total
Lung	1	-	2	6	3	-	12
Gastric	1	-	-	-	-	-	1
Intestinal	1	-	2	-	2	-	5
Prostate	-	-	-	-	-	-	-
Skin	-	-	-	-	-	-	-
Cervic (Uterine)	-	-	-	-	-	-	-
Parotid	-	-	-	-	-	-	-
Skeletal	-	-	-	-	-	-	-
Reticulo-Endothelial	-	-	-	-	-	-	-
Kidney (Genito-Urinary)	-	-	-	1	-	1	2
Generalized	-	1	-	1	1	-	3
Nasopharynx and Larynx	1	-	1	-	-	-	2
Breast	-	-	-	1	-	-	1
Other	-	-	1	2	3	-	6
Totals	4	1	6	11	9	1	32

DEATHS FROM ACCIDENTS, INJURIES, VIOLENCE, N.W.T. - 1976

	INDIANS	ESKIMO	OTHERS	TOTAL
Exposure	2	4	-	6
Drowning	3	3	5	11
Inhalation of Gastric Contents	2	2	-	4
Asphyxia	-	2	2	4
Suicide	2	4	2	8
Burns	-	10	-	10
Aircraft Crashes	-	-	5	5
Motor Vehicle Accidents	-	1	2	3
Poisons (Excluding Alcohol)	-	-	1	1
Gunshot Wounds (Accidental)	1	-	1	2
Homicide	5	1	0	6
Alcohol Poisoning	1	1	1	3
Others (Falls, Crushing)	2	1	2	5
Crib Deaths	3	5	1	9
Totals	21	34	22	77

TABLE III

Causes of Death by Ethnic Group and Selected Age Groups 1976

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 (BE 47-50)	77	-	3	1	1	2	6	5	3	21	2	7	2	5	1	9	8	-	34	-	1	-	2	1	9	9	-	22
Diseases of Infancy & Malformations (B41-44)	19	3	2	1	-	-	-	-	-	6	5	-	-	-	-	-	-	-	5	8	-	-	-	-	-	-	-	8
Cardiovascular Diseases (B24-29)	40	-	-	-	-	-	-	1	6	7	-	1	-	-	1	1	6	6	15	-	-	-	-	1	-	9	8	18
Pneumonia (B31)	20	-	2	-	-	-	-	1	5	8	-	5	2	-	-	-	1	1	9	1	-	-	-	-	-	1	1	3
Malignant Neoplasms (B18)	32	-	-	-	-	-	-	3	2	5	-	-	-	-	-	1	12	4	17	-	-	-	-	-	-	8	2	10
Senility, Unknown & Other Diseases (B45-46)	8	-	-	-	-	-	-	-	1	1	-	-	-	-	1	-	3	2	6	-	-	-	-	-	-	-	1	1
Diseases of the Nervous System (B22-23)	13	-	-	-	-	-	-	-	1	1	-	3	-	-	-	1	1	-	5	-	-	-	1	-	1	4	1	7
Gastrointestinal Diseases (B33-36)	9	-	1	-	1	-	1	-	-	3	-	-	-	-	1	-	2	1	4	-	1	-	-	-	-	1	-	2
Other Respiratory Diseases (B30 & 32)	7	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	5	1	7	-	-	-	-	-	-	-	-	-
Infective & Parasitic Diseases (B3-17)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cirrhosis of Liver & Hyperplasis of Prostate (B37-39)	4	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	2	-	2
Benign Neoplasms	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	229	3	8	2	2	2	8	10	18	53	7	16	4	6	4	12	38	16	103	9	2	-	3	2	10	34	13	73

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 all other 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 a major centre 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. Infants are seen regularly 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 at which examination, 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 breast feeding and avoidance of too early introduction of solid foods to the infant's diet.

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 begun to review, revise and consolidate our infant nutrition health education material for both health professionals and parents in an attempt to provide consistent guidelines.

The Special Care Register is proving to be a useful tool and further development of it's operation will take place.

The Report of the Northwest Territories Perinatal Infant Mortality and Morbidity Study is now expected for mid 1977. In anticipation of this report and to assist in implementing recommendations and to ensure an ongoing evaluation and high quality maternal and child health services a Maternal and Child Health Nurse Consultant will be appointed early in the new year.

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 only some do accept some 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 discovered defects may have 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.31/76	TERMINATED IN 1976	HIRED 1976	% OF TURNOVER
Baffin - field	32	11	12	12	37%
Frobisher Bay Hospital	19	2	9	7	47%
Inuvik - field	22	1	12	13	54%
Inuvik Hospital	28	7	13	9	46%
Keewatin	18	2	15	16	83%
Mackenzie	53	8	27	17	51%
Totals	172	31	88	74	51%

Educational leave for studies at the university level was granted to six nurses including 3 in bachelor's degree programs, 2 for diplomas in public health nursing and 1 in outpost nursing. Northwest Territories Region also sponsored 12 nurses for the Clinical Training for Nurses Courses making the total number of nurses trained in this specialty 72, of whom 29 remain in the Northwest Territories.

Of the 172 nurses employed at year's end, 28 had bachelor's degree in nursing, 20 had public health nursing certificates, 38 had midwifery or advanced obstetrics training, 8 had outpost nursing (midwifery and public health) and 2 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 three specialist surgeons, one specialist gynecologist and obstetrician, one orthopedic surgeon, 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 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 got five physicians of which one is a general practitioner surgeon and one a general practitioner anaesthetist. 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 contractural arrangement with the University of Manitoba by two of the six resident physicians in Churchill, Manitoba. Specialist services for the Northwest Territories are provided for 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 the University of McGill. In addition there is a contract for psychiatry services to Baffin through the Clark Institute of the University of Toronto.

The turnover of physicians, as always, was relatively high though recruitment posed no particular problems during 1976.

PUBLIC SERVICE HEALTH:

The number of medical assessments are still rising, now exceeding 1100, up 10.9% 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 on without prior medical clearance. Ultimately this is to their own detriment if unsuitable for isolated posting, and to 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.

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 in all Zones stayed stable. Admissions in the various Zones were as follows:

	ADMISSIONS	PATIENT DAYS
Baffin Zone	430	797
Inuvik Zone	232	367
Keewatin Zone	275	402
Mackenzie Zone	1046	3554
Regional Total	1983	5120

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 Environmental Health Officers.

The number of Environmental Health Officers employed throughout the Northwest Territories has now risen to 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. Some recent studies among Arctic Fox in Banks Island showed this to be as high as 7%. 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 Mr. Grainge, our Environmental Engineer and at the local level in Yellowknife through the Environmental Health Officers.

FACILITIES

BAFFIN ZONE:

Pond Inlet: A new nursing station has been completed and is in service in this community. This on site constructed building was erected in about four months and is a three nurse nursing station complete with diagnostic, treatment, dental and public health services as well as space for five adult and three pediatric beds. A full range of mechanical services are included in the building with considerable backup capabilities including emergency power plant.

Clyde River: An emergency power plant has been supplied to the station and is awaiting hookup once weather permits.

Grise Fiord: A self-contained emergency power plant is on site awaiting hookup, weather permitting.

Frobisher Bay: Roofing was completed on the hospital this year as lack of materials prevented completion of the re-roofing job the previous year.

Cape Dorset: The site has been readied for construction of a new station in the forthcoming year. Plans and specifications have also been completed for this station.

INUVIK ZONE:

Inuvik: Most of the problems encountered with takeover of the new hospital have now been rectified by the contractor.

Norman Wells: The site has been acquired and readied for construction of a new nursing station in the forthcoming year.

Fort McPherson: The leaking metal decking on the roof of this station has been replaced by a low slope shingled roof.

KEEWATIN ZONE:

Rankin Inlet: An emergency generator has been installed and placed into operation at this station.

Repulse Bay: A metal storage shed and an emergency power generator have been provided for this station and are in service.

Whale Cove: An emergency power generator has been provided and is in operation at this station.

Baker Lake: An emergency generator has been provided for this station and is awaiting hookup once weather permits.

Belcher Islands: An emergency generator is on site awaiting hookup when weather permits.

Chesterfield Inlet: A prefabricated two nurse nursing station complete with diagnostic and treatment facilities has been set up in this community. This station has three beds and has a full range of mechanical services including emergency power plant. Provision of a sewage pump-out truck by the community will allow the station to become fully functional in the summer of 1977.

Eskimo Point: Plans are now complete for a new addition and renovations to our old nursing station.

MACKENZIE ZONE:

Lac La Martre: A prefabricated building was supplied and installed in this community. It provides space for diagnostic, teaching and treatment as well as accommodation for a nurse.

Fort Rae: A prefabricated clinic building was provided and set up for use in this area.

Edzo: Plans have been prepared for construction of a ten bed nurse's residence to take place in the forthcoming year.

Gjoa Haven: An emergency generator has been supplied and installed in this station.

