

PROPOSALS
FOR 76

YKHC

YKHC PROPOSALS TO THE STATE OF ALASKA FY 1976
SUMMARY

STREPTOCOCCAL DISEASE SURVEILLANCE

YKHC proposes that the State accept the proposal for the D.H.&S.S. to develop a Statewide registry for A.R.F. patients, a lab for Symptomatics, a reference lab and an epidemiologist pending modifications of budgets and scope of work as outlined to the finance committee by Dr. Freedman in his memorandum of March 14, 1975. We further propose that the State fund a Strept Surveillance Program for the city of Bethel. The Bethel Service area has one of the highest incidence of acute Rheumatic Heart Fever and streptococcus infection rates. A concentrated program of routine surveillance is the only method for preventing the high incidence of Rheumatic Heart Disease. Proposed Budget \$ 50,842.00.

MATERNAL AND CHILD HEALTH

Maternal and child health problems in the Yukon-kuskokwim area are recognized as the area's most pressing problems. Infant mortality which had shown signs of decreasing in 1970 has jumped up from its 1970 level 24.5 infant deaths per thousand live births to 40.4 in 1971, 27.0 in 1972, and 31.8 in 1973. Infant mortality as measured by hospital admissions is three times as high as communities in the lower 48. We propose that the State contract with YKHC to continue and expand its M.C.H. program. The present M.C.H program functions as a coordinating service to the I.H.S., P.H.N and the Health Aides. The program maintains monthly records on all pregnant women and children to age one. Prenatal risk and plans of care are developed with a physician. The M.C.H program insures that prenatal and infant patients obtain services according to their own plan of care. Limited direct services are also provided. Proposed Budget is for \$85,935.00.

MENTAL HEALTH

YKHC-PHS Mental health team proposes to the State Division of Mental Health to fund a position and a half to work with the above Mental Health team. These people would be placed at the Bethel jail and they would see every person in jail. Many of the first time offenders could be helped if seen and counselled early, hopefully preventing further contact with the jail system. Proposed Budget is for \$36,477.00.

A PROPOSAL
TO
THE ALASKA STATE DIVISION OF MENTAL HEALTH
FOR
A FULL TIME AND A HALF TIME COUNSELOR
TO
THE BETHEL CITY JAIL
FOR
JULY 1975 OR SOONER

SUBMITTED BY: IKAYRUISTET UMYUANIK
YUKON KUSKOKWIM HEALTH CORP.
PUBLIC HEALTH SERVICE
MENTAL HEALTH TEAM

YUKON KUSKOKWIM HEALTH CORPORATI
P.O. BOX 536
BETHEL, ALASKA 99559

543-2506 543-2508 543-2818

DECEMBER 30, 1974

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INTRODUCTION

During the past 18 months the Yukon-Kuskokwim Health Corporation and U.S. Public health Service have developed a joint Mental Health Team. This team consists of:

1. Kline, Bridget - Counselor, Dept. Chairman, YKHC
2. Kopanuk, Dana, Counselor, YKHC
3. Lehman, Milton, Social Worker, PHS
4. Olrun, Prudy, Child Counselor, YKHC
5. Shelton, Fred, Asst. Social Worker, PHS
6. Stillner, Marianne, Child Psychiatric Nurse (Part Time), YKHC
7. Stillner, Verner, Psychiatrist, PHS
8. Williams, Mike, Admin. Record-Keeper Counselor, YKHC

The population served by this team includes approximately 3,000 Bethel residents and 12,500 members of 53 surrounding villages.

The focus of the team has been to provide services through the training of bilingual local inhabitants. Our work takes place through direct and consultative services to the Bethel Hospital, Bethel Primary, Middle School, Regional High School, Dormitory, Regional High School Boarding Home, YKHC-Health Aide Training, Head Start Program, Division of Corrections, Division of Family and Children Services and Court and Jail.

Our work in the Bethel City Jail in the last 16 months has included 16 court referrals resulting in 52 individual visit-interviews by one of our team members.

In addition, we estimate that our team has made an additional 24 visits to the Bethel City Jail for medications and disposition problems.

August 73 - December 74	16 Court Referrals	52 Visits
August 73 - December 74	Medications Etc.	<u>24 Visits</u>
		76 Visits

During our jail work we have been cordially received by the Bethel City Police Force and Staff as well as the clients. As a result of our contact with a segment of the Bethel City Jail population, we have found a need for counseling services.

Many of the people held for protective custody do not come in contact with the court, social services, or individual churches. It is our impression that early contact with the first timer and young jail citizen would serve a preventive function never before tried in the Alaska Rural Jail System. There is also a need for inter-agency coordination for the court referred clients as well as the non-court referred clients.

Division of Corrections Census data for July, August, September 1974 reveal an average daily Bethel City Jail Census of 12. The majority of these people are men to reflect the jail population. There should be a full time male counselor to counsel men and a half time counselor to see the women. Additionally two people would provide Bethel coverage for Interagency coordination in the absence of one of the counselors due to sickness, vacation, and travel. The counselor would be expected to work five days a week:

1. Counseling - The Counselors would come into daily contact with each Bethel City Jail client. Ideally each person would be seen individually or in a group during his time in jail. The supervision for this counseling would come from the staff of YKHC, PHS Mental Health Team and the counselors would be seen as members of the team. Jail counseling will provide an opportunity for:
 - a. Crisis Intervention
 - b. Enabling the jail to be an emotionally corrective experience.
 - c. Planning follow-up, i.e., housing, job, & counseling.

- 2.. Coordinating with social agencies, schools, churches & legal services.

Many of the jail clients are known to multiple Bethel agencies. To prevent duplication confusion, and neglect the counselors would act as inter-agency coordinators. The counselors orientation will include a familiarity with each agency and their personnel. The counselors will be responsible for contacting appropriate agencies to ensure an effective plan and follow-up for each client.

BUDGET REQUEST FOR BETHEL CITY JAIL COUNSELOR AGENCY
 COORDINATOR.

	Full Time	Half Time
Salary	15,000.00	7,500.00
Fringe	2,535.00	1,267.00
Admn. Overhead 10%	1,950.00	975.00
Psychological Testing by Anchorage psychologists (4 trips). Travel	2,000.00	-
4 Anchorage Trips (API, McLaughlin, Eagle River, Palmer).	1,000.00	500.00
3 Village Trips	500.00	250.00
Housing	<u>3,000.00</u>	<u>-0-</u>
	25,985.00	10,492.00
Total	36,477.00	

January 13, 1975

Public Health Service Mental Health Team
P. O. Box 536
Bethel, Alaska 99559

To the Mental Health Team:

After reviewing the details contained in your proposal to the Alaska State Division of Mental Health for a full time and half time counselor at the Bethel City Jail, I'm writing this letter in support of your plan.

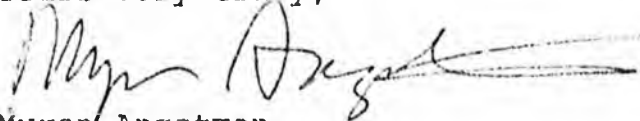
As Public Defender for the Bethel area, I have seen numerous instances where a position such as that outlined in the proposal would have aided in the disposition of cases before the Court. Most of the clients I have suffer from either severe drinking problem or else a mental problem. Those with a mental problem are housed in the jail as are all the rest of those charged with crimes. It is my belief that those with mental problems are in need of more personal and on-going attention than they have been getting in the past.

A jail experience can be upsetting for anyone no matter how stable their mental make-up is. But when an unstable person is thrown into the jail setting it is a dangerous situation,

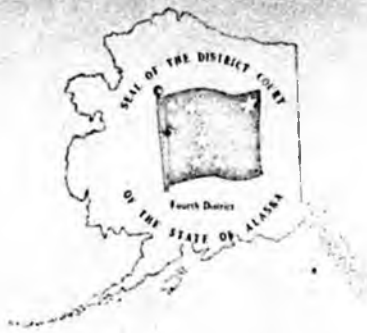
If we are committed to rehabilitating those who are charged with crimes then we must start by giving them the proper attention from the time they are brought to jail. The Bethel Mental Health Team has shown that it is uniquely qualified to assist in the rehabilitative process. It makes good sense to utilize the resources we have here locally to the maximum extent.

I heartily endorse the proposal of the Mental Health Team.

Yours very truly,


Myron Angstman
Assistant Public Defender

MA/nnc



District Court

State of Alaska

FOURTH JUDICIAL DISTRICT

BETHEL, ALASKA

99559

CHAMBERS OF
NORA GUINN, JUDGE

January 10, 1975

Dr. Jerry L. Schrader
Director of Division of Mental Health
Dept. of Health & Social Services
Pouch II
Juneau, Alaska 99801

Dear Dr. Schrader:

I have studied carefully the proposal submitted to you for a full time Counsellor and a half time counsellor to the Bethel City Jail by the mental health team of the Yukon Kuskokwim Health Corp., I support this proposal wholeheartedly as outlined. It is progressive, realistic and completely applicable to our needs. I anticipate lasting results from this type of services particularly through the training of bi-lingual local personnel.

I sincerely recommend that you give this plan every consideration.

Sincerely,

Nora Guinn
District Judge

NG:aw

cc: Dr. Vernon Stillnor, Y.K.H.C.



UNITED STATES
DEPARTMENT OF THE INTERIOR

BUREAU OF INDIAN AFFAIRS
Mr. Peter Three Stars, Superintendent
, P. O. Box 347, Bethel Agency
Bethel, Alaska 99559
January 10, 1975

Dr. Jerry L. Schrader, Director
Division of Mental Health
Pouch H
Juneau, Alaska 99801

Dear Dr. Schrader:

I am writing this letter to verify the need for the proposed jail counselor at the Bethel City Jail.

It has been my experience on several occasions that individuals being held in jail on one charge or another, although an active part of my case load, have not come to my attention for several days. This, in large part, is due to the fact that with the many threatening aspects of being jailed, with little or no supportive counseling help presently available on an "in shop" basis, the client is in many instances too confused and frightened to have the jailer contact my office.

I feel that through creating a full-time counselor position at the jail, this problem could be resolved.

I firmly support the proposal for this position.

Thank you very much.

Sincerely,

Richard E. Marchant
BIA Social Worker

REM:lfm

MEMORANDUM

State of Alaska

to: Jerry L. Schrader, Director
Division of Mental Health
Pouch "H"
Juneau, Alaska 99811

DATE: January 27, 1975

FILE NO:

TELEPHONE NO:

FROM: J. Randall Luffberry *JRL*
Assistant District Attorney
Anchorage

SUBJECT: Proposal for Counselor to
Bethel City Jail

Vern Stillner and other members of the Yukon-Kuskokwim Health Corporation in Bethel, Alaska, have approached me with a proposal to staff the Bethel City Jail with a full-time and half-time counselor in the interest of improving the mental health and attitudes of the prisoners housed in that facility. As Assistant District Attorney for the Bethel service area, I heartily endorse such a project. I feel that such an aid to the sentenced prisoners who remain in the Bethel Jail would be instrumental in improving the rehabilitation aspect of prison incarceration, particularly, for the native inmate who finds himself in the Bethel Jail for the first or second time because of an alcohol-related offense. These are the type persons who, I believe, could be helped by intensive counseling to bolster their defenses against alcohol. And quite obviously, these are the type persons who have not, for what ever reason, been reached by the present alcohol programs in the Bethel area. In addition, such individual often can benefit from professional full-time help in obtaining jobs and in working out other problems. On many occasions, Judge Nora Guinn, myself and a public defender have made attempts to do such work, but we are, of course, limited by a lack of in-depth knowledge of the job market and a lack of training in this particular area.

While I can see some difficulties and conflicts arising over counseling of non-sentenced prisoners awaiting trial, I feel that, if this project is limited to the sentenced prisoner, it would be most valuable in reducing recidivism in alcoholic type crimes.

JRL:dla

cc: Vern Stillner, Psychiatrist
Public Health Service
Bethel

XXXXXXXXXXXXXX

JAY HAMMOND, GOVERNOR
COMMISSIONER RICHARD L. BUR
-ON

P.O. BOX 268
BETHEL, ALASKA 99559

JANUARY 9, 1975

Dr. Jerry C. Schrader
Director-Division of Mental Health
Dept. Health & Social Services
Pouch A
Juneau, Alaska

Dear Dr. Schrader:

I have been asked to comment regarding my feelings on a proposal by the Yukon Kuskokwim Health Corp. to place a full and a parttime counselor in the Bethel City Jail to do counseling work with inmates. In reading YKHC proposal and from what I have observed in the last three and a half years as the commander for the Alaska State Troopers Bethel Detachment, I believe there is a definite need for the program proposed by YKHC.

The Bethel jail system at present has no rehabilitation program to speak of. At present the jail is used for those persons with less than 30 days to serve. For a good part these people are made up of first time offenders. Which to me is the time that counseling work should begin with those involved with the law. Prior to their getting into serious trouble and receiving a sentence of length requiring their transportation to a Anchorage jail where counseling may be available.

From my observation it also appears that the percentage of mental health problems in the lower Kuskokwim-Yukon area is greater than most areas of the State.

I respectfully request that you give this proposal your consideration.

Sincerely;

Lorn M. Campbell
Sgt. Lorn M. Campbell
Commander
Bethel Detachment

cc: Col. M. E. Dankworth, Director
Dr. V. Stillner, PHS Bethel

STREPTOCOCCAL SURVEILLANCE PROGRAM

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Streptococcal Surveillance Program

Problem:

The Rheumatic Heart Fever rate for Alaskan Natives in the Bethel area has been highest in Alaska. The Bethel area has had incidence rates of 20 to 157 cases per 100,000 persons 5-19 years old between 1968 and 1973. The average rate in the Bethel area between 1968 and 1973 was 82 cases per 100,000 persons 5-19 years old compared to the Statewide Alaskan Native rate of 44 per 100,000. The national rate for the same age group is around 26 cases per 100,000. Because of the nature of Rheumatic Heart Disease, the average life time cost per person with Rheumatic Heart Fever is around \$40,000. These costs do not include the loss of work time or school time resulting from the treatment services and sickness.

The streptococcal infection rate, the precursor to Rheumatic Heart Fever is also extremely high in the Bethel area. A research project operated by the Communicable Disease Control Laboratory (C.D.C.) has shown that streptococcal disease in Alaskan Natives is eighteen times higher than in the U.S. population. Streptococcal infections also contribute to school absenteeism, resulting in the secondary problem of inhibiting a child's learning process.

Objectives:

The objectives of a streptococcal surveillance program are to reduce the Rheumatic Heart Fever rate and reduce the morbidity resulting from streptococcal infections in children ages 5-19. According to C.D.C. findings it is possible to almost eliminate new cases of Rheumatic Heart Diseases and to reduce the streptococcal infection rate by half through a program of monthly surveillance and early treatment of persons with streptococcal infections. The surveillance program will be on Bethel School children.

Resources:

The start up funds in 1975 have come from Yukon-Kuskokwim Health Corporation. It is now proposed that the State contract with Y.K.H.C. to maintain the program in 1976. A preliminary budget is attached; (See Attachment I).

Action Plan:

The method being employed to achieve the objectives is to culture the entire school age population in Bethel each month with treatment provided to those with positive cultures. If the treatment is completed within ten days it is 80 to 90% probable that the streptococcal infection will not develop into Rheumatic Heart Fever. The procedure used in Bethel is outlined in Attachment II, "Surveillance Procedure." The procedure in Attachment II has been based upon the work of C.D.C. in its streptococcal surveillance research project.

Attachment I
Budget for 12,000 Cultures

Personnel

Lab. Tech. (1)	16,880
Secretary (1)	9,450
School Aide (9 months 1/2 time)	3,937
Fringe 13%	3,935
Sub-total	<u>34,202</u>

Supplies

Lab supplies for 12,000 cultures @ 50/cultures.	\$6,000
Forms and records.	488
Office	300
Sub-total	<u>\$6,788</u>

Equipment

Laboratory	600
Sub-total	<u>\$600</u>

Space Costs

Lab. Utilities	\$3,900
Fire Insurance	750
	<u>\$4,650</u>

Travel

Training	630
	<u>\$630</u>

Other

Malpractice Insurance	\$650
Postage	160
Sub-total	<u>\$810</u>

Administration

Accounting/Supply	\$1,000
Administration	1,500
Xerox	100
Janitorial Service	562
	<u>\$3,162</u>

Total

\$50,842

SURVEILLANCE PROCEDURE

NORMAL

(Table I & II)
Group list by class

Schedule

C.H.R. take throat swabs and fill in surveillance form. (Table II)

Swabs & Surveillance forms sent to laboratory.