DENTAL SERVICES PROGRAM

Dental services were provided to the Northwest Territories through three agencies - private dentists with their offices in Yellowknife and Hay River, full time government employed dentists and graduates from the School of Dental Therapy in Fort Smith. There are two private dental practices in the Territories. The Yellowknife Clinic working out of Yellowknife and the Hay River Clinic working out of Hay River. Medical Services Branch had contractural arrangements with both these clinics during 1976 providing services to the Mackenzie Zone area. There are three full time government dentists stationed in Inuvik. The past year saw a considerable amount of problems in keeping these three positions staffed. However on a rotating basis the area has been adequately covered by locum dentists. Frobisher Bay has also got three full time government dentists who were on staff for the whole period of 1976. Keewatin Zone is allocated one position for dentistry. This position was mostly vacant throughout the past year. The dental staff work in conjunction with the dental therapists from the Fort Smith School of Dental Therapy providing treatment, planning and completing that work which is outside the therapist's training and capabilities. Over all 14,500 patients were treated by the combined dental staff in all facets of dentistry, ranging from preventive treatment to the placing of prosthetic appliances. The outlook for 1977 looks extremely bright. The contract with a visiting orthodontist from Edmonton to Yellowknife continued successfully throughout 1976.

DENTAL THERAPIST'S REPORT:

Established in 1972 this highly successful experiment in paradental health delivery has become a well accepted reality. Graduates from the School are now working throughout the Northwest Territories, the Yukon, British Columbia and in Manitoba.

Some therapists service more than one community through the formation of satellite clinics and as a more graduates become available, communities having no services will be accommodated until the proposed objective of 22 - 25 therapists for the Northwest Territories has been realized. Presently there are 11 therapists on location.

Although involved primarily with treatment, a main objective of

each therapist is an active preventative program. They are each supplied with a special kit and spend up to 20% of their time in public health oriented activities.

As a Regional Program, the School provides a consistent approach to delivering dental services under continuing supervision by the staff of the School of Dental Therapy, to ensure the highest standard of dental care. Zone Dental Officers will be given short courses to acquaint them with the standardization of the School of Dental Therapy which will assist them in their ability to supervise therapist's work. The administrative responsibilities for dental therapists are federal employees are carried out within the framework of the Zone.

In summary, the basic concepts of this program are standardization of procedure and methods, control of the professional work and the portable nature of the equipment. As the program has been totally accepted by the people who receive treatment, it's existence is more than justified in offering services to people who previously have been having limited access to this aspect of health.

During 1976 dental therapists performed the following procedures:

Examinations		2,564
X-rays		1,673
Restorations:	1 surface	4,647
	2 surface	2,571
	3 surface	930
	Multi surface	281
	Others	292
Extraction of Primary Teeth		1,034
Extraction of Permanent Teeth		1,967
Prophylaxis and Fluoride		2,888
Miscellaneous		990
Teaching		601

In addition to the above work by therapists, treatment was delivered by undergraduate students working in communities with instructors as part of their training experience.

PREVENTIVE PROGRAMME

This was the prime objective for 1976 but was only partially met. Up to 20% of the therapists time should be spent in the classroom and in preventive and public health oriented activities.

WORK PRODUCTIVITY INDEX

The School of Dental Therapy has developed a productivity index. This is a point system used for dentists based on a value of one unit of work every 15 minutes. Therefore, in a 7-hour work day, a dentist working with an assistant in appropriate facilities, would produce 28 units of work. It is expected that the therapists working without an assistant in restricted situations will produce about half of this score.

The 1976 indices show that on the average, therapists produced 16.8 units per day.

PRESENT TRAINING PROGRAMME

The present graduating class of 1977 includes 4 students from the Northwest Territories (one is sponsored by the N.W.T. and the other 3 have sponsored themselves), and one student sponsored by the Yukon Territory. There are also 6 students from the south who have sponsored themselves. A total of 11 will graduate in 1977. Six of these are expected to work in the Northwest Territories.

SUMMARY

Fundamental to the basic concept of this program are the principles of standardization of procedures and methods, standards of work quality, and portability of clinics. Providing these principles are maintained, the total concept will be established as a successful program of coordinating the delivery of dental service by dental therapists to people who previously had limited access to this aspect of health.

DENTAL THERAPIST FIELD REPORT - RESUME FOR 1976 - NORTHWEST TERRITORIES

Location	Exams		# of	Restorations							Surgery				Hrs.	Teaching
	Compl.	Recall	X-rays	1 Sur.	2 Sur.	3 Sur.	Mult.	Pin	Pulp.	Crown	Dec.	Perm.	Prophy	Fluoride	Misc.	Hrs. Prev.
Baker Lake	122	5	2	246	103	33	7	13			39	138	39	35	12	
Cambridge Bay	58	20	195	434	299	112	21	12	6	2	121	273	225	198	67	13
Chesterfield Inlet	14			28	31	7	3	11			41	51	9	9	13	7
Coppermine	158			75	9	51		2	1	1	44	24	70	67	16	20
Coral Harbour	70			29	18	3	1	2			28	51			5	
Eskimo Point	95	11	32	145	138	40	6	6	2		117	168	32	17	16	1
Fort Liard	22	16		69	55	12	2	2			17	21	64	26	4	2
Fort McPherson	170	75	85	459	224	33	17	9			75	115	103	16	58	30
Fort Resolution	43	15		120	75	22	7	2			11	69	28	8	29	6
Fort Simpson	389	260	955	897	596	167	60	59	4	10	86	184	578	402	248	70
J.B.T. School Fort Smith	78	103	220	74	89	27	16	7	3	1	16	42	134	48	69	50
Gjoa Haven		2		4	4	2	1				10	1	1		5	
Holman	24			32	29	3	5				15	17	28	21	8	7
Inuvik	277			697	283	54	22	22	30	2	56	35	7	5	24	
Jean Marie River	28		10	7							3	5	1		10	1
Nahanni Butte	59			63	24	7		2			4	2	54	45	1	6
Pangnirtung	135	13	103	477	267	109	56	44	10	12	100	352	69	42	196	157
Pelly Bay *																
Pond Inlet	142	92		926	319	215	48	7	3	3	85	129	142	78	76	170
Rankin Inlet	240			564	171	68	51	24	5	6	73	210	69	35	62	31
Repulse Bay	107		3	66	23	6	2	5			23	50		29	1	
Resolute Bay	33	35		107	50	47	14	8			19	32	50		57	13
Sanikiluaq	47			89	27	7	5	10			27	26			1	
Spence Bay *	4	26	18	54	57	18	1	1			11	17	77	2	18	9
Tuktoyaktuk	293	8	50	446	202	70	14	25	5		89	159	37	7	40	19
Wrigley	9	1		33	25	8		2			1	7	15	15	3	3
TOTALS:																

* Figures incomplete at time of printing

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 the perpetual constance. 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.

Unspecified Gastroenteritis has stayed roughly the same with Bacillary Dysentry having dropped by about one half, although it can be assumed that most of the former were undiagnosed cases of the latter.

The highest incidence of Shigellosis was concentrated in the Fort Rae and the densely settled areas of Yellowknife. The pattern again was that of a person to person spread with a higher than usual incidence of resistant organisms to all antibiotics. This tended to follow particularly cases treated with ampicillin. A lack of water and through it a rather poor personal hygiene are obvious contributing factors.

There has been a drastic increase in the number of isolations of toxigenic gravis type Diphtheria organisms almost exclusively from the Cambridge Bay area. The actual numbers of true clinical cases vary with the judgement of the individual examiners, one fact however remains indisputed, that the numbers are definitely up.

The incidence of Influenza-like infections right throughout the Northwest Territories increased from last year. Based on the limited number of viral studies made it can be assumed that the majority were Influenza-type B infections. Hepatitis has not showed any significant changes from last year. Evidence points towards a much higher incidence of Hepatitis B than previously suspected.

There were two outbreaks of Tularemia in Fort Resolution, associated with the skinning of infected rodents.

Of the 14 cases of Trichinosis reported, 13 occurred in Pangnirtung during May, all believed to be due to the consumption of infected polar bear meat.

Contrary to last year both cases of reported Rubella and Measles are down again. This should allay the fears expressed last year in relation to the immunization program.

During 1976 the Swine Flu Vaccination Program was actively pursued until it came to a sudden end due to untoward complications occurring in people in some other parts of the world. There has been not a single case of neurological complications attributable to Swine Flu Vaccine reported from the Northwest Territories.

DISEASE	Year	INUVIK	MACKENZIE	KEEWATIN	BAFFIN	TOTAL N.W.T.
Hepatitis	1976	7	97	61	8	173
Infections	1975	2	23	155	4	184
(A)	1974	10	43	142	370	565
Hepatitis	1976	0	11	0	0	11
Serum	1975	1	6	0	0	7
(B)	1974	2	1	1	0	4
Typhoid	1976	0	0	0	0	0
Fever	1975	0	0	0	0	0
	1974	1	0	0	0	1
Bacillary	1976	9	195	16	7	227
Dysentery	1975	50	53	248	99	450
	1974	54	39	0	4	97
Gastro-Enteritis						
	1976	6	484	15	92	597
(unspecified)	1975	125	94	34	410	663
	1974	15	54	99	14	182
Meningococcal	1976	0	1	2	1	4
Meningitis	1975	0	1	1	0	2
	1974	0	5	3	0	8
Salmonellosis	1976	0	6	0	2	8
	1975	2	15	2	2	21
	1974	0	28	0	0	28
Streptococcal	1976	208	656	99	107	1070
Sore Throat &	1975	87	671	67	194	1019
Scarlatina	1974	37	618	83	172	910
Sore Throat	1976	187	267	396	485	1335
(unspecified)	1975	10	286	580	298	1174
	1974	0	0	71	0	71
Measles	1976	14	16	7	5	42
	1975	23	52	6	57	138
	1974	50	49	9	11	119
Rubella	1976	32	11	19	6	68
	1975	34	54	2	13	103
	1974	14	15	4	25	58
Influenza-like	1976	314	4082+	606	1216	6218+
Infections	1975	155+	1169+	652	821+	2797+
	1974	39	490	920	760	2209

DISEASE	YEAR	INUVIK	MACKENZIE	KEEWATIN	BAFFIN	TOTAL -N.W.T.
Diphtheria	1976	1	17	0	0	18
	1975	6	0	0	0	6
	1974	0	2	0	0	2
Botulism	1976	0	0	0	0	
	1975	0	0	0	3	3
	1974	0	0	0	3	3
Whooping Cough (Figs.in parenthesis Pertussis-like syndrome)	1976	0	1	0	0	1
	1975	7	5	0	3 (26)	15 (26)
	1974	1	3	0	0	4
Tularaemia	1976	0	33	0	0	33
	1975	0	0	0	0	0
	1974	0	0	0	0	0
Trichinosis	1976	0	1	0	13	14
	1975	0	0	0	0	0
	1974	0	35	0	0	35

VENEREAL DISEASE

Once again the incidence of syphilis was low with only one primary and three latent 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 it's early incubating period, this may account for the persisting low incidence of syphilis in the presence of the high rate of gonorrhoea.

Confirmed cases of gonorrhoea during 1976 showed a decrease of 31%. Considering that an unknown number of cases went unreported during the mail strike late in 1975, this percentage decrease may even be higher. This in itself is most gratifying, should however in itself after one single year be viewed very cautiously.

The total number of patients treated (confirmed and unconfirmed) showed a reduction of 24% over 1975.

Over recent years the proportion of unconfirmed cases, in relation to the total cases of gonorrhoea treated, has been going progressively upwards. This is shown in the following table:

YEAR	NUMBER OF PATIENTS TREATED	UNCONFIRMED FOR GONORRHOEA
1971	1804	16%
1972	2147	19%
1973	3269	27%
1974	3351	40%
1975	3633	37%
1976	2750	43%

Thus the figures for 1976 do not only show an actual decrease in confirmed cases but also an increase in those treated who were unconfirmed for gonorrhoea.

Also since 1971 approximately 36% more contacts are being named per patient treated. In 1971 for every patient there has been one contact named. In 1972 1.17 contacts, 1973 1.33 contacts, in 1974 1.33 contacts, in 1975 1.35 contacts and in 1976 1.36 contacts.

The above figures reflect some success of our educational program, by getting more contacts, quicker to examination and treatment, thus possibly contributing to the present decrease in the total incidence of gonorrhoea.

It should be noted that during 1976 in the rest of Canada, some provinces showed another increase in the incidence of gonorrhoea whereas others stayed roughly the same as in the previous year.

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

The number of gonorrhoea contacts being sought, found and treated, decreased slightly from last year to 72%.

Venereal Disease Incidence 1976

Gonorrhoea cases have been divided statistically into two groups:

1. Confirmed - includes micro-positive and clinically accepted cases, with some exceptions for clinical cases in the towns of Yellowknife, Inuvik, Frobisher Bay and Fort Smith. Clinical cases which are not also micro-positive are not counted for this group if the laboratory work has been done in the local hospital laboratory. On occasions when the above four towns use a distant Provincial Laboratory, Clinical cases WILL be COUNTED as in other units in the Northwest Territories.
2. Unconfirmed - includes all suspected cases of gonorrhoea not included in 1.

Micro-positive and clinically diagnosed cases were reported weekly to Statistics Canada. Unconfirmed cases were not reported to Statistics Canada although it is believed, that a fair proportion of these cases but otherwise unconfirmed cases were positive for gonorrhoea.

Changes of Incidence of Gonorrhoea

1974	1975	1976	1976 changes from 1975
1999 Confirmed	2270 Confirmed	1546 Confirmed =	Decrease 31%
1352 Unconfirmed	1363 Unconfirmed	1204 Unconfirmed =	Decrease 11%
3351	3633	2750	Decrease 24%

Changes in Incidence of Gonorrhoea by Zone (Confirmed Cases)

	1974	1975	1976	1976 changes from 1975
Inuvik	640	792	564	= Decrease 28%
Mackenzie	855	918	671	= Decrease 26%
Keewatin	86	135	96	= Decrease 28%
Baffin	418	425	215	= Decrease 49%

Changes in Incidence of Gonorrhoea by Zone (Unconfirmed)

	1974	1975	1976	1976 changes from 1975
Inuvik	309	309	305	= Decrease 1%
Mackenzie	675	702	617	= Decrease 12%
Keewatin	51	56	78	= Decrease 39%
Baffin	317	296	215	= Decrease 31%

Changes in Incidence of Gonorrhoea by Zone (Confirmed and Unconfirmed Cases)

	1974	1975	1976	1976 changes from 1975
Inuvik	949	11011	869	= Decrease 21%
Mackenzie	1530	1620	1288	= Decrease 20%
Keewatin	137	191	174	= Decrease 8%
Baffin	735	721	419	= Decrease 41%

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CHANGES IN INCIDENCE OF GONORRHEA BY ZONE (Confirmed & Unconfirmed cases)

	1974	1975	1976	1976 change from 1975
Inuvik	949	11011	869	= Decrease 21%
Mackenzie	1530	1620	1288	= Decrease 20%
Keewatin	137	191	174	= Decrease 8%
Baffin	735	721	419	= Decrease 41%

GONORRHOEA BY SEX AND ETHNIC GROUP (Confirmed & unconfirmed,combined)

Indian		Eskimo		Other		Total		Total
M	F	M	F	M	F	M	F	
442	484	439	515	660	210	1541	1209	2750

GONORRHOEA INCIDENCE (Proportional) BY ETHNIC GROUP (Confirmed & Unconfirmed,Combined)

Indian	Eskimo	Other	Total
33.67%	34.69%	31.63%	2750
(31.32% 1975)	(39.77% 1975)	(28.9% 1975)	

GONORRHOEA INCIDENCE BY SEX AND AGE GROUP (Micro-positive and Clinical)

-1 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		1	4	14	191	183	332	172	214	96	180	52	73	31		1		1

TOTAL = 1546

GONORRHOEA INCIDENCE BY SEX AND AGE GROUP (Unconfirmed)

-1 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	1	18	90	247	194	182	119	89	92	75	48	45	3			

TOTAL = 1204

GONORRHOEA INCIDENCE BY SEX AND AGE GROUPS (All Categories, combined)

-1 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		2	5	32	281	430	526	354	333	185	272	127	121	76	3	1		1

TOTALS: Males 1541 (56.1%)

Females 1209 (43.9%)

2750 (Confirmed and unconfirmed, combined)

GONORRHOEA EPIDEMIOLOGY - (See also Appendix #1)

	No. of contacts Reported	No.of contacts Located & treated	Percentage Located & treated
Inuvik	1211	872	72%
Mackenzie	1566	1076	68%
Keewatin	313	230	73%
Baffin	568	437	76%
N.W.T. TOTAL	3658	2615	71%
(Outside Contacts)	(84)	(17)	(20%)

GONORRHOEA RATE PER 100,000 (Micro-positive & Clinical Diagnosis)

Based on a population of 39358 — Cases 1546 ..... 3928 ..... Rate per 100,000

Gonorrhoea Rate per 100,000 (Unconfirmed)

Based on a population of 39358 — Cases 1204 ..... 3059 ..... Rate per 100,000

Gonorrhoea Rate per 100,000 (All categories combined)

Based on a population of 39358 — Cases 2750 ..... 6987 ..... Rate per 100,000

...16

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	308	213		5	130	158	190	37	1	
% of Indians				.9	24.9	30.3	36.4	7.1	.19	
Eskimos	303	244	2	9	167	178	156	35		
% of Eskimos			.3	1.6	30.5	32.5	28.5	6.3		
Others	383	95		4	77	168	196	32		1
% of Others				.8	16.1	35.1	41	6.6		.2
Total Cases 1546	994	552	2	18	374	504	542	104	1	1
% of Total	64.3	35.7	.1	1.1	24.1	32.6	35	6.7	.06	.06

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 ....6026.....per 100,000 (of Indians)

Eskimos ....3769.....per 100,000 (of Eskimos)

Others ....2795.....per 100,000 (of Others)