Lab processes cultures and enters results on surveillance form.

List of positives typed and all surveillance forms with positives stapled to list. Sent to school nurses (2 copies) and one copy held at lab.

School Nurses treat or refer to P.H.N.

Treatment card sent to parent. (Table III)

Revisions based on class changes sent by school.

One copy sent to C.D.C.
1. Sample positives and negatives sent to C.D.C. for clerk.
2. "M" & "T" typing done.

P.H.N. does Home Visits with C.H.R.

Surveillance list returned to lab.

Summary sheet prepared and check to see that all positives treated. (Table IV)

REFERRAL

Symptomatic child identified by teacher and nurse.

Nurse Evaluation

Swab Taken

Referral surveillance form filled out. (Table V)

Abnormal M-T discussed with Dr. Hurwitz.

No epidemic Epidemic

Surveillance form returned to lab.

PROJECT DESIGN

1. Approval - The streptococcal surveillance program involves the routine screening of children in the Elementary, Middle, and High Schools. Children who have streptococcus will require medication. Because the program involves treatment we will require the approval of not only the YKHC Board but the School Board and parents of each child. After the School Board has approved the project a unified permission slip authorizing a child to participate in the strept. surveillance, dental care, and other health care activities will be developed and approved by the School Boards and Health Professionals. The approved permission slips will be given to each teacher to hand out to the children. Returned permission slips will be given to the microbiologist who will compare class registration to permissions slips received to determine the children without permission slips. The microbiologist would then direct the Community Health Representatives to make Home Visits to families who do not want to participate or have not responded. The C.H.R.'s would discuss the Streptococcal Program with each family as well as the Dental Program and other programs requiring parental consent. If families cannot be contacted the School Boards will have to determine if we should continue with the project. Only children with parental approval will be in the streptococcal program.

2. Surveillance Procedure - Based on a profile of children in each classroom the Elementary, Middle, and High School children would be divided into four groupings of classrooms. Each child in a group would be assigned a code number to be used through out the year. Each week one of the four groups would be tested by C.H.R.'s and a Public Health Nurse to determine if they have a streptococcal infection. Children not tested in their assigned group because they are absence could be added to the following weeks group. Any children already exhibiting signs of streptococcus infection as determined by teachers and/or the school nurse would also be tested. After four weeks the entire school population in Bethel would have been surveyed.

When the prevalence of streptococcal isolates rise to a predetermined level, for example 20 or 30 percent, more than one group could be surveyed and treated or the entire school population could be treated prophylactically. Other criteria such as 50% or more "M" types appearing in the positive cases would also be used to determine if an epidemic has started and whether it warrants a concentrated effort to treat or screens the school population. This decision will be made by the project director Dr. Hurwitz, the microbiologist and C.D.C. officials.

3. Laboratory - After the C.H.R.'s take the throat swabs they will be given to the laboratory for analysis. The swabs are received in metal foil packets containing silica gel, each with the cultured child's identifying code number. The desiccated swabs are incubated 4-6 hours at 37°C in Todd-Hewitt broth. A loopful of the broth is added to 15 cc of melted neopeptone agar with 5% sheep blood and pour plates made. After incubation at 37°C for 18 hours, Betahemolytic colonies are picked and subcultured on quartered neopeptonesheep blood agar plates with bacitracin discs. After 24 hours incubation at 37°C, presumptive group A determination is made. Total time through the laboratory should not exceed three days.

Positive cultures would be transmitted to the C.D.C. laboratory in Anchorage for "M" and "T" typing to determine if an epidemic is beginning. The number of positives transferred to C.D.C. in Anchorage would be determined by C.D.C. and the project director.

4. Treatment - Individuals that respond positively to the streptococcal tests would be treated whether or not they are symptomatic. The test and treatment must be completed within 10 days to assure that a child does not develop rheumatic heart disease. The laboratory results would be given to the school nurse who would administer the treatment to each positive child. If a child cannot be located or is absent at school the treatment would be given by the Public

Health Nurse with assistance from C.H.R.'s. Treatment would conform to current American Heart Association Recommendations:

- a. Children over age 10. 1.2 million units LA bicillin IM (Benzathine Penicillin G).
- b. Children age 10 and younger. 600,000 units LA bicillin IM. (Benzathine Penicillin).

Allergic children would be given 250 mg erythromycin four times daily for 10 days.

Every child treated would have a card or record of treatment which would be returned to the laboratory for cross checking to make sure that all positive children actually were treated.

During an epidemic the treatment would have to be accelerated. Backup personnel consisting of Itinerate Public Health Nurses and available hospital staff would be called to assist the school nurses. The state may also be able to bring in other nurses to help stem an epidemic. During an epidemic all activities would be co-ordinated by the project director Dr. Hurwitz.

5. Records - Records will consist of:

- a. Permission slips on each child.
- b. List of individuals in each group. The list would be developed initially by C.D.C., the microbiologist, school nurses and school administration. After initial set up of each group the C.H.R.'s would be given a roster and stick'um labels coded by number and group. Any revisions would be co-ordinated by the project director. The list would also include information on whether a child is allergic to penicillin.
- c. Treatment card and/or test card. - The results of the tests would be entered on a card or roster. All positive cards or a roster would be given to the school nurses who would do the follow-up treatment. The cards or roster would be returned to the lab.

Each week the culture results would be tabulated so that point prevalence of Group A strep can be calculated.

6. Organization - The project will be headed by the Indian Health Service Project Director, Dr. Robert Hurwitz. A microbiologist and clerk would operate the laboratory and maintain records. The School Nurses would co-ordinate the surveillance activities of the C.H.R.'s and would administer the treatment for any positives. The C.H.R.'s would collect throat swabs, assist the Public Health Nurse in Home Visits to treat absent children and would help obtain permission slips. The Center for Disease Control will act as technical consultants and will evaluate the program. An organizational chart appears on the next page.

Perry, L.W., et al. Rheumatic Fever and Rheumatic Heart Disease
Among U.S. College Freshmen. Public Health Reports, 83:919, 1968.

Table 3. Prevalence of probable or definite rheumatic fever or rheumatic heart disease, or both, per 1,000 students surveyed, by sex and State of residence at time of survey, 1956-65

Rank ¹	State of residence	Total		Male		Female	
		Number of cases	Rate per 1,000 examinations	Number of cases	Rate per 1,000 examinations	Number of cases	Rate per 1,000 examinations
	Total.....	12,134	15.8	7,273	15.9	4,861	15.8
46	Alabama.....	20	6.9	14	6.7	6	7.2
	Alaska.....	24	88.9	16	103.9	8	70.2
8	Arizona.....	112	25.6	66	24.9	46	27.0
27	Arkansas.....	20	14.3	12	13.5	8	15.9
30	California.....	485	13.7	243	13.0	240	14.3
12	Colorado.....	329	24.1	172	23.7	151	21.1
36	Connecticut.....	100	11.6	55	10.1	45	14.2
33	Delaware.....	56	12.2	31	11.9	25	12.7
	District of Columbia.....	72	9.3	32	7.3	40	11.9
29	Florida.....	109	13.8	78	13.5	31	14.9
34	Georgia.....	72	11.9	41	11.0	31	13.6
	Hawaii.....	8	9.7	4	8.5	4	11.3
10	Idaho.....	120	21.8	66	20.1	54	35.0
23	Illinois.....	377	16.2	221	17.2	152	14.9
6	Indiana.....	53	26.9	35	27.8	18	25.7
15	Iowa.....	373	20.8	231	22.5	142	18.5
19	Kansas.....	407	18.0	250	18.0	155	17.9
21	Kentucky.....	178	17.4	96	15.9	81	19.5
35	Louisiana.....	67	11.9	49	14.5	18	8.1
26	Maine.....	39	14.5	24	13.3	15	17.0
49	Maryland.....	63	11.2	46	11.2	17	11.4
45	Massachusetts.....	401	9.6	245	9.3	156	10.4
41	Michigan.....	771	11.0	427	11.0	344	11.1
13	Minnesota.....	724	22.6	451	22.3	270	23.3
32	Mississippi.....	109	12.3	86	14.4	22	8.5
16	Missouri.....	405	20.5	231	19.5	174	22.3
3	Montana.....	475	32.6	267	30.1	207	36.8
20	Nebraska.....	372	17.9	256	19.2	115	15.5
2	Nevada.....	40	38.5	30	47.2	10	24.9
39	New Hampshire.....	81	11.3	54	9.8	26	15.7
31	New Jersey.....	224	13.4	126	14.5	98	15.2
9	New Mexico.....	59	25.1	26	18.8	33	31.1
42	New York.....	541	10.2	315	11.8	229	8.7
24	North Carolina.....	135	16.2	29	15.0	106	16.6
22	North Dakota.....	85	16.9	53	14.7	32	22.8
28	Ohio.....	1,379	14.2	869	14.7	508	13.3
38	Oklahoma.....	233	11.3	136	10.9	97	11.9
5	Oregon.....	81	28.1	46	29.0	35	27.0
18	Pennsylvania.....	731	19.3	509	20.0	221	17.8
44	Rhode Island.....	25	10.0	15	9.5	10	10.8
43	South Carolina.....	60	10.2	48	10.0	12	10.9
7	South Dakota.....	201	26.2	121	25.0	78	28.4
25	Tennessee.....	61	14.6	32	15.2	29	14.0
47	Texas.....	71	6.8	43	6.9	28	6.6
1	Utah.....	527	40.5	315	42.3	212	38.3
37	Vermont.....	8	11.4	5	11.5	3	11.3
48	Virginia.....	128	5.7	84	5.5	44	6.2
11	Washington.....	285	24.7	168	23.6	116	26.5
14	West Virginia.....	202	21.3	129	20.9	72	21.9
17	Wisconsin.....	303	20.3	159	18.5	142	22.5
44	Wyoming.....	287	29.7	183	30.9	102	27.6
	Puerto Rico.....	2	9.5	2	12.6	0	.0
	Virgin Islands.....	0	.0	0	.0	0	.0
	Foreign group.....	38	6.5	23	5.3	14	9.8

¹ Rank of prevalence rates for total group surveyed in each State of continental United States. Rank not assigned to Alaska, District of Columbia, Hawaii,

Puerto Rico, Virgin Islands, and foreign students.
² Total includes 25 cases in which sex was not stated.

ALASKA NATIVE HEALTH SERVICE
TEN LEADING NOTIFIABLE DISEASES
(RANKED IN ORDER OF INCIDENCE)
1972 - 1971

Disease	Cases				Percent Change '72/'71
	1972		1971		
	Number	Rank	Number	Rank	
<u>Total Reported Notifiable Diseases</u>	20,630 ^{1/}	-	13,909	-	48.3
<u>Total Ten Leading Notifiable Diseases</u>	19,474	-	13,241	-	-
Upper Respiratory Infect., C/Cold	7600	1	3672 ^{2/}	2	107.0
Acute Otitis Media	4297	2	4195	1	2.4
<u>Strep Throat</u>	<u>2156</u>	<u>3</u>	<u>1686</u>	<u>3</u>	27.9
Gonococcal Infections	1378	4	1288	4	7.0
Gastroenteritis, Diarrhea	1335	5	360	8	251.3
Impetigo	907	6	532	7	70.5
Influenza	900	7	597	6	50.8
Pneumonia (excl. NB)	655	8	727	5	-9.9
Chickenpox	127	9	115	10	10.4
Bacillary Dysentery	119	10	49	15	142.9

^{1/} Increase partially due to a change in disease coding.

^{2/} Does not include "common cold" diagnosis.

SOURCE: Office of Systems Development, Alaska Native Health Service
Community Health and Epidemiology Branch, Alaska Native Health Service
IHS Inpatient/Outpatient Reporting System

TOTAL RHEUMATIC FEVER INCIDENCE BY SERVICE UNIT OF RESIDENCE
ALASKA NATIVES AGED 5-19 YEARS
Case Rate Per 100,000 Population

S.U.	Anch.	Bar.	Beth.	Kan.	Kotz.	Mt.E.	Tan.	Total
Pop.	4761	1012	5089	1331	3781	3418	2301	21,733
1968	0	0	157	150	79	79	0	64
1969	0	0	20	0	26	29	43	18
1970	42	0	39	75	0	0	0	23
1971	42	0	118	225	53	88	0	74
1972	84	96	118	0	0	29	0	55
1973	63	0	39	0	0	29	0	28
Mean								
Inci.	39	16	82	75	26	34	7	44

Only cases meeting the revised Jones criteria were used in determining these rates.

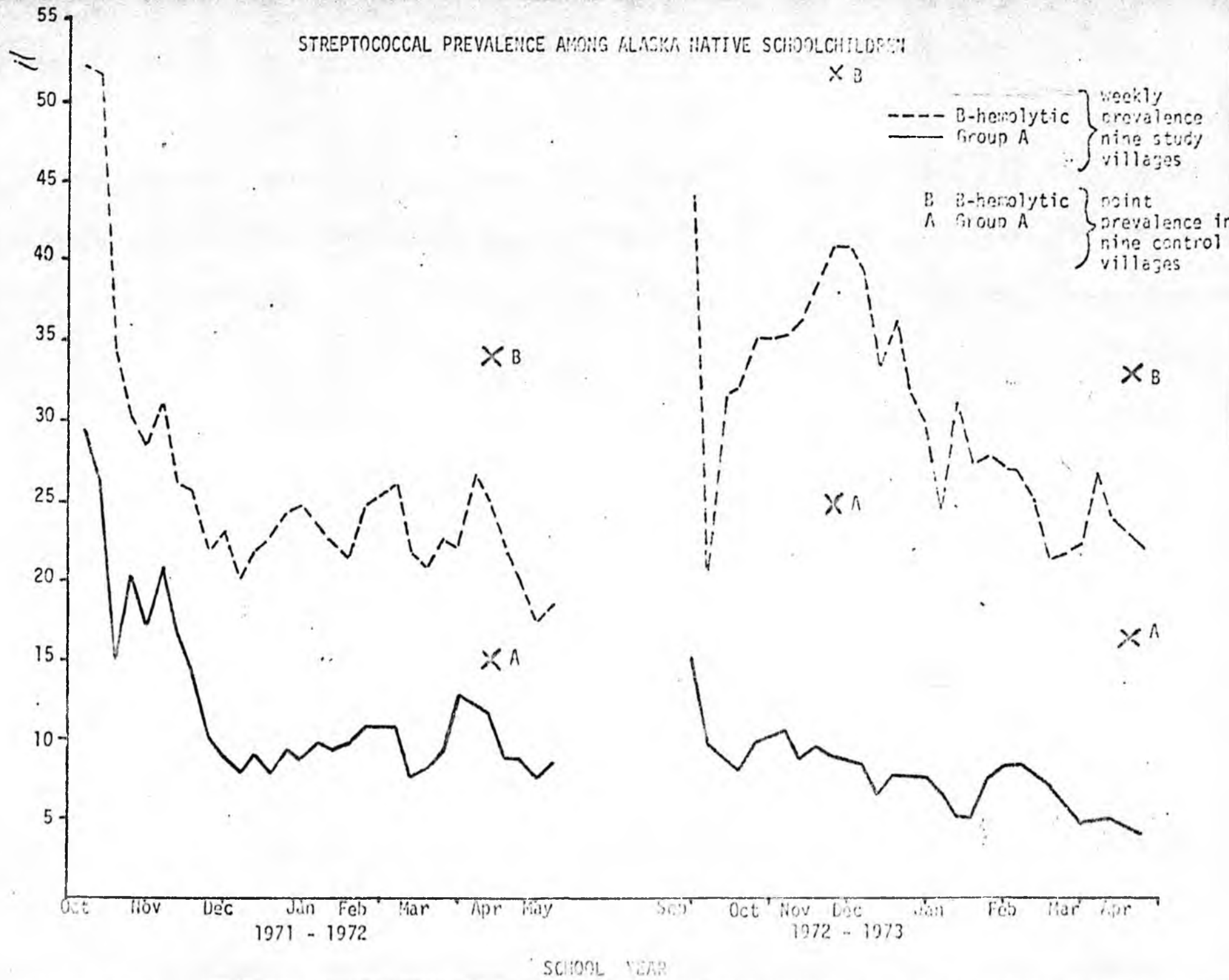
REVIEW CHARTS for PROPER DIAGNOSIS.

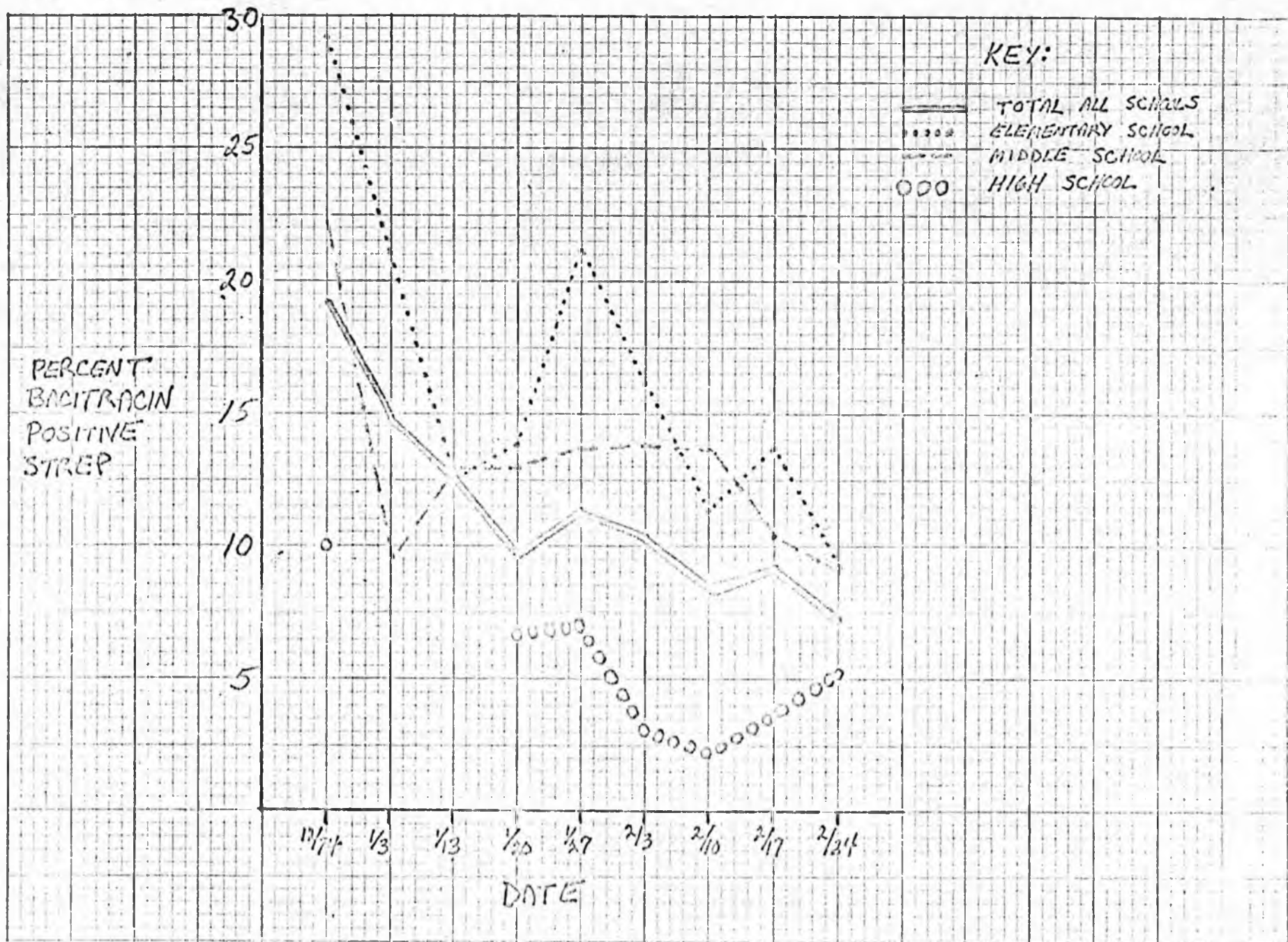
PREVALENCE OF RHEUMATIC HEART DISEASE IN ALASKA NATIVES
HOSPITALIZED CASES, ALL AGES
1968-73

<u>Service Unit</u>	<u>Cases</u>	<u>Rate/10,000</u>
Total	316*	60.7
Anchorage	48	38.0
Barrow	13	55.8
Bethel	103	88.3
Kanakanak	27	86.1
Kotzebue	55	65.5
Mt. Edgecumbe	57	67.5
Tanana	13	23.9

*158 definite RHD
42 probable RHD
116 possible RHD

STREPTOCOCCAL PREVALENCE AMONG ALASKA NATIVE SCHOOLCHILDREN





STREPTOCOCCAL PREVALENCE IN BENNETT SCHOOLS - SCHOOL YEAR 1974-75
Y. K. M. C. PROGRAM

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STREPTOCOCCAL SURVEILLANCE IN REMOTE ARCTIC POPULATIONS

The Development of a System for Detection of Group A Pharyngitis
and the Prevention of Nonsuppurative Sequelae

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Abstract

A surveillance program to detect streptococcal pharyngitis and reduce the incidence of acute rheumatic fever and glomerulonephritis was initiated in two remote Eskimo villages in Alaska between January and May, 1971. Two different techniques were used in the attempt to reduce sequelae. In one village, two separate periods of increased group A prevalence and M-typeability occurred. In a second village unusually low group A levels were observed but were concomitant with a high prevalence of group C. Serum antibody studies conducted in both villages suggest that the populations have had greater previous exposure to group A organisms than that reported elsewhere. Treatment of villagers with positive cultures for group A organisms might prevent epidemic spread if the time between culturing, laboratory reporting, and treatment were shortened.

Introduction

Only two attempts have been made to control streptococcal pharyngitis and nonsuppurative sequelae in civilian populations through longitudinal observance (Phibbs B, et al., 1970, Zimmerman R. A., Biggs B. A., Bolin R. A., et al., 1971). Both have met with considerable success, especially the Natrona County, Wyoming study which has succeeded in a practical way of almost eradicating acute rheumatic fever (ARF) and acute glomerulonephritis (AGN) during the last 10 years. However, such a system has not been attempted previously in areas as isolated as those found in Alaska. Although the success of both the Wyoming and Colorado studies depends upon parental and child understanding, it appears that application of the same procedures in remote Alaska Native villages can accomplish the desired goals. Our objectives were to test the logistics of such a system within Alaska and to lower group A prevalence rates to below 5 per cent in two villages which

have had a high incidence of streptococcal infections and nonsuppurative sequelae.

Demographic data

Two villages of similar size and ethnic composition were selected, mainly on the basis of past reported experience of acute rheumatic fever. Nunapitchuk, a village of approximately 332 persons with 129 school age children, is situated on the Kuskokwim River Delta near Bethel in southwest Alaska. Stebbins, a village of 239 persons with 61 elementary school children, is located on Norton Sound, southeast of Nome. The average annual rate of acute rheumatic fever for these areas has been reported as between 54 to 65 cases per 100,000 population, a figure five to 20 times the rates reported for southern states (Goorman J.R., 1968). There is little movement of the villagers during the winter months, although adolescents attend high school away from home. In the summer, many families migrate from the villages to fish camps. A few individuals or families move to other villages or larger towns for medical or personal reasons at any time of year.

Materials and methods

Throat Cultures: A pharyngeal swab was obtained from all school children and as many adults as possible in January and May, 1971. In the interim, cultures were collected weekly on a random sample of the school children, symptomatic or not. In addition, swabs were obtained from all individuals presenting to the health aide with complaints of sore throat. Swabs were preserved in silica gel and forwarded to the Streptococcal Disease Section, Fort Collins, Colorado and processed as described elsewhere (Wilson E, et al., 1968). Due to the difficulties of weather and flight schedules, they were received at the Colorado laboratory between three and 13 days after mailing.

Blood Specimens: Ten or 15 cc of blood was collected by venipuncture from all school children and as many adults as possible during the first collection period in January. In May, bloods were again collected from the children in both villages and from all adults who attended the general clinics. Both group A and type specific antibodies (TSA) were determined as previously described (Zimmerman R. A. et al., 1971, Zimmerman R. A. et al., 1968).

Urine Specimens: Because of a possible epidemic situation, urine specimens from school children in Nunapitchuk were collected in paper cups and screened with Labstix. Children who had blood or albumin in their urine were examined and referred to the hospital for further study.

Nasal Washings: Nasal washings were obtained from all school children in both villages during the mass culture periods in January and May. The subject was placed on a table in a supine position with his head extended

beyond the edge. The child was instructed to hold his breath and 5 ml of physiological saline was instilled in each nares with a Cornwall syringe. As each nostril was washed, the child was raised and told to vigorously expel the washings into a cup. These specimens were used for determination of immunoglobulins A and G (IgA, IgG) and type specific antibodies.

Treatment: In Nunapitchuk, each individual positive for group A organisms was treated with long-acting penicillin or erythromycin as recommended by the American Heart Association (1970). Results were transmitted from Colorado to Anchorage by telephone and then by teletype and radio to the village health aide. In Stebbins, individuals positive for group A organisms were not treated. The results from both villages were compared weekly with three criteria for epidemicity as described elsewhere (Zimmerman R. A. et al., 1971, Gross W.M, Miller D. R., et al., 1971). This technique allows mass prophylaxis with antibiotics when the following exist simultaneously: (1) group A prevalence is found to be 30 per cent or more, (2) at least half of these organisms are M-typeable, and (3) a single strain accounts for one-third of those typeable.

Results

Tables I and II give the age specific prevalence rates for beta hemolytic and group A streptococci for Nunapitchuk at the times of mass culture. In January the group A prevalence was 36.6 per cent in school children.

TABLE I. Initial Throat Cultures Nunapitchuk, Alaska January 27, 1971

	Age		Total
	0-14	15+	
Total Cultures	101	95	196
Per Cent Beta Hemolytic	45.5	20.0	32.5
Total Group A	37	11	48
Per Cent Beta Hemolytic Group A	36.6	11.6	27.3
M-typeable Per Cent of Group A	56.8	27.3	41.5
T-typeable Per Cent of Group A	100	100	100

TABLE II. Final Throat Cultures Nunapitchuk, Alaska May 3, 1971

	Age		Total
	0-14	15+	
Total Cultures	118	102	220
Per Cent Beta Hemolytic	50.8	27.5	39.1
Total Group A	59	18	77
Per Cent Beta Hemolytic Group A	50.0	17.6	33.8
M-typeable Per Cent of Group A	84.7	88.9	86.8
T-typeable Per Cent of Group A	96.6	100	98.3

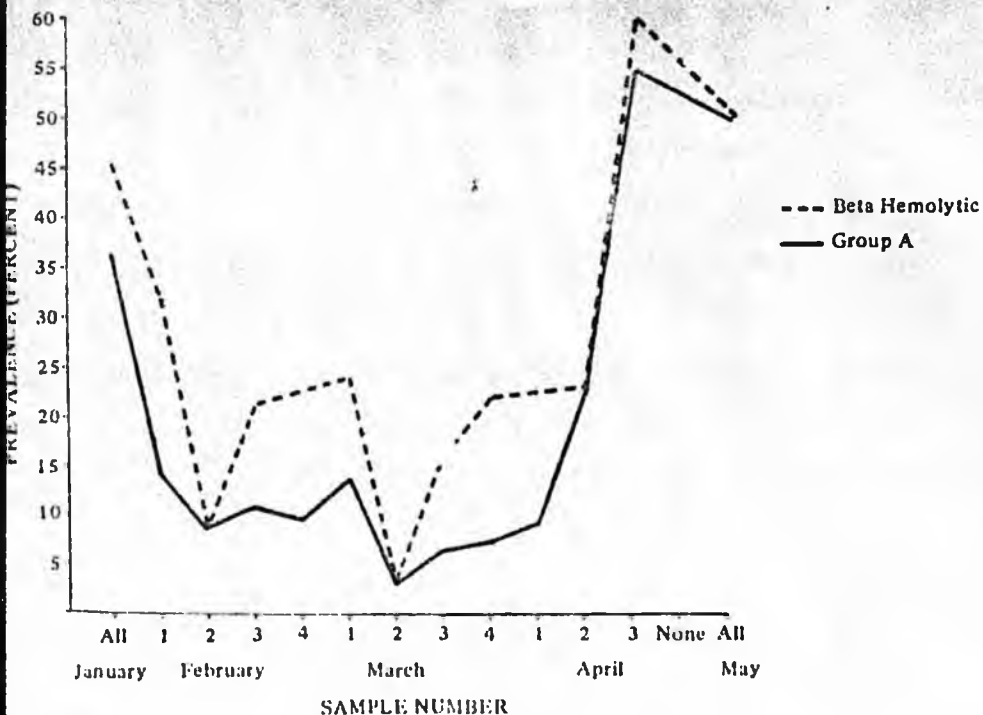


Fig. 1. Results of throat cultures taken from a rotating sample of school children, Nunapitchuk, Alaska, January, 27 — May 3, 1971.

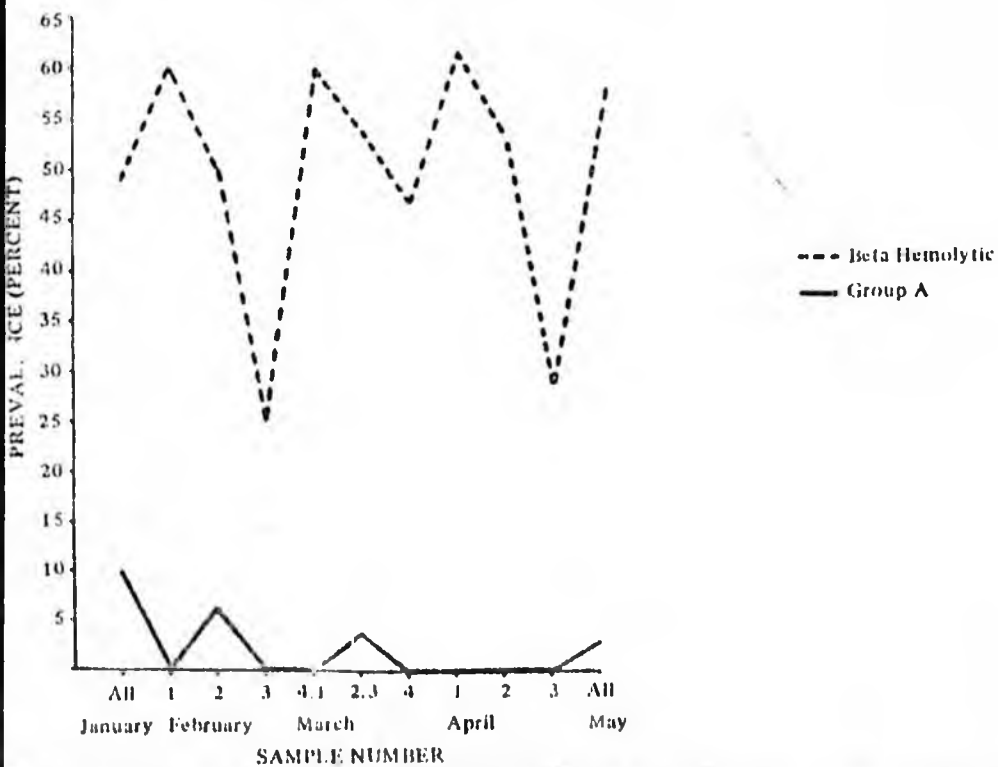


Fig. 2. Results of throat cultures taken from a rotating sample of school

TABLE III. Initial Throat Cultures Stebbins, Alaska January 27, 1971.

	Age		Total
	0-14	15+	
Total Cultures	69	70	141
Per Cent Beta Hemolytic	49.3	18.6	33
Total Group A	7	6	13
Per Cent Beta Hemolytic Group A	10.1	8.6	9
M-typeable Per Cent of Group A	—	16.7	7
T-typeable Per Cent of Group A	42.9	50.0	46

*Includes two with ages unknown.

TABLE IV. Final Throat Cultures Stebbins, Alaska May 4, 1971.

	Age		Total
	0-14	15+	
Total Cultures	74	41	115
Per Cent Beta Hemolytic	58.1	14.6	42
Total Group A	2	—	2
Per Cent Beta Hemolytic Group A	2.7	—	1
M-typeable Per Cent of Group A	—	—	—
T-typeable Per Cent of Group A	50.0	—	50

Since half of the group A organisms were M-typeable and all these were M-type 1, it is probable that an epidemic of this organism had just occurred. Figure 1 shows the prevalence rates for each of the weekly school samplings. There was a downward trend in group A prevalence until March 17. At that time, there was a slight rise that subsequently became abrupt, and because of increased M-typeability, we estimated that a new epidemic caused by M-type 6 organisms was in progress. It is probable that the initial group A M-type 6 organisms were introduced by members of a Nunapitchuk family who provided the first isolates of this type on March 8 and March 23. By May one-half of the school children were positive for group A organisms (Table II) and 84.7 per cent of these were typeable as M-type 6.