All Groups ....3928.....per 100,1000

COMPARATIVE RATES

	1976	1975	1974
N.W.T.	3928 per 100,000	5896 per 100,000	5281 per 100,000
Canada	Figures not yet available (probably a very slight rise in rate)	222.6 per 100,000	212.4 per 100,000

SYPHILIS

Reported cases of Syphilis

	Health District	Stage of Disease	Age	Sex	Status	Comments
Mackenzie	Yellowknife	Latent	21	M	Other	
	Hay River	Latent	44	M	Other	
Baffin	Hall Beach	Primary	27	M	Other	
	Frobisher Bay	Latent	24	F	Eskimo	

TOTAL - N.W.T. = 4

	1976	1975	1974	1973	1972
Incidence	4	Nil	4	8	2

Rate (Estimated Population) 39358 ..... 10.1 ..... per 100,000

Total Cases 1976 = 4

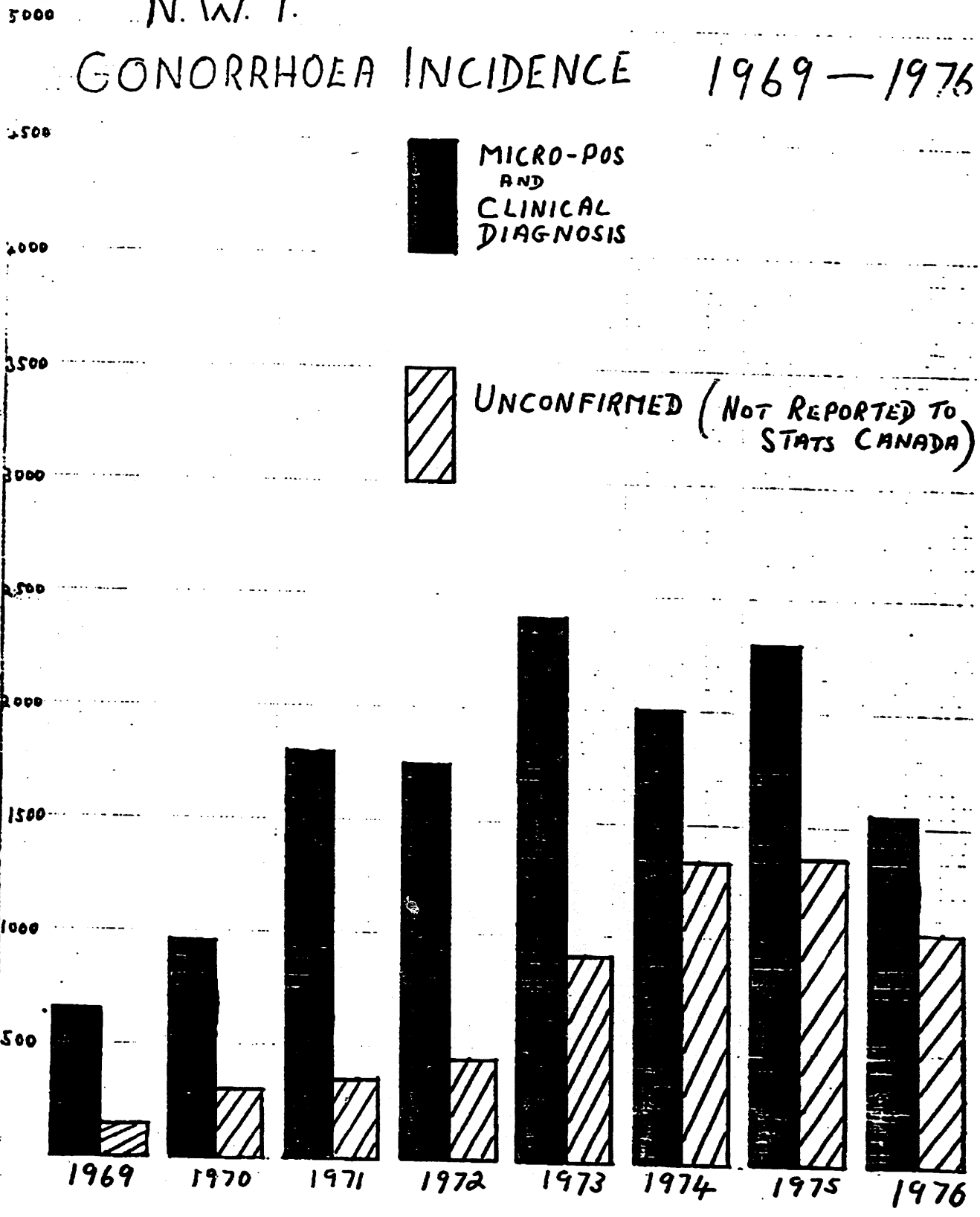
GONORRHOEA EPIDEMIOLOGY REPORT — NORTHWEST TERRITORIES

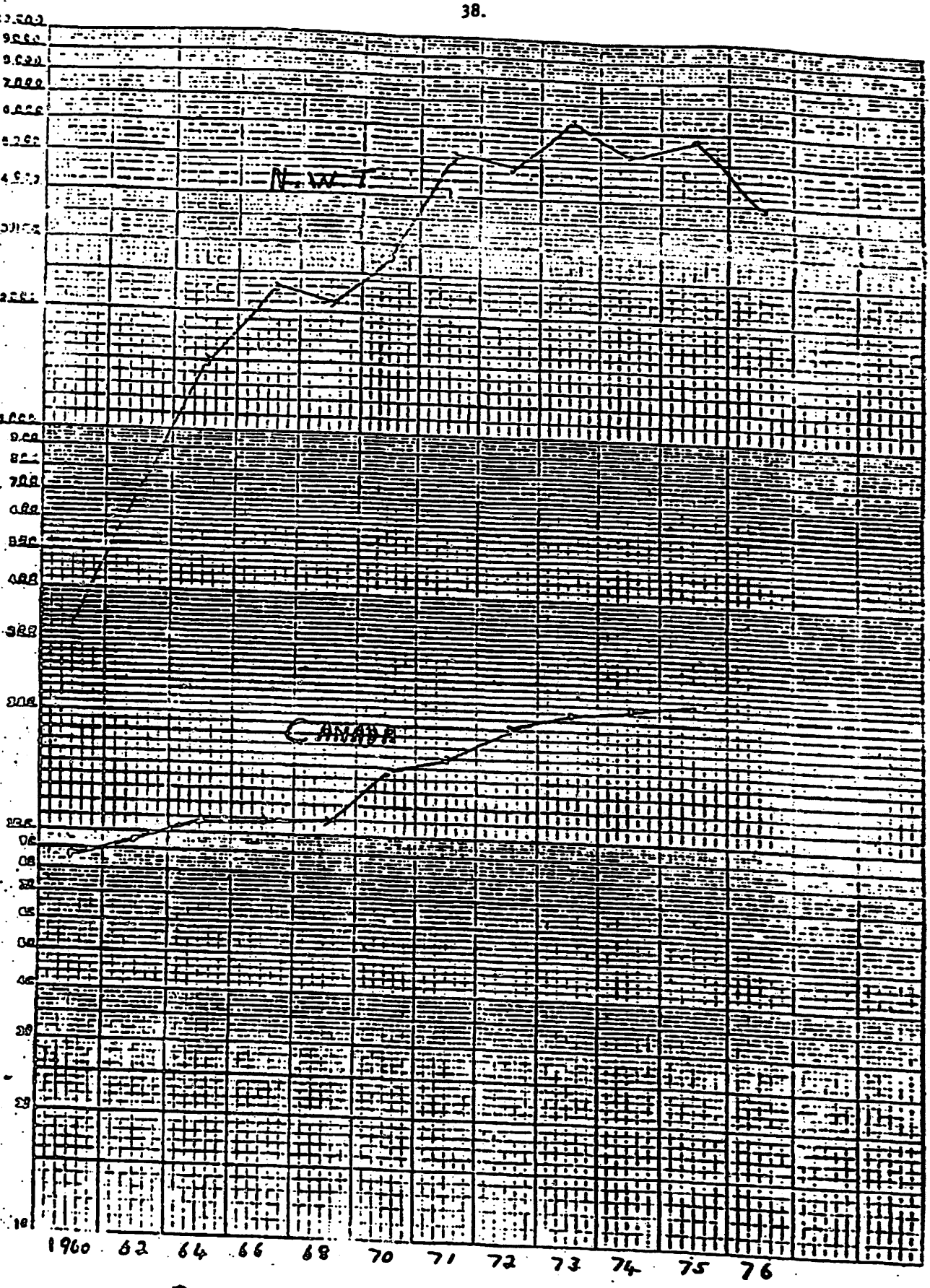
ANNUAL REPORT - 1976

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	564 (305)	1211	610	262	58
MACKENZIE ZONE	671 (617)	1566	810	266	88
KEEWATIN ZONE	96 (78)	313	195	35	5
BAFFIN ZONE	215 (204)	568	360	77	14
OUTSIDE		84	17		
TOTALS	1546 (1204)	3742	1992	640	165

Figures in parenthesis - unconfirmed cases.