The age specific prevalence rates of beta hemolytic and group A streptococci for Stebbins in January and May are shown in Table III and IV. In this village the majority of beta hemolytic organisms were group C and not group A with the proportion of group C isolates increasing from 55 per cent in January to 88 per cent in May. Of all Stebbins villagers cultured in January, there were 13 persons (9.2%) with group A organisms and only two persons (1.7%) were positive for group A organisms in May. Figure 2 shows the weekly prevalence rates for each of the Stebbins school samplings. Again, the majority of beta hemolytic organisms were group C. None of the school children with group C organisms acquired a group A infection.

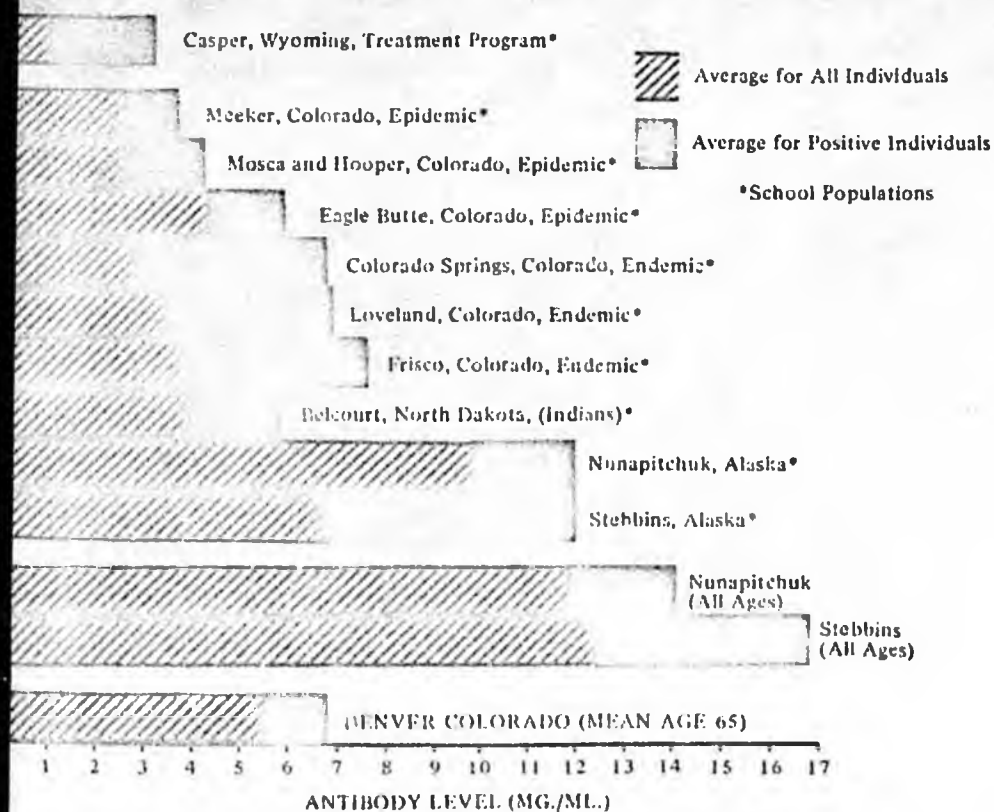


Figure 3. Group A streptococcal polysaccharide antibody levels in Alaska Eskimos compared with other populations.

TABLE V. Type Specific Antibody Geometric Mean Titers — Alaska January 27, 1971.

	Village	
	Stebbins	Nunapitchuk
M-type 1	31	46
M-type 2	110	92
M-type 4	234	135
M-type 5	10	10
M-type 9	382	240
M-type 12	1254	1105

and of four children found to have group A organisms three subsequently lost that infection and acquired group C organisms. No persons have had cultures positive for both group A and group C organisms at the same time.

During the three month period, only 10 persons in Nunapitchuk and six persons in Stebbins were cultured by the health aides because they complained of a sore throat. Of these 16 cultures, five persons (31 %) were positive for group A organisms.

Figure 3 compares the levels of antibody to group A streptococcal polysaccharide for both villages with those from other populations. Table V shows the geometric mean titers of type-specific antibody found in both villages in January.

Of 96 Nunapitchuk children tested, one had hematuria. This child whose culture had not been taken when scheduled was subsequently found to be positive for group A organisms. He was hospitalized and diagnosed as having resolving glomerulonephritis. No cases of acute rheumatic fever were discovered in either study village. However, in June a child from a village near Nunapitchuk was hospitalized with this diagnosis.

Discussion

A comparison of the culture results for the mass culturing periods and the weekly school samples shows that the rotating 25 per cent random sample was effective in tracking group A and M-type prevalence. Previous non-epidemic samplings performed in Bethel, Alaska, showed an average prevalence of group A organisms of 18.6 per cent, a value similar to levels found in many other geographic locations. In this study, group A levels were found to be unusually low in Stebbins in the face high group C prevalence.

Two periods of high group A prevalence occurred in Nunapitchuk. The first epidemic in this village, believed to be caused by M-type 1 organisms, was in progress in January when the study began. All persons with positive cultures were treated. This, along with weekly treatment of positives, was probably responsible for the reduction of prevalence to below five per cent in March. The second epidemic, caused by M-type 6 organisms, appears to be related to the probable introduction of the organism from outside the village. There were logistical delays of 23 and 15 days between the culturing and treatment of two siblings who were the first children detected with M-type 6 cultures. When it was verified that an epidemic was occurring mass prophylaxis of school children was recommended and this was performed on May 13.

Serologic studies in both Eskimo villages revealed levels of antibody to group A polysaccharide higher than those previously reported. This non-protective antibody is accumulative and reflects previous exposure to group A infection. Although the group A prevalence in Stebbins was quite low during the period of observation, the group A antibody levels in both villages are retrospective evidence of considerable experience with this organism. Since type-specific antibody titers do not persist indefinitely, it is not surprising that the levels measured in sera drawn in January in both villages are similar to those found elsewhere.

The rheumatic fever frequency in a population following a streptococcal epidemic has been thought to be three per cent of untreated infections. Therefore, it is likely that the original treatment of positives and the mass prophylaxis during the M-type 6 epidemic have prevented several cases. If the time between culturing and treatment is shortened, it should be possible through systematic treatment of positives to more consistently reduce group A prevalence to below five per cent and thus eliminate the need for mass prophylaxis.

Summary

A surveillance program to detect streptococcal pharyngitis and reduce the incidence of acute rheumatic fever and glomerulonephritis was initiated in two remote Eskimo villages in Alaska between January and May, 1971. Throat cultures were obtained from all age groups at the beginning and end of the study period and from symptomatic persons and a rotating 25 per cent sample of the school children each week. In one village, treatment of each person found to be infected with group A organisms was attempted. Two epidemics were documented in this village within a four month period. Although several cases of rheumatic fever may have been prevented, a treatment delay of 15 to 23 days apparently allowed the epidemic spread of virulent M-type 6 organisms. In a second village, streptococcal prevalence was monitored in an attempt to define early epidemics and allow mass prophylaxis with penicillin. Although no group A epidemics occurred in this village and no treatment was performed, group C prevalence increased during the period of surveillance. Patient reporting of pharyngitis was not helpful in detecting persons with streptococcal group A infection in either village. The randomly selected 25 per cent samples adequately reflected group A prevalence in the total school population. Serum antibody studies conducted in both villages suggest greater previous exposure to group A organisms than reported elsewhere. Treatment of those villagers found to be positive for group A organisms might prevent epidemic spread if the time between culturing, laboratory reporting, and treatment is shortened.

Acknowledgements

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Key words: antibodies; epidemiology; Eskimos; glomerulonephritis; rheumatic fever; public health; streptococcal infections.

MATERNAL & CHILD/HEALTH PROPOSAL TO THE STATE OF ALASKA.

Yukon-Kuskokwim Health Corporation incoperation with
Indian Health Service Hospital, Bethel and the Bethel
Itinerant Public Health Nurses.

December, 1974

M.C.H. PROGRAM
-Outline-

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Although the infant death rate is subsiding the infant morbidity rate remains high and is perhaps the prime reason for an MCH Program. The high morbidity and mortality are from infectious diseases such as viral pneumonias, bacterial meningitis, otitis, strep throat and bacterial pneumonias. Overcrowded and inadequate housing compounds the problem of the spread of infectious diseases. Inferior nutrition which is manifest in nutritional anemias, particularly iron deficiency anemia, has been reported to be up to 50% of all school children in some villages. There is inadequate patient understanding of intercurrent illnesses and in treatment of simple and more complicated diseases. Patients are unable to participate in caring for themselves because they have a significant lack of understanding of their own disease process and of the medications which are prescribed for them. Children with chronic diseases are sometimes lost to follow-up because parents did not understand the importance of medical follow-up for these conditions and because of a diversified medical system with an inadequate method for monitoring chronic illnesses in children. All of these problems result in increased hospitalization. The Bethel area has a high admission rate of 724 patient days per thousand persons ages 0-14. This is triple the US average. The hospitalization rate of children 0-5 is 10 times the rate experienced by the Kaiser Permanente Health System in California.

Maternal health, too, is below the norm. In a prenatal survey table 10611 by the State of Alaska in 1973, it was noted that women hospitalized in the I.H.S. hospitals and women on public assistance have fewer prenatal visits before the third trimester of pregnancy. Indeed, there are many mothers who have delivered at Bethel hospital who have had no prenatal care in the first two trimesters of their pregnancy. Their first physical examination is usually conducted in the outpatient department of the hospital prior to their entering the Prenatal Home. This is usually 4 weeks or less before their estimated date of confinement.

There appears to be a greater number of high risk obstetrical patients in this area as compared to other areas. In July, of 1974, there were 65 persons classified as high risk. This accounted for 61% of the 107 prenatal patients at that time. More recently, the percentage of high risk prenatal patients has been approximately 52%. There are a large number of grand multiparous women who have had more than five pregnancies who are designated high risk patients. There are also a large number of women who are over 30 who are still bearing children; they too, are high risk. There are a significant number of women who have had previous problems with deliveries. Problems such as: breech presentations, premature births, toxemia and previous abortions are classified as high risk and are frequently found in the Bethel area prenatal patient population. Another major group of patients who are determined to be high risk are those that have postpartum complications. Postpartum bleeding is seen with particular frequency in grand multiparous women.

III. PRESENT MCH PROGRAM

In order to deal with the high infant mortality and morbidity and the large number of high risk pregnancies that exist in the Bethel Service Unit, a coordinated effort was undertaken by the FHS Hospital, YKIC, and Bethel Trirer-ant Nursing to try to respond to these needs. A Maternal & Child Health Program was established (See appendix ii outline of MCH System). It is coordinated by a Nurse Midwife who reviews charts of all pregnant patients and assigns risk according to the previous history and physical exam.

This history and PE may be done by the health aide or the itinerant nurse. Each month the health aide measures blood pressure, weight, hemoglobin and does a dip stick urinalysis on pregnant patients in the village. She then sends the monthly report to the MCH Coordinator who reviews the findings. Any discrepancies or problems are brought to the attention of a doctor or a consultant in Anchorage and appropriate measures are taken to correct the deficiencies. Well babies are examined in the village. Results are sent to the MCH Coordinator who reviews them. Any problems are discussed with the pediatrician and appropriate actions are taken. One of the actions is to refer prenatal patients or well babies to the Public Health Nurse for further evaluation.

The Public Health visits the village about 3 or 4 times a year and administers follow-up care to these patients. In addition, she teaches health aides to conduct Well Baby and Prenatal examinations. Prenatal education is given in Bethel by the Public Health Nurse, by the MCH Coordinator and by the OB Nurse to ladies who are waiting in Bethel to have their babies. These educational sessions are given at the Prematernal Home, Hospital O.B. Ward, and also are given by the Bethel P.H.N. and are open to all who come.

Some MCH services are available in the hospital. Outpatient visits for prenatal care and consultations with doctors here or with obstetrical specialists in Anchorage are available in Bethel. Delivery of routine pregnancies and postpartum care is given in the hospital. The Public Health Nurse holds clinic in one of the buildings downtown. All Bethel mothers take their babies for Well Baby exams at this location. Bethel high risk infants are followed by the PHN and M.C.H. Co-ordinator.

Other MCH services are available in the village. Many of these services are administered by the PHN in the form of prenatal examinations and Well Baby follow-ups. The doctor visits the village once a year and when he is there, he will do prenatal examinations, also. The Female Care specialist visits the village periodically and provides contraceptive information and does physical examination of women. The health aide is the primary care person in the village but only a few of them are able to do the prenatal examination and Well Baby follow-ups. Most of their previous training has been in the area of acute care many are not equipped to deal with patient follow-up or with preventive Maternal & Child Health care, nor are they equipped to deal with patient education.

IV. UNMET NEEDS IN THE VILLAGE

1. Health aides' education concerning maternal and child health, specifically, Prenatal & Well Baby clinics.
2. Health aides' emphasis on early child care, ages of 0-5, concerning nutrition, RX-ing infections, normal growth and development, screening of eyes, ears, hemoglobin, height, weight and head circumference, and immunizations.
3. Getting more services or more health aide instructions into the villages.
4. Working out the administrative problems of McGrath PHN who covers upriver Bethel villages.

5. Village based education, teaching people how to take care of themselves in acute and chronic situations, when to go to the doctor, what the best practices are concerning nutrition, child rearing, child spacing, contraception, and general health education.

V. UNMET NEEDS IN BETHEL

1. The outpatient department is under staffed and crowded. More nurses are needed to deal with the increased load of prenatal patients and also of pediatric patients.
2. In-service MCH training for obstetrical nurses, LPN's, aides, physicians, health aide trainers, & P.H.N.'s Specific MD training in ambulatory prenatal care, in obstetrical deliveries and in ambulatory pediatrics is required.
3. Training for Prematernal Home aides so that they are instructors and not only caretakers.
4. Adequate identification and follow-up of high risk infants and children of pre school age.

VI. GOALS OF THE MCH PROGRAM

In order to reduce the infant mortality and morbidity and in order to insure that prenatal women are kept in the best state of health during their pregnancy, the following goals have been established:

1. Early identification of pregnant women: 75% of pregnant women should be identified by the first trimester.
2. Determination of high risk pregnancies within 2 weeks of the above identification.
3. Insuring all prenatal patients have adequate follow-up care through the development of a plan of care for each prenatal patient.
4. Reducing home deliveries by encouraging pregnant women to come to Bethel hospital for delivery.
5. Postpartum and Well Baby follow-up care provided to 100% of all patients.
6. Education of patients in regards to their own health care, their children's health care, how to deal with acute and chronic illnesses and how to achieve the best state of nutrition possible with special attention to prenatal education.
7. Training health aides in Maternal & Child Health; specifically pre-partum care, Well Baby Care and Health Education. It is hoped that health aides will be able to conduct adequate prenatal exams, adequate Well Baby exams, and it is hoped that health aides will be able to educate the people in their villages as to how to deal with problems concerning nutrition, acute and chronic illnesses and other problems of early childhood.

8. Training for health aides to manage emergency obstetrical problems and childhood emergencies. These problems would include deliveries, toxemia of pregnancy and also medical emergencies such as meningitis in children.
9. Development of an adequate record system in Bethel and in the village for prenatal, post partum, and childhood problems. Special emphasis on high risk prenatal and child health file.
10. Development of an effective co-ordinating and management system to insure that all necessary services are provided in a timely manner.
11. Establish a data base from which the M.C.H. program can be evaluated periodically.
12. There are additional goals which women have expressed since the program began. They are the following:
 - (a) An increased awareness of information concerning family planning, female health and prenatal information. Specifically desired is knowledge of how to space children for better maternal and child health.
 - (b) Signs and symptoms of female cancer and other common female health problems.
 - (c) Identification of pregnancy, self health surveillance activities.
 - (d) Preparation of family prior travelling to the prematernal home. Patients have expressed the desire for support for their families while they're in the Prematernal Home waiting to have their babies.
 - (e) Patients have expressed the desire to have pelvic exams done by females and to have their deliveries done by females.

VII. PROPOSAL

YKHC has funded the MCH coordinating and training functions of the inter-agency MCH Program for the past six months. It was the intention of the Board to establish it as a demonstration project with the intent of obtaining permanent funding from other sources. The YKHC program has specifically addressed the needs for coordination, for training, for identification of high risk patients, for developing a plan of care, and for monitoring mother and child development. A detailed description of the activities that will be performed by the YKHC segment of MCH program are shown in Appendix iii. Our proposal to the State is to fund our existing services as shown in Appendix iii and to expand it to include a full time equivalent itinerant PIN.

The expansion of the program to include another PHN position for the Bethel Service Unit area is mandatory to resolve the needs at the village level. Specifically to increase training of health aides in MCH activities and to allow more visits to villages by PHN's to assist the health aide in the provision of more services to children from 0-1 and to those children who continue to be high risk patients after age 1. The present training in Bethel is at a maximum given the aides rate of learning, the number of aides that can be taught at one time and the back log of aides who still have to receive the basic course. Additional training will have to take place in the village. Rather than having one person going around to train health aides in MCH it is proposed that YKHC through contract would hire a PHN who would work under the direction of the PHN nurse supervisor. In exchange the entire itinerant PHN field staff would be given additional time to spend on MCH training. Secondly the addition of a PHN would allow more frequent village visits giving the PHN's more time to focus on early childhood illnesses. The PHN already provide a number of MCH services and health training (see Appendix iv duties of PHN's). An additional PHN is required to serve the 50 villages in the Y-K area. The addition of another PHN rather than an MCH Field Trainer would not fractionate care but expand on the existing service system. From an administrative point of view the MCH Coordinator would work through a AD-HOC management group consisting of the supervisor of the Bethel PHN, and the clinical director of the IHS and the YKHC physician.

All field MCH training done by the PHN's would be coordinated by the MCH Coordinator. Initially the field MCH training could focus on maternal care. As the health aides acquire the skills necessary for maternal care the field MCH training could shift to infant care as diagrammed below:

MATERNAL CARE & EDUCATION

- a. Signs of pregnancy
- b. Surveillance
 - Blood Pressure
 - Weight
 - Urine
 - Swelling
 - Measure Womb
 - Hemoglobin
- c. Explain minor disorder
- d. Prenatal Education
- e. Prepare family & mother for Prematernal Home & their separation
- f. Postpartum Exam
- g. Emergency Birth Procedures

EARLY CHILDHOOD CARE & EDUCATION

- a. Infant feeding and child nutrition
- b. Child Raising
- c. Well Child Examination
- d. High risk Children Identification and monitoring
- e. Immunizations
- f. Dental Care

VIII. ESTIMATED BUDGET

In order to provide the services outlined in the proposal the following budget will be required:

PERSONNEL

M.C.H. Co-ordinator/Nurse Midwife	\$19,428
P.H.N. (Level III)	19,428
Admin. Assistant (1/2 Time)	5,579
Sub-total	<u>\$44,435</u>
Fringe 13%	5,775
Total	<u>\$50,210</u>

EXPENDABLE SUPPLIES

Office Supplies \$100/Person	\$200
Patient Records M.C.H.	I.H.S.
Patient Records P.H.N.	State
Health Supplies & Medications M.C.H.	I.H.S.
Health Supplies & Medications P.H.N.	State
Audio-Visual Health Education Films for (\$250/Film) Prematernal Home, Hosp. & Villages.	\$500
Sub-total	<u>\$700</u>

CAPITAL EXPENSES

Office Furniture:

1. Space Saver Desk (1)	\$35
2. Chairs (2)	\$60
3. Desk Lamp	\$25
4. File Cabinet 1 P.H.N. (2 Draw)	\$110
1 M.C.H. (2 Draw)	\$110

Medical Furniture & Equipment

1. P.H.N. Field Kit (Estimate)	\$1000
2. Clinical M.C.H.	I.H.S.
Sub-total	<u>\$1340</u>

TRAVEL

P.H.N. Field Clinics 7 Villages (3x)	
Air	2100
Perdiem (4d)	3360
M.C.H. Travel to Village 3 Trips	
Air	300
Perdiem (4d)	480
P.H.N. Conf. Training 1 Trip	
Air	200
Perdiem (5d)	215

Patient Travel 1st Prenatal Exam. to High Risk Patients (50% of 350 Births x \$56)	\$9800
Moving for New P.H.N.	700
Sub-total	<u>\$17,155</u>

OTHER

Housing:

1. M.C.H. Co-ordinator	3000
2. P.H.N.	3000
3. Adm. Assist	1500

Office Space Rent:

M.C.H./F.H.P./P.H.N.	3000
----------------------	------

Clinical Space:	I.H.S.
-----------------	--------

Moving (New P.H.N.) 2,500 Lbs. or \$3,000 Which ever is less	3000
---	------

Malpractice Insurance:

1. M.C.H./Nurse Mid-Wife	260
2. P.H.N.	120
Sub-total	<u>\$13,980</u>

ADMIN. OVERHEAD

Admin. (Contract Negotiation and management)	2,000
Postage	200
Zerox	200
Telephone	250
Total	<u>2,650</u>

\$85,935

APPENDIX I

THE BETHEL SERVICE AREA

The region which the Bethel Service Unit covers is an area of 75,000 square miles. The Villages we are dealing with are small in population and the number of Villages still remaining is large. There are 14 thousand natives in this region consisting mostly of Yupik Eskimos. There is a small number of Indians in the Northeastern part of the service unit. 31% of the total population are between the ages of 5 and 14 years old. 14% of the total population are less than 5 years old. The average growth rate of the Bethel Service Unit is 1.3% annually. If the population continued to increase at the same rate as in the past (1.3%), the population will exceed 16,500 by 1980. The median income for the whole Bethel Service Unit is \$3,748 annually. The labor force of the region is 2,172 people which is 15% of the total population. 14% of the total labor force is unemployed. Public service or government employees account for 16% of the individuals employed in Alaska, but 25% of the employed population of Bethel. Education is also a big source of employment for Bethel area residents, with about 19% of the employees in the area in education. The other large sources of employment in the area are health and welfare services and religious and non-profit organizations.

Transportation is Difficult . . .

There is one hospital in the Bethel Service Unit which is located at Bethel. It can hold 42 patients at any one time. This hospital serves the Natives in 75,000 square miles in which there are over 14 thousand people. The hospital is understaffed, with seven doctors and nurses. The villages are visited an average of once annually by a doctor. Most of the work done in the villages is handled by the health aides. The bigger villages have small clinics from which the health aides can work out of. Public health nurses visit villages on an average of three times a year to assist the aides, to train them and to provide preventive health services.

All of the patients have to be flown into Bethel either by charter or scheduled airline services. The average cost of travel between Bethel and a village is \$ 56.00. Transportation and communications problems prevent good use of the hospital at Bethel. The birth rate per 1,000 has been declining and was at 26 per 1,000 in 1970. That still exceeds the rate for the United States and the State of Alaska. The death rate is 4.9 per 1,000 which is lower than the 9.5 for U.S. as a whole, but this low figure is more of a reference to the numerous young in age rather than good health. For the infant death rate of less than 1 year olds, the Bethel area is still higher than Alaska and the U.S. as a whole. Accidents are the major causes of death in the service unit. Among diseases the next highest cause of death is malignant neoplasms, but accidental death is 3 times higher than that. Other diseases commonly reported in the area are: otitis media, pneumonia, colds and infections.

THE YUKON KUSKOKWIM HEALTH CORPORATION

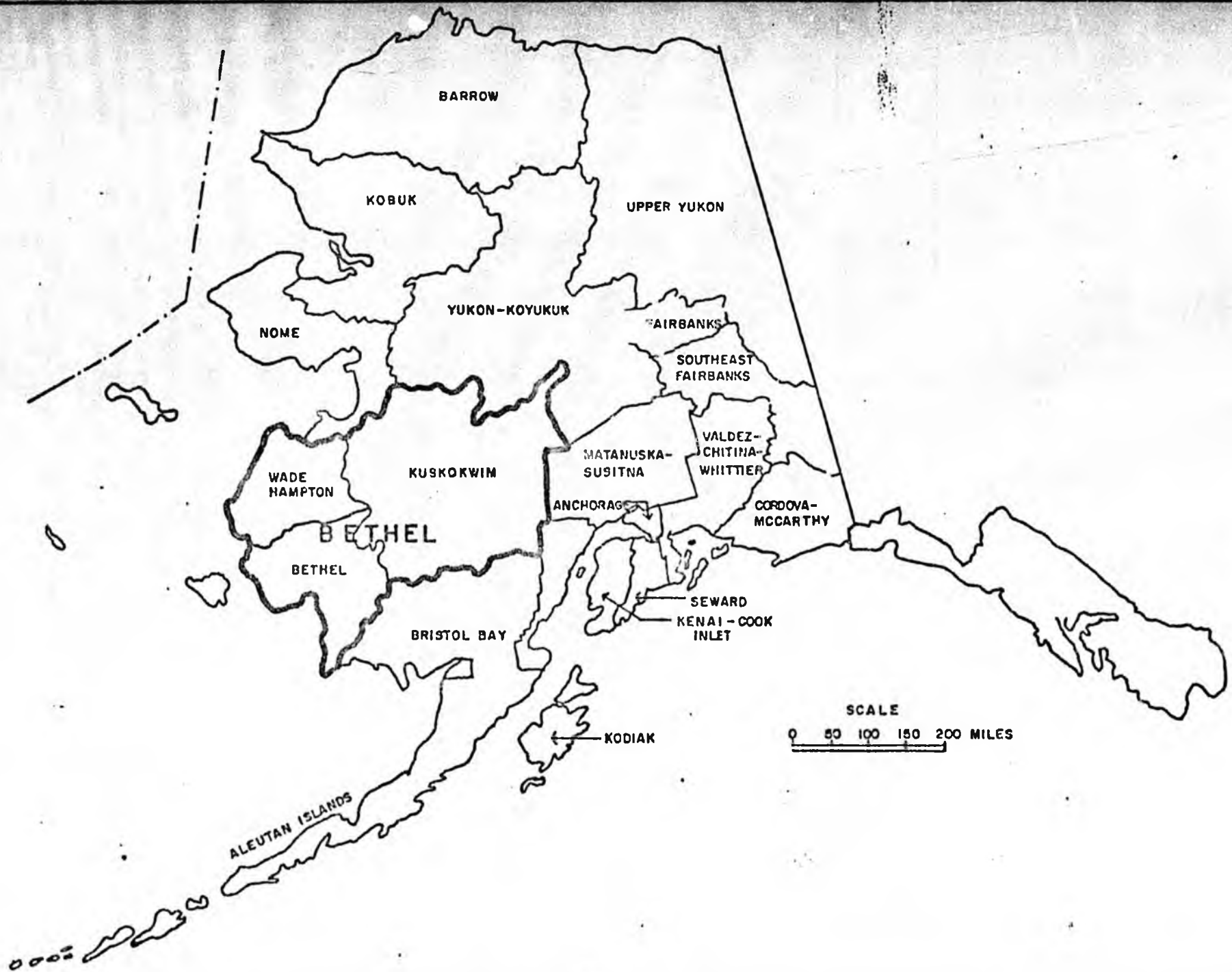
The Yukon Kuskokwim Health Corporation (YKHC) was originally started in 1969 and has been funded by OEO until May of 1973 when it was shifted over to HEW. YKHC is controlled by 25 board members of which 17 are Yupik Eskimos. The purpose of YKHC is to provide better health care and to bring about consumer control of health care. It functions through 13 departments which are:

- 1) Community Liaison,
- 2) Community Health Representatives,
- 3) Health Aide Education
- 4) Dental Health Educators,
- 5) Eye Care
- 6) Mental Health
- 7) Administration

- 8) Female Health Practitioner
- 9) Health Education
- 10) Streptococcal Surveillance Program
- 11) Maternal and Child Health
- 12) Prematernal Home
- 13) Child Care

The Training of Health Aides . . .

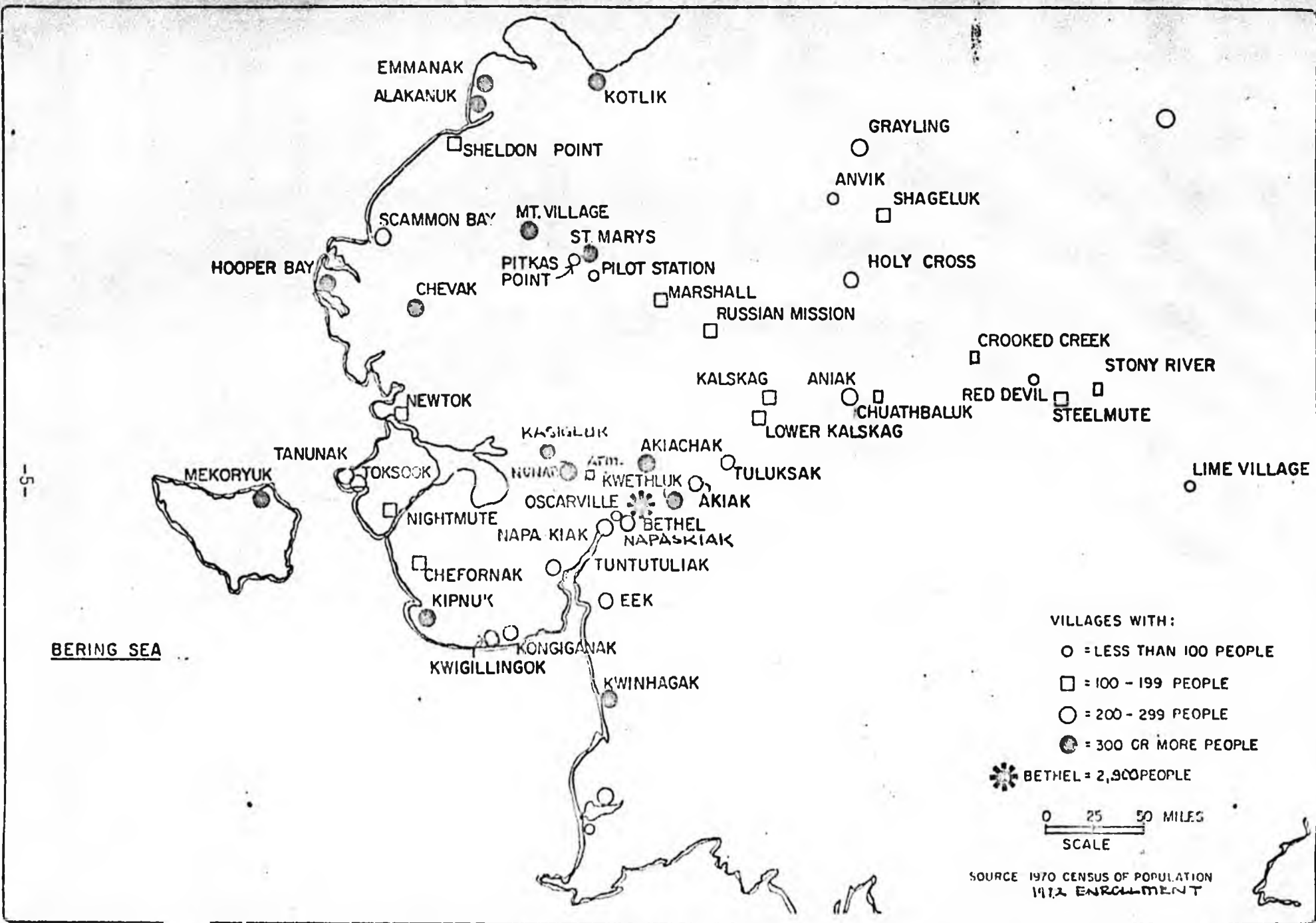
Since 1970, YKHC Field Trainers have been involved in training health aides. The goal at that time was to give basic care knowledge to one aide in each of the 49 native villages. To learn the basic care knowledge the aide must participate in 9 weeks of village and classroom training spread over a six month period. At present, 29 out of 59 aides have received this training. This means that 33 out of the 49 villages in the service unit now have a trained health aide. By the end of next fiscal year (June 30, 1976), it is projected that all the villages will have an aide who has received the basic care knowledge training. Concurrently with the introductory courses the training will continue in specific areas to those who have had the first nine weeks. There is 1 aide per 300 people plus one secondary aide in the villages, or 2 aides per 600 people.