N.W.T.
GONORRHOEA INCIDENCE 1969 — 1976





GONORRHOEA - RATE PER 100,000

TUBERCULOSIS SURVEILLANCE

A total of 51 cases of newly or reactivated active cases of tuberculosis were detected out of total recorded population of 39,358; 40 cases of pulmonary and 11 extra pulmonary cases. Of these 22 were Treaty Indians, 20 Eskimos and 9 were non-treaty or white status patients.

In terms of population these rates are 284 per 100,000 among Treaty Indians (total population - 7745), 137.8 per 100,000 among Eskimos (total population - 14,513) and 52.6 per 100,000 among non-natives (Metis and Whites - total population - 17,100). The total rate for the Northwest Territories was 129.58 per 100,000. The overall Canadian incidence is less than 30 per 100,000 for 1976.

The problem areas are the communities surrounding Great Slave Lake; Yellowknife, Fort Rae, Snowdrift and Fort Simpson reporting a total of 23 cases; 19 of the 23 cases are of pulmonary tuberculosis which is almost 50% of the total number of 40 active pulmonary or potentially transmissible cases for the entire Northwest Territories.

Once again this year more than half of the cases were detected at an early stage of the disease either showing minimal involvement or being cases of primary tuberculosis. This is a reflection of the intensity of the surveillance.

The number of people on antituberculous drugs has decreased from last year from a figure of 1140 to 946 this year. 119 of these were for chemotherapy and 827 for chemoprophylaxis.

It is also interesting to note that of the 51 active cases found 37 were detected by sputum surveys, 14 by referred films and none through x-ray surveys.

In general we are witnessing over the past three years a general decrease in all three forms of surveillance normally employed. This is shown in the table on the next page.

ZONE	YEAR	TOTAL CHEST X-RAY FILMS	TUBERCULIN TESTS	BACTERIOLOGICAL TESTS
Mackenzie	1974	13,753	4,630	3,564
	1975	15,498	6,781	7,120
	1976	11,675	6,816	1,437
Inuvik	1974	4,884	2,240	2,365
	1975	4,512	1,103	1,508
	1976	2,420	2,199	875
Keewatin	1974	5,205	1,684	1,450
	1975	4,642	1,443	3,022
	1976	1,179	916	706
Baffin	1974	8,078	1,904	5,050
	1975	5,171	2,890	3,124
	1976	4,129	2,362	3,337

A number of points arise from this year's figures: In general the disease pattern appears to be more diffuse rather than localized throughout the Territories, with the exception of the area around Great Slave Lake. The explosive aspect of tuberculosis is still evident as shown by the community of Igloolik with five active cases among 608 listed native people or a local incidence of 822 per 100,000 population.

With the persistent large number of people on antituberculous drugs, and this has been the pattern for a considerable number of years, we are soon reaching the stage, where most people in the Northwest Territories at some stage or another have been on antituberculous drugs. This must inevitably question the effectiveness of this method of control. The inevitable defaulting in drug taking must also be considered in the light of future developments in tuberculosis control.

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 followup at predetermined 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, 0 in 1973, 1974, 1975 and 1976) 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.

TUBERCULOSIS ACTIVITY REPORT

NORTHWEST TERRITORIES - 1976

ETHNIC GROUP	INDIANS			ESKIMOS			OTHERS			ALL GROUPS		
YEAR	1976	1975	1974	1976	1975	1974	1976	1975	1974	1976	1975	1974
POPULATION	7,745	7,605	7,533	14,513	14,107	13,932	17,100	16,626	16,384	39,358	38,338	37,849
NEW ACTIVE CASES	18	12	19	18	28	26	8	8	6	44	48	51
INCIDENCE	0.23	0.16	9.25	0.12	0.20	0.19	0.05	0.05	0.03	0.11	0.12	0.13
REACTIVATED CASES	4	2		2	4	10	1	0	0	7	6	15
CASES ON HOME CHEMOTHERAPY	210	272	306	513	634	634	223	234	200	946	1,140	1,140
TUBERCULIN TESTS										12,293	12,117	10,458
B.C.G.										501	773	990
NO. OF X-RAY SURVEY FILMS										4,319	9,702	9,448
NO. OF REFERRED FILMS										15,084	20,111	22,472
BACTERIOLOGY TESTS										6,355	14,774	12,429

CASE FINDING SOURCE

NORTHWEST TERRITORIES - 1976

	NUMBER OF X-RAYS	ACTIVE CASES FOUND	NUMBER OF EXAMINATIONS PER CASE
X-RAY SURVEYS	4,319	-	-
REFERRED FILMS	15,084	14	1,077
SPUTUM SURVEYS	6,355	37	172

NEW AND REACTIVATED CASES OF TUBERCULOSIS

NORTHWEST TERRITORIES

1976	1975	1974	1973	1972	1971	1970
51	54	66	49	68	93	115

NEW & REACTIVATED TUBERCULOSIS CASES BY DISTRICT & YEAR

NORTHWEST TERRITORIES

ZONE	1976	1975	1974	1973	1972	1971
MACKENZIE	27	21	33	22	25	30
INUVIK	7	6	7	8	5	6
KEEWATIN	2	10	13	6	11	9
BAFFIN	15	17	13	13	27	48
TOTAL	51	54	66	49	68	93

CASE FINDING METHODS

NORTHWEST TERRITORIES - 1976

ZONE	COMMUNITY SURVEYS	REFERRED FILMS	LABORATORY	TOTAL
MACKENZIE	-	8 30%	19 70%	27
INUVIK	-	2 29%	5 71%	7
KEEWATIN	-	-	2 100%	2
BAFFIN	-	4 27%	11 73%	15
TOTAL	-	14 27%	37 73%	51

NORTHWEST TERRITORIES - 1976

	FAR ADVANCED	MODERATELY ADVANCED	MINIMAL	PRIMARY	PLEURISY	MILIARY	EXTRA-PULMONARY	TOTAL
NEW CASES	1	6	15	9	2	1	10	44
% OF TOTAL	2%	14%	34%	21%	4%	2%	23%	100%
REACTIVATED CASES	-	5	1	-	-	-	1	7
% OF TOTAL	-	72%	14%	-	-	-	14%	100%

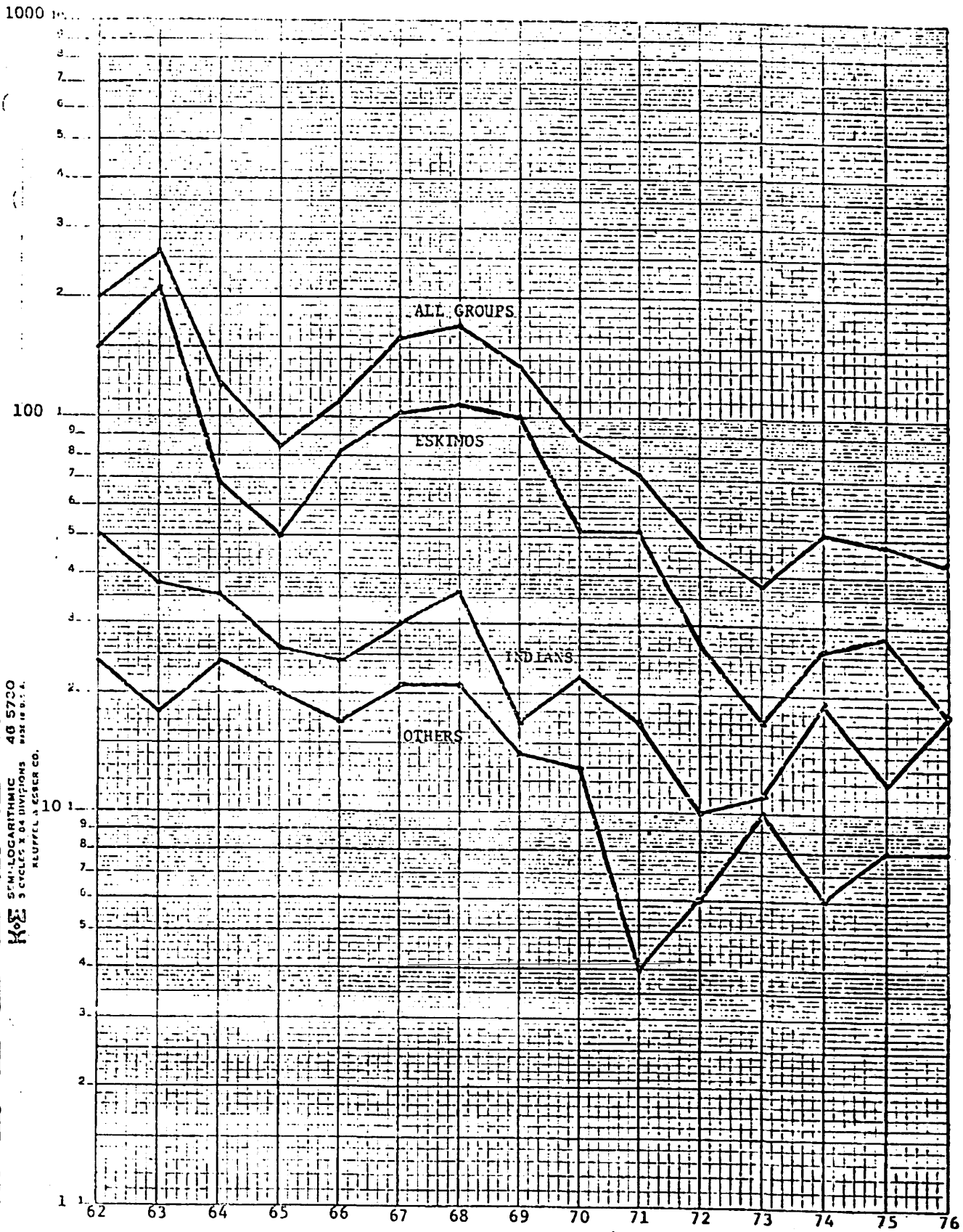
NEW AND REACTIVATED CASES OF TUBERCULOSIS