BETHEL SERVICE AREA

LOCATION MAP

MAP 1



BETHEL SERVICE AREA

POPULATION DISTRIBUTION
1972

MAP 2

TABLE 1
 SELECTED DEMOGRAPHIC DATA
 BETHEL SERVICE AREA
 1970

COUNTY CENSUS DIVISION	Population		Ethnicity						Median Age	Average Number of Persons house
			White		Black		Other			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent		
BETHEL (C.C.D.)	7,579	100.0	747	9.9	24	0.3	6,808	89.8	17.2	5.70
WADE HAMPTON (C.C.D.)	3,917	100.0	321	5.9	12	0.3	3,674	93.8	16.2	5.88
KUSKOKWIM (C.C.D.)	2,306	100.0	584	25.3	35	1.5	1,687	73.2	19.9	4.73
BETHEL SERVICE AREA - TOTAL	13,802	100.0	1,562	11.3	71	0.5	12,169	88.2		
ALASKA	300,382	100.0	236,767	78.6	8,911	3.0	54,704	18.2	22.9	3.52

Notes: C.C.D. - County Census Divisions

Source: U. S. Department of Commerce, Bureau of the Census
 1970 Census of Population, General Social and Economic Characteristics, Alaska, PC (1) - C3

TABLE 2

MARITAL AND FAMILY STATUS OF RESIDENTS OF
BETHEL SERVICE AREA, 1970

	<u>Number</u>	<u>% of Total</u>
Number of Families	2,190	100.0%
With Children Under 18	1,691	77.2
With Children Under 16	1,062	48.5
Number of Individuals		
Total	13,802	100.0
Living in Households where they are not related to the head of the household	202	1.5
Number of Males Over 14 Years	4,320	100.0
Married	2,266	52.5
Single	1,849	42.8
Other	205	4.7
Number of Females Over 14 Years	3,567	100.0
Married	2,002	56.1
Single	1,254	35.2
Other	311	8.7

Source: U.S. Census of the Population, 1970.

TABLE 3

ECONOMIC INDICATORS^a
 BETHEL SERVICE AREA
 1970

	BETHEL SERVICE UNIT				ALASKA
	Bethel *	Wade Hampton*	Kuskokwim	TOTAL	
<u>Family Income</u>					
Per Capital Income	\$1,336	\$1,069	\$1,670	-	\$3,456
Median Income	4,085	2,655	3,744	-	12,296
% under \$3,000	40%	45%	41%	42%	9%
% over \$10,000	23%	9%	22%	18%	62%
<u>Housing</u>					
Median Rent	\$ 108	\$ 108	\$ 74	-	\$ 171
Median Home Value	\$ 5,000	\$ 5,000	\$ 5,000	\$5,000	\$22,700
<u>Civilian Labor Force^b</u>					
Employed	1,380	450	341	2,191	98,286
Unemployed ^b	1,208	400	275	1,883	89,236
%	192 (7%)	50 (1%)	66 (20%)	308 (14%)	905 (9%)
<u>Public Assistance</u>					
% of Families with public assistance or public welfare.	33%	25%	20%	29%	5%

* County Census Divisions

- Notes: a) Sample survey of 20% of 1970 census returns
 b) 16 years and older, male and female labor force

- Source: 1) U. S. Department of Commerce, Bureau of the Census
1970 Census of Population, General Housing Characteristics, Alaska, PC (1)-B3
 2) U. S. Department of Commerce, Bureau of the Census
1970 Census of Population, General Social and Economic Characteristics, Alaska PC (1)-C3.

GRAPH 1

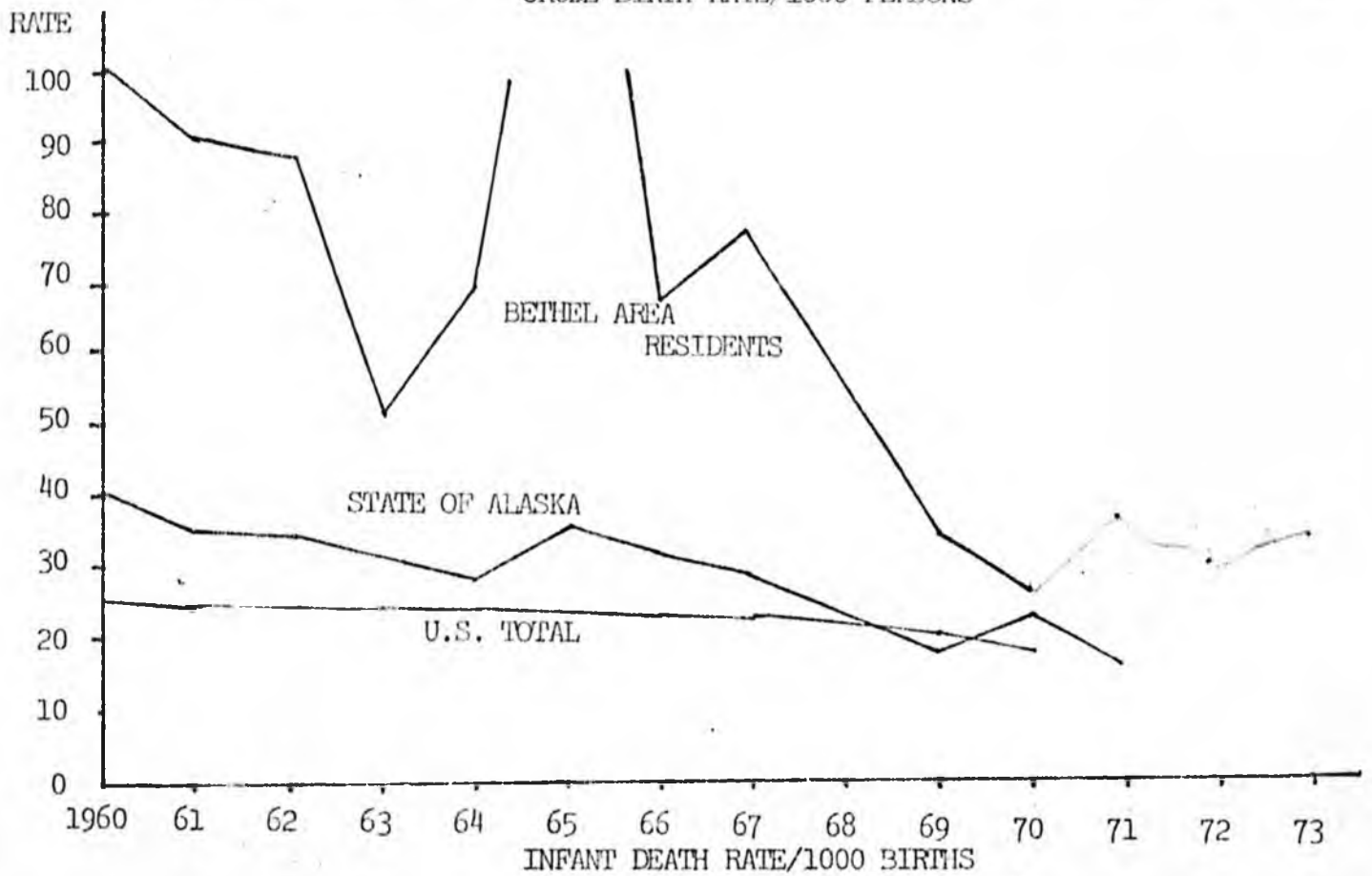
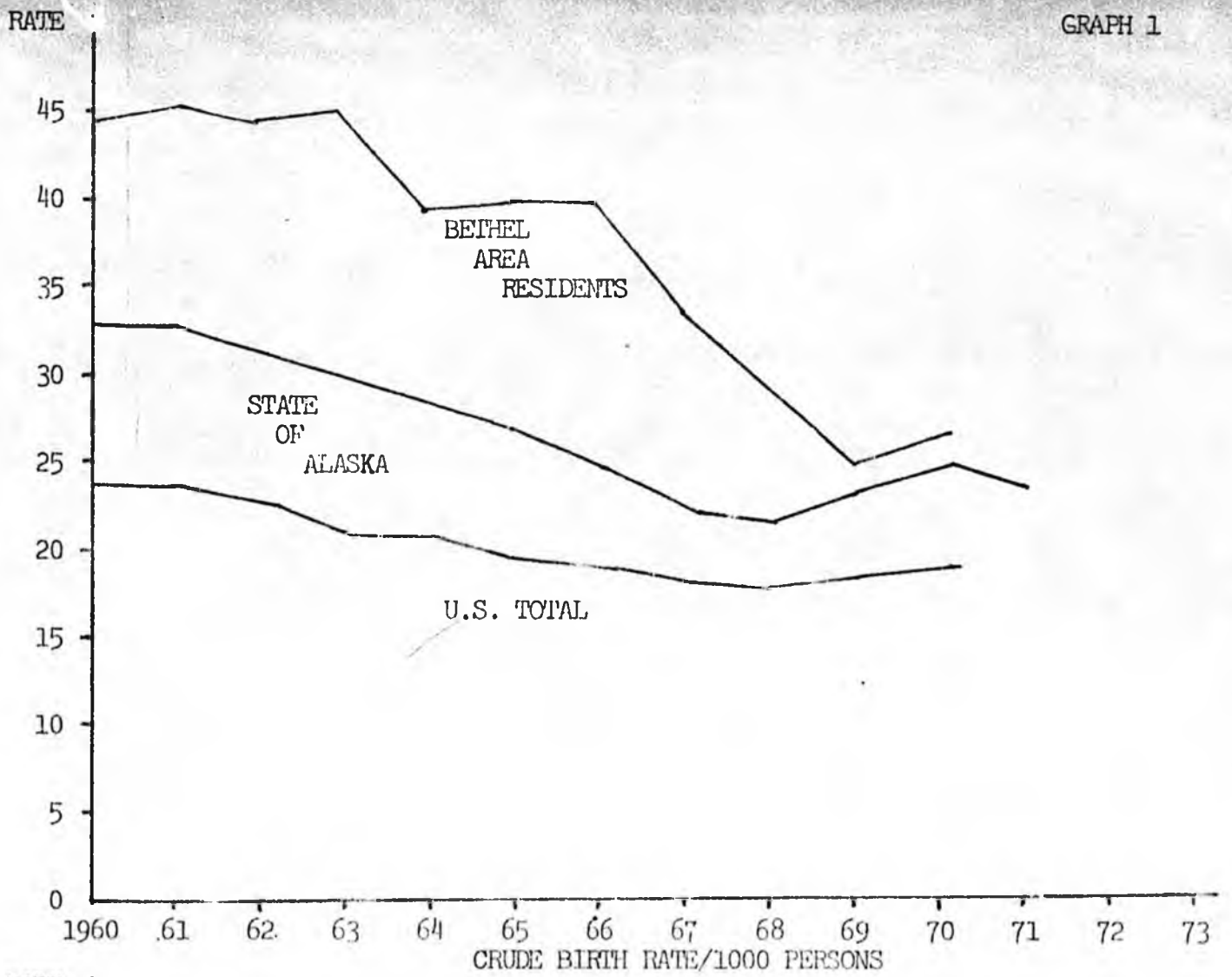


TABLE 4
 POPULATION, BIRTHS, AND DEATHS
 BETHEL SERVICE AREA, 1960 - 1970

YEAR	ESTIMATED MID-YEAR POPULATION ¹	LIVE BIRTHS		CRUDE DEATHS		INFANT DEATHS	
		Number	Rate ^a	Number	Rate ^a	Number	Rate ^b
1960	11,000	492	44.7	102	9.3	49	99.6
1961	11,287	534	47.3	123	10.9	49	91.8
1962	11,574	520	44.9	117	10.1	46	88.5
1963	11,861	539	45.4	107	9.0	28	51.9
1964	12,148	482	39.7	96	7.9	34	70.5
1965	12,435	501	40.3	139	11.2	73	145.7
1966	12,722	517	40.6	103	8.1	35	67.7
1967	13,009	438	33.7	102	7.8	34	77.6
1968	13,296	379	28.5	76	5.7	21	55.4
1969	13,583	336	24.7	76	5.6	12	35.7
1970	13,870	367	26.5	68	4.9	9	24.5

Notes:

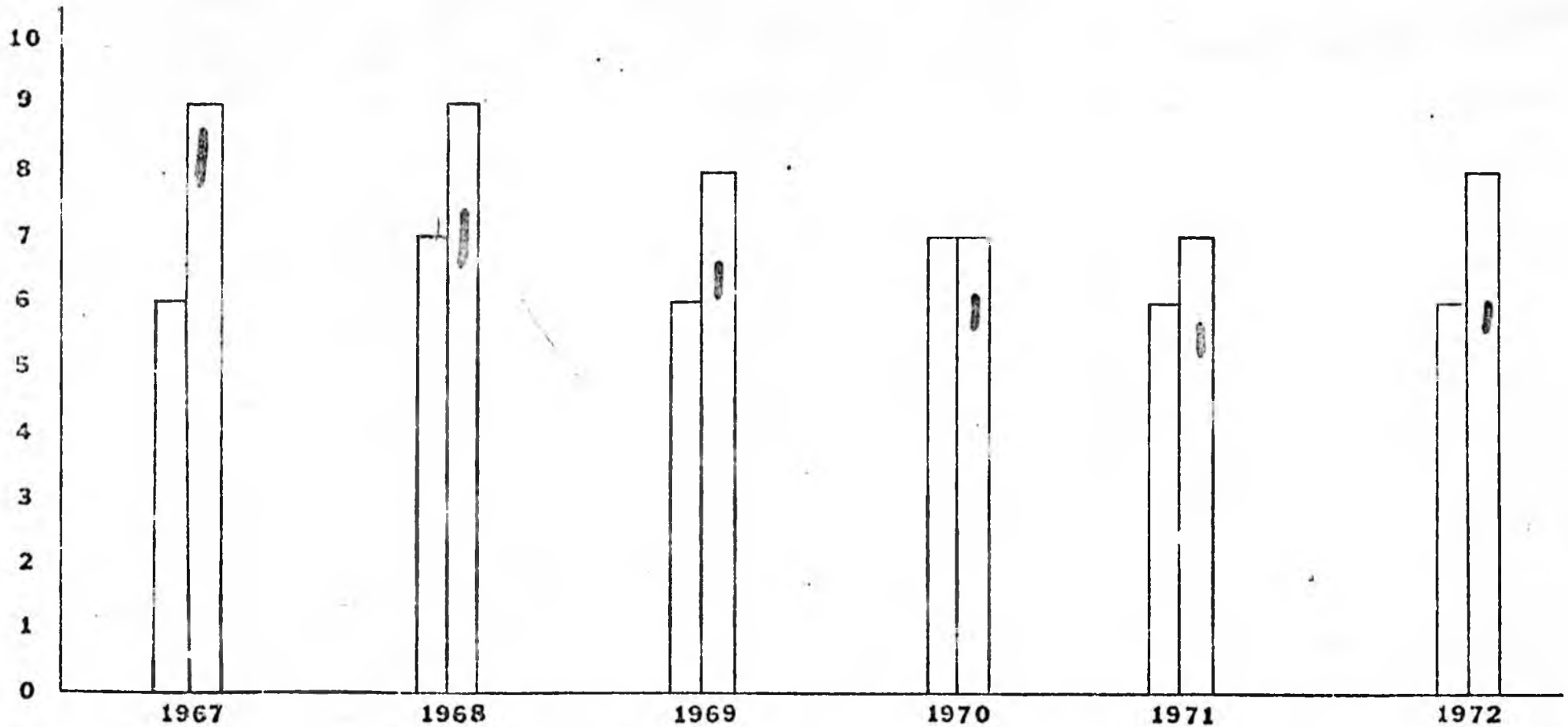
1. Population estimate is straight line interpolation between 1960 and 1970 mid-year population estimates.
- a. Rate per 1,000 mid-year population.
- b. Rate per 1,000 live births.

Source: Alaska Department of Health & Social Services.

PERCENT OF BIRTHS 2500 GRAMS OR LESS
VERSUS
TOTAL NUMBER OF BIRTHS IN RACIAL CATEGORY

GRAPH 2

□ WHITE
◐ NATIVE



GRAPH 3
BIRTH RATE AND ORDER OF BIRTH

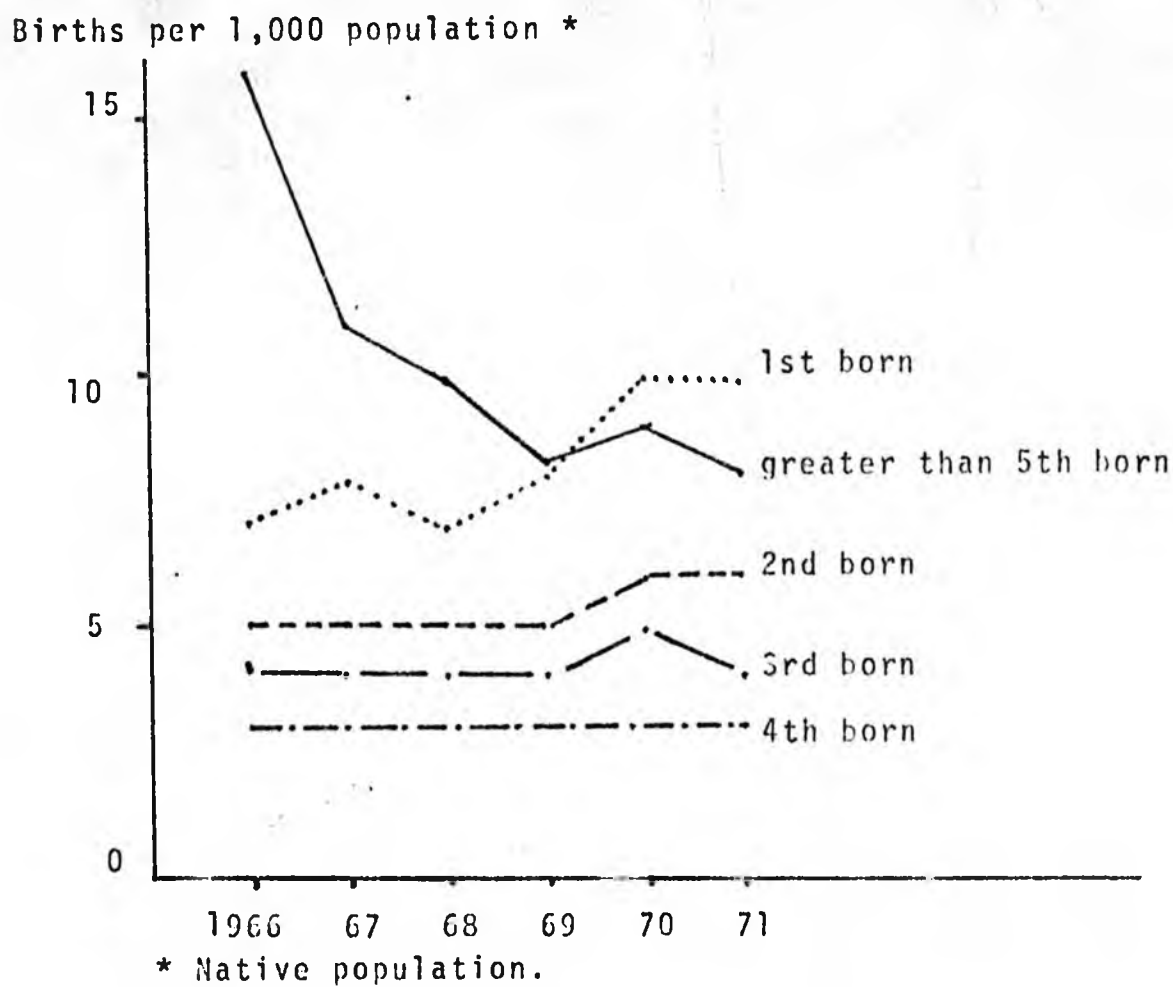


TABLE 5
 FERTILITY RATE 1970
 -COMPARITIVE FIGURES-

AREA	BIRTHS/1,000 WOMEN AGES 15-44
1. <u>BETHEL TOTAL*</u>	150.3
Native	155.8
White	65.0
2. <u>STATE OF ALASKA*</u>	
White	100
Native	158
3. <u>U.S. TOTAL**</u>	87.6

*Source State of Alaska Statistical Summary of Vital Statistics

**U.S. DHEW, Annual Summary for U.S. 1970, HSM 72-1121,
 September 21, 1971.

TABLE 6

PEDIATRIC HOSPITALIZATION
-OPD AND INPATIENT-
BETHEL SERVICE UNIT HOSPITAL

	1968	1970	1973
1. Estimated Population/Total	13,300	13,820*	14,233
2. Child Under 15 Est.			
Number	5,985	6,269*	6,689
Percent	45%	46%*	47%
3. OPD Medical Visits Under 15			
Number	14,260		8,206
Percent of Total	60%		32%
Rate/Person	1.1		.6
4. Pediatric Admissions			
Number	1,056		560**
Percent of Total	42%		36%
Rate/1,000 Population	176.4		83.7
5. Patient Days Pediatric			
Number	?		4,814**
Percent of Total	-		43%
Rate/1,000 Population	-		724

*Actual 1970 Information from 1970 U.S. Census

**28 Days - 14 Years

- SOURCE: 1. 1973 Direct Inpatient on Request Form 21 and APC Request Report 9, IHS.
2. Bethel Service Unit Study, Program Analysis, July 31, 1969.

TABLE 7

PEDIATRIC HOSPITALIZATION
-COMPARITIVE STATISTICS-

	BEIHEL AREA ¹	KAISER N.C.R.	KAISER S.C.R.	ORANGE COUNTY	U.S. TOTAL
YEAR	1973	1969	1970	1970	1970
AGE GROUP	0-14	0-14	0-14	0-14	0-17
POPULATION SIZE	6,689	294,190	?	440,320	(?)
ADMISSION RATE/1000	83.7	40	4.1	55.7	70
PATIENT DAY RATE/1000	724	200	203	214	-
A.L.O.S.	8.6	5.0	4.9	3.9	-
O.P.D. RATE/PERSON	.6	-	.6	-	-

PEDIATRIC HOSPITALIZATION

AGE GROUP/PATIENT DAY RATE	BEIHEL AREA	KAISER NORTH CALIF.
0-4 Patient Day Rate/1000	1,785	243
5-9 Patient Day Rate/1000	} 287	120
10-14 Patient Day Rate/1000		114

NOTE: 1. Excludes Hospitalization in ANMS. Therefore figures are low.

TABLE 8
LEADING CAUSES OF DEATH BY AGE GROUPS BY YEAR
BETHEL SERVICE AREA
1969

CAUSE OF DEATH EIGHTH REVISION NUMBER	TOTAL	DEATHS BY AGE GROUP			
		< 1 Yr.	1-14 Yrs.	15-64 Yrs.	65+
All causes	76	12	25	16	23
Accidents (all types) 800-962	22	3	14	3	2
Malignant Neoplasma 140-205	9	0	1	5	3
Diseases of the Heart 410-443	7	0	3	4	0
Influenza and Pneumonia 480-483; 490-493	7	1	1	0	5
Diseases of Early Infancy 760-776	6	6	-	-	-
Vascular Lesions, Central Nervious System 330-334	3	0	0	0	3
General Arteriosclerosis 450	1	0	0	0	1
Congenital Malformations 750-759	1	1	-	-	-
Suicide 963; 970-979	0	-	-	-	-
Other Circulatory Diseases (aneurysms, embolisms, thromboses) 441-458	0	-	-	-	-
Cirrhosis of the Liver 581.0; 581.1	0	-	-	-	-
Diabetes Mellitus 260	0	-	-	-	-
Emphysema 492	0	-	-	-	-
All Other Causes	20	1	6	4	9

Source: Alaska Department of Health and Social Services.

LEADING CAUSES OF DEATH
 BETHEL SERVICE AREA
 1965, 1967, 1969

CAUSE OF DEATH EIGHTH REVISION NUMBER ^{a.}	1965		1967		1969	
	Number	Rate ^{1.}	Number	Rate ^{1.}	Number	Rate ^{1.}
All Causes ^{b.}	139	1117.8	102	784.1	76	559.5
Accidents (all types) 800-962	28	225.2	28	215.2	22	162.0
Malignant Neoplasma 140-205	6	48.3	8	61.5	9	66.3
Diseases of the Heart 410-443	13	104.5	10	76.9	7	51.5
Influenza and Pneumonia 480-483;490-493	18	144.8	8	61.5	7	51.5
Diseases of Early Infancy ² 760-776	6	48.3	13	99.9	6	44.2
Vascular Lesions, C.N.S. 330-334	1	8.0	2	15.4	3	22.1
General Arteriosclerosis 450	0	0	-	-	1	7.4
Congenital Malformations 750-759	5	40.2	4	30.7	1	7.4
Other Circulatory Diseases (aneurysms, embolisms, thromboses) 441-458	0	-	0	-	0	-
Cirrhosis of the Liver 581.0;581.1	1	8.0	0	-	0	-
Diabetes Mellitus 260	0	-	0	-	0	-
Emphysema 492	1	8.0	0	0	0	-

Notes:

1. Per 100,000 estimated mid-year population

2. Per 1,000 live births

a. International disease index

b. By 1969 rank

Source: Alaska Department of Health and Social Services

Table 10

Percentage Distribution of Patients by Number of Medical Checkups and Date of First Checkup for Each Source of Payment for Hospitalization
Prenatal Care Survey, Alaska, January-June, 1973

Date of First Checkup and Number of Checkups	Source of Payment						Total
	Self	Insurance	Govt. Hosp.	Pub. Asst.	Other	Not Reported	
Before 3rd Month	65.4	72.5	43.8	41.7	48.5	54.2	58.3
1-2	2.0	0.8	1.9	2.8	2.2	5.1	1.7
3-4	2.4	0.8	1.6	4.2	3.0	3.4	1.8
5 or more	59.3	70.0	41.2	33.3	42.5	45.7	53.6
Not reported	1.7	0.9	1.2	1.4	0.8		1.2
3rd-6th Month	33.1	26.5	45.7	43.0	43.2	28.8	37.2
1-2	0.7	0.2	3.8	2.8	3.7	1.7	2.1
3-4	3.7	0.8	4.8	9.7	6.7	1.7	3.7
5 or more	28.4	25.1	55.7	30.5	32.8	22.0	30.6
Not reported	0.3	0.4	1.4			3.4	0.8
7th Month or Later	1.5	1.0	2.8	11.1	5.3	3.4	2.5
1-2			0.6	2.8	1.5		0.4
3-4	0.3	0.2	1.3	6.9	3.0		0.9
5 or more	1.2	0.8	0.6	1.4	0.8	3.4	1.1
Not reported			0.3				0.1
Not Reported			2.7	4.2	3.0	13.6	2.0
0			2.1		2.2	8.5	1.4
1-2			0.1				0.1
3-4						3.4	0.1
5 or more			0.1				0.1
Not reported			0.4	4.2	0.8	1.7	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 11

Percent of Low-Weight Births and Percent of Mothers With 5 or More Medical Checkups Starting Before 3rd Month of Pregnancy, by Type of Hospital Control, Prenatal Care Survey, Alaska, January-June, 1973

Type of Hospital Control	% of Births ≤ 2500 gr.	% of Mothers with 5 or more checkups starting before 3rd month
Non-governmental, nonprofit, non-church	4.2	61.6
Church operated	6.5	55.7
Public Health Service Indian Service	7.9	41.0
City	4.7	55.3
Military	6.8	48.1
Other	7.1	53.6
TOTAL	6.2	53.6

Vital Statistics Summary

Bethel Service Area: 1970-1973

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>
Total Live Births	367	371	370	377
Total Deaths	68	79	81	95
Total Infant Deaths	9	15	10	12
FATE	245	404	270	313

Causes of Infant Death

Bethel Service Area: 1970 and 1973

	1970			1973		
	-1 yr	-28 days	28 d-11 mo	-1 yr	-28 days	28 d-11 mo
Total All Causes	9	6	3	12	4	8
Certain Gastrointestinal Diseases (004, 006-009, 535, 561, 563)	--	--	--	--	--	--
Influenza and Pneumonia (470-474, 480-486)	--	--	--	4	--	4
Congenital Anomalies (740-759)	2	1	1	--	--	--
Birth Injuries (764-768, 772)	--	--	--	--	--	--
Asphyxia of Newborn, unspecified (776.9)	1	1	--	--	--	--
Immaturity, unqualified (777)	1	1	--	1	1	--
Other Diseases of Early Infancy (remainder of 760-778)	2	2	--	3	2	1
All Other Causes	3	1	2	4	1	3

LEADING CAUSES OF DEATH BY AGE GROUPS

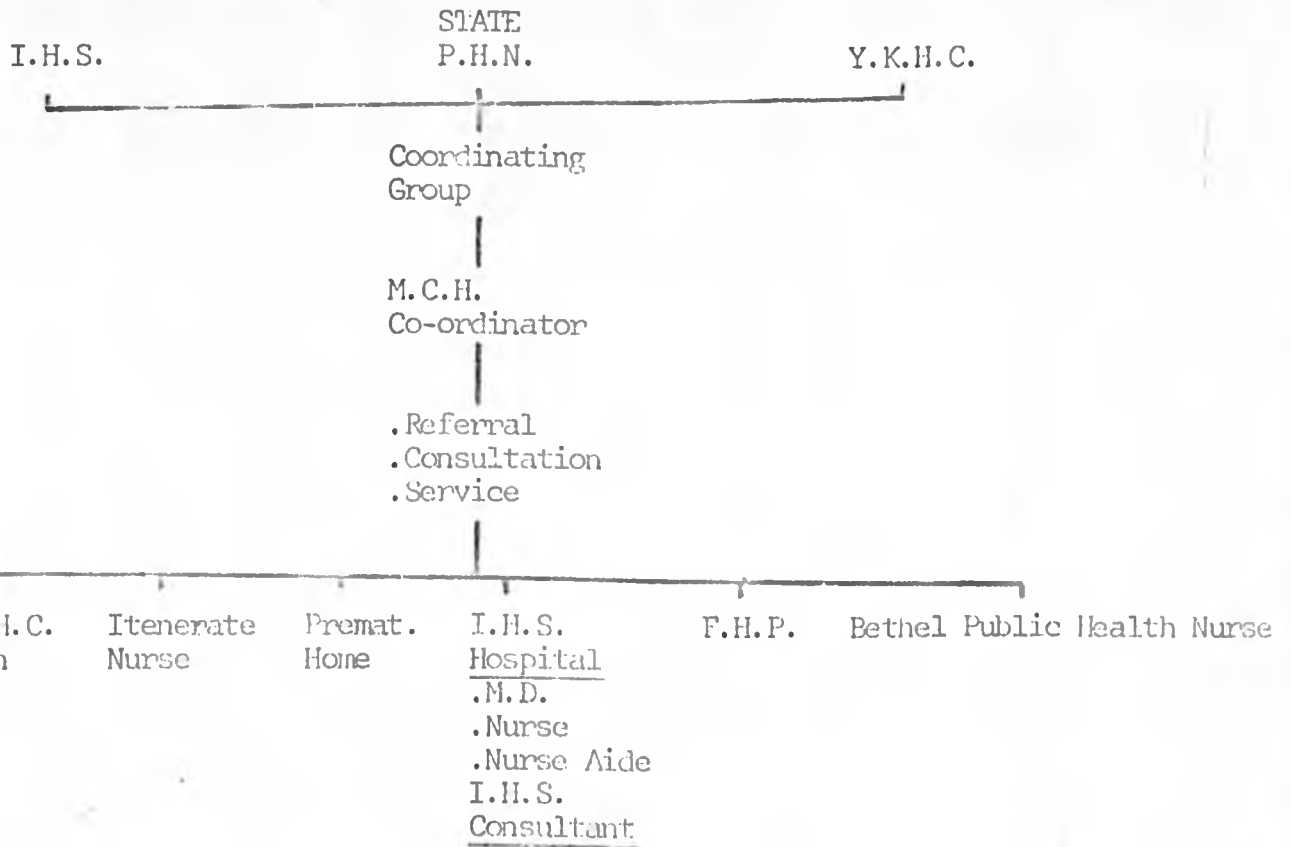
BETHEL SERVICE AREA: 1973

<u>Cause of Death</u>	<u>TOTAL</u>	<u>Less Than 1 Year</u>	<u>Residence Data</u>				
			<u>1-14</u>	<u>15-44</u>	<u>45-64</u>	<u>65-84</u>	<u>More Than 84 Years</u>
All Causes	95	12	4	35	20	15	9
Accidents (all types) (800-949; 980-989)	23	2	1	15	5	--	-
Malignant Neoplasms (140-209)	14	--	1	1	5	3	4
Alcoholism (303)	11	--	-	8	2	1	-
Influenza and Pneumonia (460-509)	8	4	1	1	--	1	1
Heart Disease (393-429)	7	--	-	1	3	2	1
Vascular Lesions (430-438)	5	--	-	--	2	2	1
Suicides (950-959)	5	--	-	5	--	--	-
Diseases of Early Infancy (760-779)	4	4	-	--	--	--	-
Tuberculosis (010-019)	3	--	-	--	--	3	-
Other Infectious Diseases (000-009; 020-136)	2	--	-	--	1	1	-
All Other Causes	13	2	1	4	2	2	2

MCH PROGRAM TASKS AND RESPONSIBILITIES

<u>TASK</u>	<u>DESCRIPTION</u>
1.	Review of hospital chart and prenatal form will be the responsibility of the district physician with back-up and coordination by the MCH program and the OB physician.
2.	Identification of risk and development of the plan of care will be the responsibility of the district physician. Again the district physician will be backed up by the MCH Coordinator and OB physician.
3.	All plans of care will be given to the MCH program to disperse to the CHM & PHN.
4.	MCH program will maintain the tickler file and will keep each physician abreast of the prenatal, postpartum, and early childhood patient. MCH program will update prenatal record based on monthly reports. MCH program will meet with each district physician reviewing MCH patients prior to the physicians travel.
5.	Coordinate and run the prenatal program for Bethel and village patients at the Prematernal Home. Insure that each prenatal has a complete exam and educational sessions. Work closely with the Bethel PHN and Prematernal Home Director.
6.	Manage the care of prenatal and postpartum normal patients on the OB ward during the day.
7.	Be on call for delivery of babies once a month.
8.	Maintain tickler file on discharged babies and mothers. Complete physical on all maternity patients prior to discharge and coordinate follow-up care in the village or hospital by the physician, community health aide and PHN.
9.	Working with the pediatrician investigate the feasibility of developing a high risk file for infants to age 4. Coordinate all efforts with the PHN. Focus may initially be on children with chronic conditions.
10.	In service training for physicians, OB nurses, physician assistants, and health trainers.
11.	Consult with the CHA training program to coordinate the health aide training both in Bethel by YKHC training staff and by PHN in the field. Some clinical training of CHA may be done by the nurse midwife during her normal course of direct service.
12.	Develop and maintain an awareness of the village and their problems in relation to the MCH program.
13.	Work with OB physician, MCH consultant and others to evaluate the progress of the MCH program.