BY AGE, SEX AND RACIAL ORIGIN

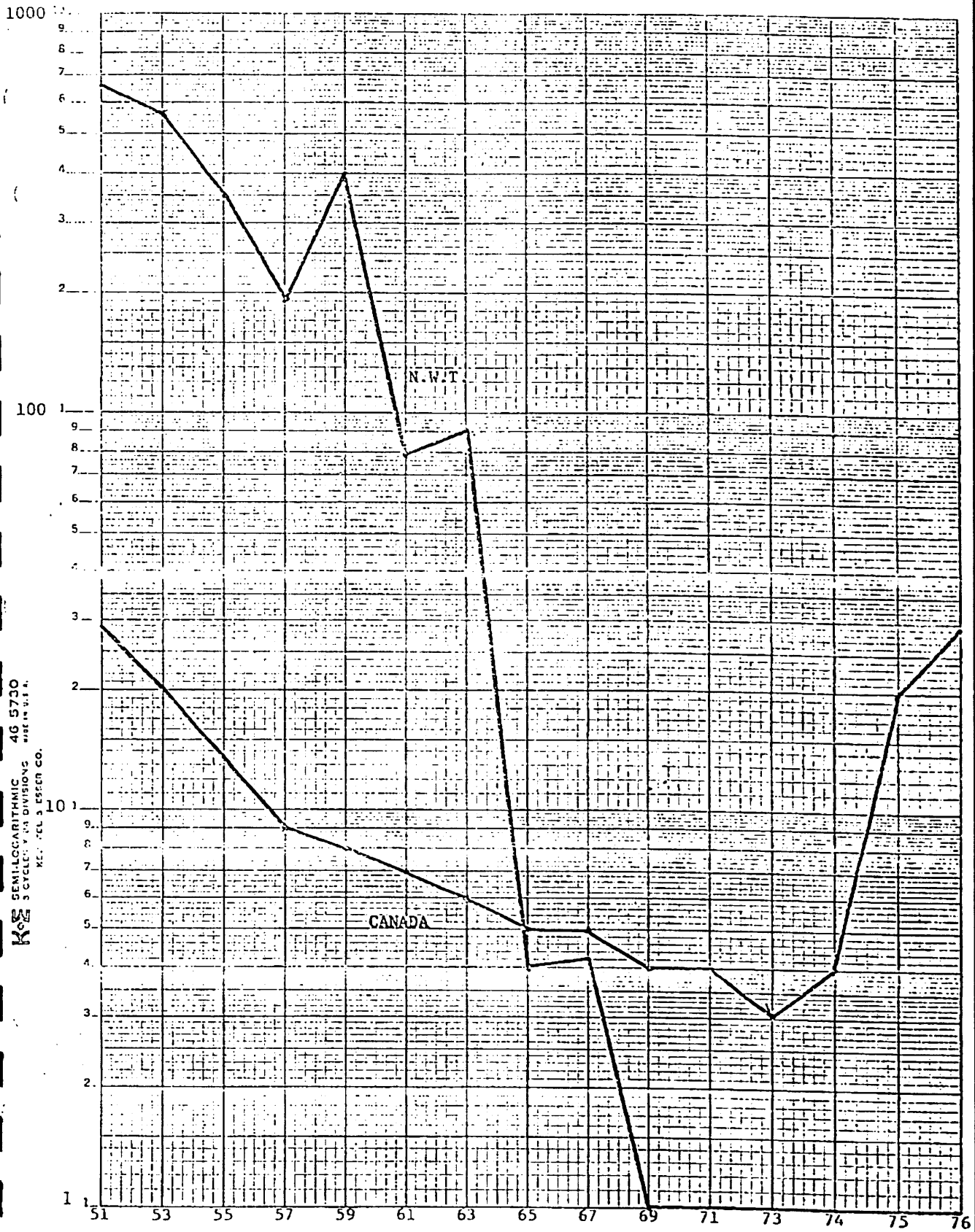
NORTHWEST TERRITORIES - 1976

AGE GROUP	TOTAL			INDIANS			ESKIMOS			OTHERS		
	T	M	F	T	M	F	T	M	F	T	M	F
0 - 4	3	2	1	2	1	1	1	1	-	-	-	-
5 - 9	4	4	-	2	2	-	2	2	-	-	-	-
10 - 14	2	1	1	2	1	1	-	-	-	-	-	-
15 - 19	2	2	-	1	1	-	1	1	-	-	-	-
20 - 24	4	2	2	1	1	-	1	-	1	2	1	1
25 - 29	1	1	-	1	1	-	-	-	-	-	-	-
30 - 49	18	11	7	4	2	2	10	6	4	4	3	1
50 - 69	14	7	7	6	3	3	5	4	1	3	-	3
70 & Over	3	2	1	3	2	1	-	-	-	-	-	-
TOTAL	51	32	19	22	14	8	20	14	6	9	4	5

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



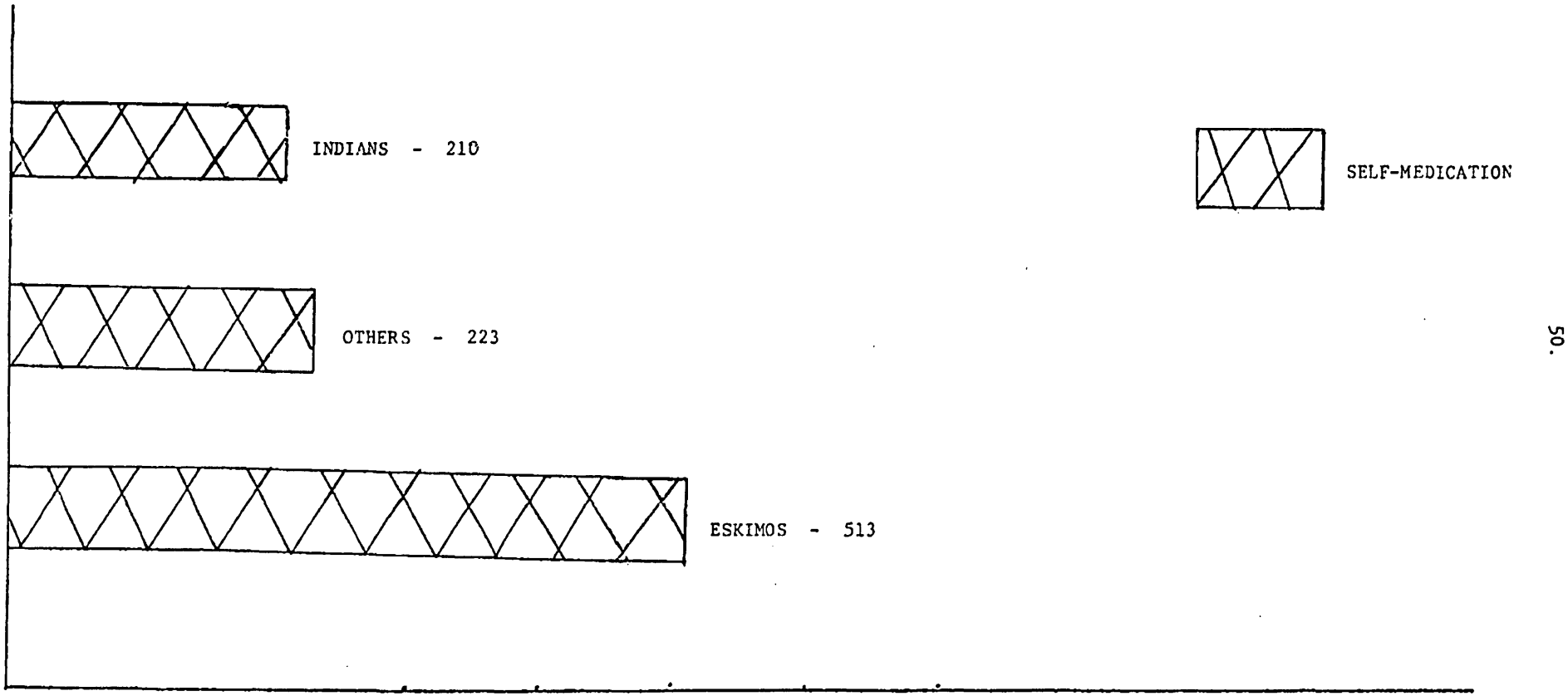
TUBERCULOSIS DEATH RATE PER 100,000 POPULATION - N.W.T.



TREATMENT AT HOME

PREVENTION AND TREATMENT OF TUBERCULOSIS (CHEMOTHERAPY AND CHEMOPROPHYLAXIS)

NORTHWEST TERRITORIES - DECEMBER 31, 1976



MENTAL HEALTH

Mackenzie Zone

In 1976 psychiatric services to Mackenzie Zone were provided by the local Mental Health team based in Yellowknife. The Mental Health team is comprised of the Zone Psychiatrist, Zone Psychologist and Mental Health Nurse. The team provides consultant services to doctors in Yellowknife and other government agencies, such as Social Development, Education, etc. During 1976 the team travelled widely throughout Mackenzie Zone and visited all the major centres, e.g. Fort Simpson, Hay River, Fort Smith and Cambridge Bay several times, as well as the occasional visit to some of the smaller settlements.

The philosophy of the Mental Health Services is to provide consultation rather than to assume the role of the primary therapist. This enables the team to assess the largest number of patients possible throughout the Zone and keeps the waiting lists down to a minimum.

Inuvik Zone

In 1976 a Mental Health Nurse resident in Inuvik provided consultation throughout Inuvik Zone. Backup service was provided by the Regional Psychiatrist who visited Inuvik and the settlements on a regular basis.

Keewatin Zone

Visiting psychiatric services are provided by the University of Manitoba on a contract basis. A psychiatrist visits each community in the year.

Baffin Zone

Attempts are continuing to recruit a Mental Health Nurse for Frobisher Bay but to date there have been problems in recruiting a suitably qualified person.

A visiting psychiatric team comprised of two psychiatrists and a senior resident in psychiatry visited Baffin Zone three times in 1976 for periods of ten days at a time. Accompanying the team is a learning disability specialist from Toronto and her visits were funded by the Department of Education of the Northwest Territories.

This coordinated approach in between the Department of National Health and Welfare and the Department of Education would appear to be most profitable and could perhaps serve as a model for other areas.

It should be stressed that the strength of the visiting psychiatric services is the continuity of service, in the sense that specific psychiatrists have committed themselves to continue to make their visits to the respective areas. In the field of Mental Health such continuity is of course essential to a functioning service.

Suicides

Death certificates in 1976 reported 8 suicides, although one of the deaths reported was a case of methyl alcohol poisoning and although recorded as a suicide was almost certainly an accidental death. The dangers of ingestion of methyl alcohol should at this point be stressed. Eliminating this one death the number of 7 was identical to 1975.

Average Age

The average age of the suicides was 25. There was a larger spread of age than previous years, the youngest being age 15, the oldest being age 36.

Sex

As in previous years the males outnumbered the females by a ratio of 6:1.

Ethnic Breakdown

Indian - 2

Inuit - 3

Others - 2

Mode of Suicide

Again as in previous years the majority were from firearms but in 1976 the proportion of firearms was down somewhat. The statistics are as follows:

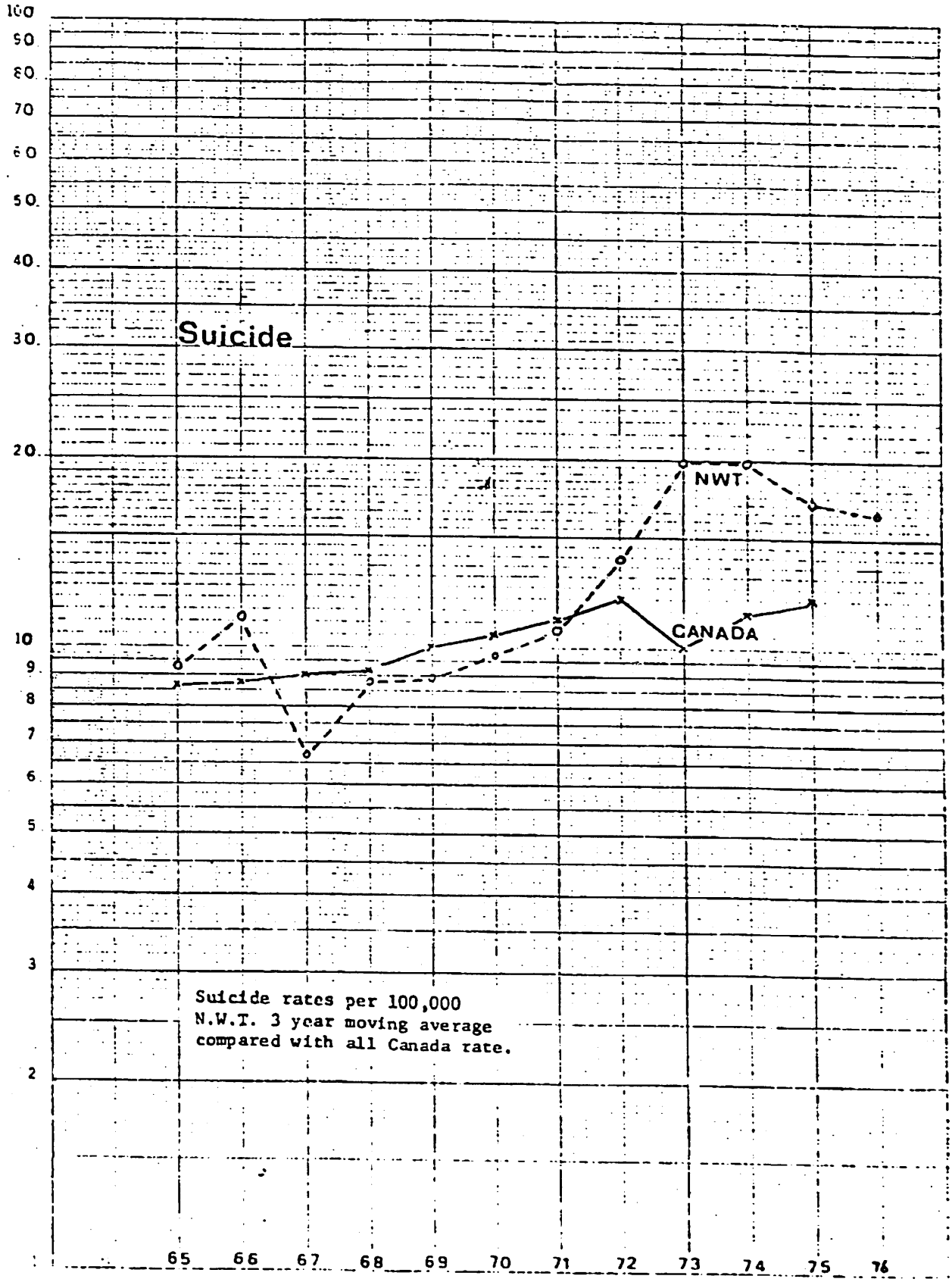
Firearms - 4

Stabbing - 1

Hanging - 1

Overdose of Drugs - 1

As in all previous years these figures contrast markedly with the picture nationally in Canada. In the Northwest Territories, the majority of suicides are classified as violent ones whereas in southern Canada overdose of drugs figures highly.


100
90
80
70
60
50
40
30
20
10
9
8
7
6
5
4
3
2
Suicide
NWT
CANADA
Suicide rates per 100,000
N.W.T. 3 year moving average
compared with all Canada rate.
65
66
67
68
69
70
71
72
73
74
75
76

NATIVE ALCOHOL ABUSE PROGRAMS

1976 saw the hiring, by the Northwest Territories Region, of a Consultant in native alcohol problems. 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 widely 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 these alcohol problems. Proposals from the communities are then forwarded to the Regional Board which reviews the proposal 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 the Regional Board for the Native Alcohol Abuse Program.

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

Fort Good Hope

Fort Norman

Yellowknife

Fort Simpson

Grise Fiord

Resolute Bay

By working closely with the Alcohol Coordinating Council, of the Northwest Territories, it is hoped that there can be 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 1976 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 the schools.

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 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 the Region employed a Regional Health Educator and an Assistant Health Educator for ten months of the year. Two Regional Health Educators and an Audio-Visual Clerk were on staff for the rest of the year. This staff shared responsibility for providing consultative services in health education and audio-visual resources to the Region's four Zones.

At the community level only ten Community Health Representatives were on staff at the end of the year - three in Mackenzie Zone, two in Inuvik Zone, three in Keewatin Zone and two in Baffin Zone. However, before the year ended recruitment was underway for twenty-five new Community Health Representatives to be trained at the start of the new year. One training course was planned for Yellowknife to train candidates from Inuvik and Mackenzie Zones. A second training course was planned for Pangnirtung for Community Health Representative trainees from Baffin and Keewatin Zones.

During the year much of the effort and budget of Health Education was utilized for reorganizing and improving audio-visual resources. The film library was centralized in Regional Office in order to improve film distribution in the Region. Arrangements were secured with the National Film Board for improved film lending services to the Region. The Health Education Manual, a descriptive catalogue of available audio-visual resources, was prepared and distributed to staff in September. New films were purchased and added to the film library and blank colour video cassettes were acquired for the purpose of placing a basic film library on video cassette in each nursing station and health centre.

Three newsletters were published during the year. The V.I.P. News was published quarterly while Northern Health Abstract was published three times. A newsletter for Community Health Representatives, How To Teach, was started and appeared bi-monthly.

New publications during the year were a V.D. pamphlet - V.D. The Good News, The Bad News; a nutrition pamphlet - Animals and Plants are Good Food, published in English and Inuktitut; and a pamphlet on Botulism published in English and Inuktitut. A series of five V.D. posters were printed and distributed as well.

NUTRITION

We are now in the fortunate position, that besides a Nutritionist attached to Northwest Territories Region there is also a Nutritionist employed by the Department of Social Development of the Government of the Northwest Territories, and by the Department of Education. A Coordinating Committee for Nutrition was set up in May 1976 between these three nutritionists to integrate their efforts. Meetings have taken place at regular intervals to promote close cooperation on matters related to food and good health.

Increasing numbers of requests to visit various communities throughout the Region underline the emphasis which is being placed on the preventative approach to health through nutrition education. At the same time, within these communities the concept of a cooperative team effort is encouraged as people become more and more aware of their nutritional needs, the resources available to them and their wish to raise their nutritional status.

The vitamin and mineral supplement program, jointly funded by the Federal and Territorial governments, has so far failed to be universally accepted. A new pamphlet was produced in both English and Inuktitut, with illustrations which were suited to the traditional eating patterns of both groups of indigenous peoples. With the cooperation of the Department of Information, Northwest Territories Government, three television insets for free between-programming broadcasts, were sent to the C.B.C. Northern Services.

The availability of fresh food in many of the Northern Communities is still beset by the problem of high costs of store bought foods. Where families rely increasingly on store bought foods there is an urgent need to increase consumer knowledge and skills in order to encourage further the choice of acceptable nutritional alternative foods for all family members.

One of the highest priorities of the nutrition program has been the re-emphasis of breast feeding. Subjectively at least, it appears that the efforts have met with considerable success.

EMERGENCY HEALTH

Through a joint project of Emergency Health Services, Government of the Northwest Territories, Ministry of Transport and Emergency Planning Canada, it is the intention to place airport disaster kits at all airports and airstrips in the Northwest Territories. Once these are distributed the Zone Directors would be responsible for regular inspections to ensure that the kits are complete.

Also disaster kits are maintained at all nursing stations for the use of personnel travelling on both scheduled and chartered flights.

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 has been coordinated. Casualty Collection Unit locations were documented and rechecked.

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

As of February 1976 the Northern Medical Research Unit is back to a strength of two.

A major survey was staged and completed in Arctic Bay in April during which 330 of a potential 360 persons were examined.

This survey was prompted by the pending opening of Nanisivik Mines at Strathcona Sound nearby, and was planned as a baseline study, of a number of factors of potential interest in regard to occupational health. The aim in mind was twofold:

1. The men likely to find work at the mine.
2. The population of the district potentially exposed to pollution products finding their way into water, air and the food chain.

The opportunity was also taken to study the general health of the local population in cooperation with the Nutrition Division of the Health Protection Branch. The nutritional status of the Arctic Bay population, as a follow-up of the 1972 examinations of Nutrition Canada were undertaken.

Highlights of the findings were:

1. Chronic ear and respiratory disease in adolescents and children, and diarrhea in infants, appeared significantly related to the mode of infant feeding, similarly as reported in previous studies.
2. Markedly better blood levels of ascorbic acid and folates were found than those reported by Nutrition Canada.
3. Iron deficiency anemia was rare (2.2%). Milder forms existed in 23%, suprisingly at least as much or even more so in adolescent males as females.
4. Calcium and phosphate levels were satisfactory in all but one child.
5. Vitamin A deficiency remains an area of increasing concern. A more closely supervised and regular vitamin supplementation not only of school but also of preschool children is recommended.

Analysis of hair, blood and urine for various metals revealed:

1. Moderately elevated levels of mercury in hair and blood with typical seasonal variations in hair and related to a dietary history of sea mammal consumption.

2. Negligible arsenic levels.
3. Noticeable elevations of lead in urine and blood, of snowmobile and even more so, truck drivers.
4. Elevated cadmium levels inconsistent with expectations. Arrangements have been made for a repetition of this test.

Young men up to the age of 25 had better than average pulmonary function tests. These tests were less satisfactory in older age groups particularly in those above the age of 40. In many cases this was related to an increase in the pulmonary artery diameters and less so with related E.C.G. abnormalities.

A history of tobacco smoking was found only slightly related to poor respiratory function in men up to the age of 39 and not at all in those past 40. It is suggested that in the latter group these changes are related to the cold climate. It was gratifying to note that the anti-smoking campaign met with some considerable success.

A screening program for mercury in hair was started in a number of settlements in the Arctic and Subarctic (Holman Island, Tuktoyaktuk, Fort Franklin, Baker Lake and Igloolik).

Slight to moderately increased levels of hair mercury were found especially in Tuktoyaktuk.

Participation in editorial work on PIMMS report continued as well as on a Nutrition Advisory Committee for revision of Nurses Guide Book and education material on infant nutrition, food availability in the Northwest Territories, etc.

Meetings in Ottawa, Winnipeg, Churchill and Frobisher Bay with a Russian Delegation took place. Canadian Universities and Research Institutes were canvassed for contributions, and a belabored correspondence with difficult Russian counterparts took place in the framework of Canadian-Russian Scientific Exchange and preparation of the next Circumpolar Symposium.

Talks to Zone and Regional Nursing Conferences, University Medical and Dietary Students were given. Several medical meetings both in Canada and Alaska were attended. These served to renew old and create new ties with people and institutions of relevance to Northern Health and Northern Medical Research.

ENVIRONMENTAL CONTAMINANTS

Arsenic remained the most significant environmental contaminant in the Northwest Territories during 1976. This was confined to the City of Yellowknife. It's origin are the two local gold mines, Con Mine and the Giant Yellowknife Mine. Arsenic persists to be found in:

mine tailings,

backfill in abandoned shafts and stopes,

ambient air,

soil,

water and

snow.

Arsenic emmissions and concentrations in the soil, water, snow and air have been measured and monitored. A committee studying the effects of arsenic met a regular intervals throughout the year. They prepared two reports.

The Yellowknife Committee on Arsenic has been expanded into a Tripartite Committee to deal with other environmental contaminants throughout the Northwest Territories as well, in particular mercury. The Committee has not as yet met in it's expanded role.

As mentioned in the section under Medical Research a screening program for mercury in hair has been started in several settlements.

UNIVERSITY AND MAJOR SPECIALIST CONTRACTS

During 1976 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 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.

CIVIL AVIATION MEDICINE

This activity in the Northwest Territories is handled by the Regional Civil Aviation Medical Officers. The areas of responsibility are delineated according to the Department of Transport's Regional Subdivisions. Thus, four separate Regional Civil Aviation Medical Units are involved.

In 1976 there were 20 commercial aircraft accidents and one "State" accident. (This has not been specified and could have involved an aircraft belonging to the Department of National Defense, R.C.M.P., etc.)

Four of these were fatal accidents. Two accidents with two fatalities, one with three fatalities and one with five fatalities.

In addition there were six private aircraft accidents with no fatalities.

All aircraft accidents were classified according to category of flight, model of aircraft involved, phase of flight in which accident took place, type of accident, location, pilot injury, crew injuries, passenger injuries, and injuries to other persons outside of the aircraft.

It is interesting to note that where the phase of flight is specified, five accidents took place in the ground phase. Two whilst stationary and three whilst being moored. None in the take-off phase. Eight in the in-flight phase, of which two whilst climbing, five whilst cruising, and one in a climbing turn. Five accidents took place in the landing phase. One on touchdown, three during final approach and one during run-out. Four have been classified as flight phase unknown.

Where the type of accident was specified: One was due to a collision with a snowbank. One was due to a collision with a tree. Two were due to engine failure or malfunction. Four were due to roll-overs. Two were due to too hard landings. Two were due to uncontrolled collision with the ground or water. One was due to collision with a flagman. One was due to airframe failure in flight. One was due to a swerve. Two were due to a stall. One was due to a collapsed gear.

Reviewing the four fatal accidents:

1. Involved the death of the pilot and one passenger with one passenger surviving. The phase of flight and the type of accident was unknown.
2. Pilot only died being the sole occupant of the aircraft. The accident occurred whilst cruising out of control.
3. The pilot and two passengers being all the plane's occupants were killed. Once again the accident occurred whilst in the flight phase.
4. The pilot and four passengers killed. This included all people on board. The accident was due to airframe failure during flight.