APPENDIX ii
M.C.H. SYSTEM
-Organization-



VILLAGE M.C.H. SYSTEM

<u>ACTIVITY/STEPS</u>	<u>RESPONSIBLE PERSON (s)</u>	<u>FREQUENCY TIME</u>	<u>PROBLEMS</u>
1. Identification of pregnancy.	.Mother .Community Health Aide* .During Field Trips: PHN* Physician M.C.H. F.H.P.	First Trimester (Goal)	.Many mothers do not think it is important to go to the Health Aide as soon as they find out. .Health Aide may be a relative who you do not want to let know about a pregnancy. .Mothers do not know importance of early identification.
2. First prenatal exam.	.Health Aide .Itinerant P.H.N. Physician* .Bethel Hospital	At time of identification of pregnancy is ideal.	.A complete exam cannot be done at the village level by a Health Aide and by many P.H.N. .Some patients would require more lab. work-up.
3. Send prenatal form for new pregnancies to Bethel.	.Community Health Aide* .During Field Trips: PHN* Physician* FHP	First Trimester	.Level of training. .Need supervisory support of Health Aide by P.H.N. and Physician.
4. Review of prenatal form and hospital record and complete prenatal form.	.District M.D.* .M.C.H. Back-Up	Weekly	.Adequate clerical staff. .Sufficient time of medical records to pull and distribute records. .Charts do not have all needed info.

ACTIVITY/STEPSRESPONSIBLE PERSON (s)FREQUENCY TIMEPROBLEMS

- | <u>ACTIVITY/STEPS</u> | <u>RESPONSIBLE PERSON (s)</u> | <u>FREQUENCY TIME</u> | <u>PROBLEMS</u> |
|---|--|-----------------------|---|
| 5. Identification of risk. (See Appendix v.). identify risk and determine if a more comprehensive prenatal exam. is required. | .District M.D.*
.O.B. Physician*
Review high risk.
.A.N.M.C. Consultant.
.M.C.H. Back-Up | Weekly as necessary. | .Not enough aides have sufficient experience to perform the basic examinations therefore the identification of risk is limited to the quality of info. gathered by the Health Aide.
.Need to bring more prenatals in for complete exam. when high risk is indicated or to obtain more info. to determine high risk.
.Need to have physicians involved more in this activity |
| 6. Develop plan of care for normal and abnormal pregnancies and dispense it to C. H.A., P.H.N., Physician.
.Schedule of exams.
.Instructions to mothers.
.Date to come to Bethel to Prenatal Home. | .M.C.H.* with district M.D.
.O.B. Physician Consult.
.ANMC Consult. | Weekly | .Physicians are not involved enough in formulation and execution of the plan of care. Need to reinforce their involvement.
.Mail service can hamper dispersion of plan of care.
.Forms do not have enough room for plan of care. A "Normal" plan of care has been adopted by the medical staff so that only unusually or special information needs to be on the form concerning the plan of care. This may reduce the problem.
.Physicians need more info. on plan of care for specific high risk conditions (See Appendix v. High Risk Factors and Plan). |
| 7. Add new pregnancies to tickler file to follow all pregnancies from pre-natal, to post partum, through to the first well baby check. | .M.C.H.* | Weekly | |

<u>ACTIVITY/STEPS</u>	<u>RESPONSIBLE PERSON (s)</u>	<u>FREQUENCY TIME</u>	<u>PROBLEMS</u>
Review of tickler file with persons prior to field trip for new and continuing pregnancies.	.M.C.H.* .Physic .PHN .FHP	As need arises.	.Co-ordination of schedules. .Not enough time for discussion of information prior to a trip to a village by physician and public health nurse.
Ongoing examinations/ education of patient as prescribed by the plan of care.	.Health Aide* .Itinerate Physician* PHN* .Radio consultation with physician.	.According to plan of care. .According to travel schedule 3 year PHN 1 year Physician.	.Home care by mother. .Lack of Health Aide skill. .Frequency of village trips by itinerate, public health nurses, physician. .Lack of time for PHN to train aide for M.C.H. Activity too much time is spent with acute problems. .Poor radio contact.
Report pregnancy examination info. monthly on "Pregnant Patient Monthly Report"	.Health Aide* .Itinerate PHN* Physician?	Monthly	.Need to reinforce M.C.H. program with Health Aides. .Time available .Organization of Health Aide schedule. .Mail service slow.
Evaluation of all patients monitoring any changes that might indicate prematurity or complications. (Use tickler file).	.M.C.H.* .O.B. Consult. A.N.M.C.	As info. is received.	.Success is dependent on info. gained in step 9 and reported in step 10.

<u>ACTIVITY/STEPS</u>	<u>RESPONSIBLE PERSON (s)</u>	<u>FREQUENCY TIME</u>	<u>PROBLEMS</u>
<p>2. Patient arrives at pre-maternal home prior to birth of child.</p> <p>a. Complete examination usually at hospital.</p> <p>b. Up date plan of care.</p> <p>c. Set appointments.</p> <p>d. Pre-natal and post natal care provided in hospital.</p> <p>e. Prematernal home-health education.</p>	<p>.MCH .OB Physician .PHN .Prematernal Home .Hosp. Nursing</p>	<p>One month prior to estimated birth.</p>	<p>.Without knowing the date of the expected birth some women do not get into Bethel in time (Failure of Step 1). .Need to increase health education. .Outdated prematernal home. .Training of prematernal home aides. .More visits to prematernal home for education about child's rearing as well as prenatal education. .Mothers separated from family creates a stress on the family and mother. Separation anxiety may cause mothers to postpone coming to Bethel till the last moment. .Some mothers prefer to go to Anchorage or deliver at home. .Need to increase O.P.D. staff to support examination of patients. .Complicated pregnancies may be referred straight to A.N.M.C. without admission. .Need to orient patient to the hospital prior to admission.</p>
<p>3. Admission to hospital and delivery.</p>	<p>.OB Physician* .Nursing * .MCH * .FHP .PHN</p>	<p>At time of delivery.</p>	<p>.Over crowding due to peak periods of birth. .Lack of nurse staff. Especially at night. .Need to use time for education.</p>
<p>4. Complication Referred to A.N.M.C.</p>	<p>.OB Physician .A.N.M.C. Consultant</p>	<p>At time of admission or if high risk prenatal.</p>	<p>.Emergency referrals hampered by transportation problems.</p>
<p>5. Hospital Post-Partum care and discharge.</p>	<p>.OB Physician* .Nurse Hosp.* .MCH .FHP</p>	<p>After birth 2-3 days.</p>	<p>.Need to increase education. .Lack of in-patient staff. .Weather may cause delay in discharge. .Need to begin family planning program before discharge (now being done). .Need to orient mothers to the importance of follow-up care by C.H.A. and P.H.N.</p>

- | ACTIVITY/STEPS | RESPONSIBLE PERSON (s) | FREQUENCY TIME | PROBLEMS |
|---|--|---|---|
| 6. Post-Partum follow-up:
a. Discharge info. referred to P.H.N. & Health Aide.
b. Normal follow-up in village.
c. Abnormals are scheduled for re-visit at hospital.
d. Receive info. from Anchorage on discharged complicated patients. | .CHA
.Itenerate
-PHN*
-Physician*
-MCH
-FHP | 4-6 Weeks after delivery. | .Additional training of Health Aides.
.Transp. Comm. problem which inhibit itenerate travel.
.Need to educate mothers.
.Obtaining info. from Anchorage on A.N.M.C. discharges.(?)
.Newborn record sent with mother to the Health Aide. Needs to be monitored. |
| 7. Well-Baby follow-up first visit (M.C.H. monitor). | .M.C.H.*
.Health
.Itenerate
-PHN*
-Physician* | 2-4 Weeks. | .Same as above.
.Co-ordination to insure care is given. |
| 8. On-going well-baby care.
-Height, Vision, Weight.
-Immunization
-Physical Exam.
-Health Ed. | .Health Aide*
.Itenerate
-PHN*
-Physician
.M.C.H. Co-ordinate high risk child.
Registry | At least every three months to first birth date.
High risk infants to be followed past one year. | .Need to increase Health Aide skill.
.More PHN time in village.
.Education of mothers and fathers in regards to child rearing.
.Increase quality of O.P.D. care at hospital.
-R.N.
-L.P.N.
-Pediatric nurse practitioner/physician assistant. |

BETHEL M.C.H. SYSTEM

The Bethel Pre-maternal patient receives all of her services from the hospital through its facilities and personnel with assistance from other agencies. Steps 1 to 5 of the previous outline are co-ordinated by the M.C.H. co-ordinator who along with a physician and other personnel provide the direct services in steps 1-5. Steps 7,9, and 11 take place in the hospital. Steps 13 admission to hospital and step 14 hospital post-partum care are the same for Bethel patients. Discharged patients are referred to the Bethel P.H.N. who follow-up is done in the hospital by the O.B. physician and M.C.H. program.

The problems associated with maternal and child health services to Bethel residents focus on the under staffed O.P.D. facilities for examination and care of expectant mothers and for childhood screening, monitoring and treatment of Bethel children.

MANAGEMENT OF M.C.H. SYSTEM

<u>ACTIVITY/STEPS</u>	<u>RESPONSIBLE PERSON (s)</u>	<u>FREQUENCY TIME</u>	<u>PROBLEMS</u>
On going communications co-ordinator health care provider team.	.Clinical Director .MCH .Pre-Maternal .OB Physician .FHP .PHN	Every 1-2 months.	.Lack of enough time for direct care providers participation. .Need to orient new physicians and participants to the program.
Evaluation	.Same above plus .A.N.M.C. Physician .State M.C.H. Office .Director of South Central Office .Y.K.H.C. Clinical Director .State P.H.N. Nurse Supervisor	Annual	.Has yet to take place.
Record System	.M.C.H. .O.B. Physician .State PHN		.Complexity of form. .Amount of paper work for Health Aide. Other providers.
Health Aide Training: a. Signs of pregnancy. b. Surveillance - Blood Pressure -Weight -Urine -Swelling -Measure Womb -Hemaglobin c. Explain Minor Disorder d. Health Ed. Prenatal Post-Partum & Well Child e. Emergency Childbirth	M.C.H. Y.K.H.C. Training* P.H.N.* Physician*	Basic Training (Over a nine week session).	.M.C.H. Co-ordinator assists Y.K.H.C. trainers and evaluates Health Aides. .No additional training beyond basic prior to departure. .Not all aides can meet the basic skills and need more training.

PUBLIC HEALTH NURSING SERVICES - 1973

Under the direction of the regional health officer, regional nursing supervisor, or case-responsible physician, the public health nurse provides and promotes preventive, therapeutic, and rehabilitative nursing services to families on a community-wide basis in homes, health centers, schools, and clinics.

COMMUNICABLE DISEASES

Public health nurse participates in disease control activities through general preventive measures, early identification of disease, provision of care, and supervision to reduce effects of disease.

Examples of Service:

1. Immunizes specific age groups against: diphtheria, tetanus, whooping cough, polio, measles, rubella; and influenza, smallpox, and rabies when necessary.
2. Instructs individuals, families, school personnel, community groups on prevention of spread of contagious diseases.
3. Investigates sources and spread of diseases on epidemiological basis.
4. Treats communicable diseases according to physician's recommendations or Medical Standing Orders (MSO). Examples: tonsillitis, impetigo, conjunctivitis, diarrheas of early childhood, respiratory conditions.
5. Collects specimens for bacteriological examination: blood, feces, etc.
6. Interviews and counsels VD patient and contacts; treats according to physician's recommendations or MSO.

TUBERCULOSIS

Public health nurse is responsible for:

1. Case-finding)
2. Supervision) TB cases, contacts, and suspects.
3. Followup)
4. Surveillance) Previously infected population.

Examples of Service:

1. Chest X-ray Community Surveys: Planning, organization in some areas.
2. Tuberculin tests: Negative preschool and school children annually; other age groups as indicated.
3. Sputum and urine collection for bacteriological examination.
4. Refers for medical care; prepares hospitalization papers.

5. Chest Clinics: Organizing, participating.
6. Chemotherapy and chemoprophylaxis: Home supervision, distribution of anti-TB drugs.

MATERNITY CARE

Public health nurse helps to: 1. Evaluate condition of prenatal patient for need for special care and assists with plans for attaining it. 2. Prepare the patient and family to deal with physical, emotional, and social changes incident to childbearing.

Examples of Service:

1. Prenatal health appraisal and supervision:
 Health history; patient's complaints
 Nurse's observations
 Weight gain
 Blood pressure) Only in villages
 Hemoglobin) with no immedi-
 Urine tests: sugar, albumin) ate medical care
 Fetal heart beat check)
2. Refers and reports to physician.
3. Prenatal counseling: Patient and family
4. Emergency delivery: If patient is unable to reach hospital or if village midwife not available. Patients encouraged to have hospital delivery.
5. Postpartum followup: Home visit first week after hospital discharge or on first field trip.
6. Parents' Classes: Prenatal care, infant and child care, child-rearing.

FAMILY PLANNING SERVICES

Public health nurse gives family planning counseling and services, as they relate to spacing of pregnancies and promotion of optimum health for the family.

Examples of Service:

1. Contraceptive counseling as necessary.
2. Pregnancy test, Pap smear, hemoglobin; other related tests or examinations.

INFANT AND CHILD HEALTH CARE AND SUPERVISION

Public health nurse assists the parent keep the well child well and promotes the highest possible level of his complete well-being by means of individual counseling, Child Health Nursing Conferences, and group instruction.

Examples of Service:

1. Child Health Conferences: Health appraisal:
 OR
 Health and developmental history
2. Early and Periodic Screening, Diagnosis and Treatment program
 Growth measurements
 Developmental assessment
 Dental screening
 Vision test
 Hearing test
 Hemoglobin
 Immunizations/tuberculin test

INFANT AND CHILD HEALTH CARE AND SUPERVISION, Examples of Service (Cont.)

- When indicated: Referral to physician
 Counseling mother on child's health, growth, and development
 Followup services
3. Home visit: Instruction on care of infant and preschool children.
 Demonstration of infant bathing, formula preparation, etc.

SCHOOL HEALTH SERVICES

Public health nurse gives school health nursing services which aid in attaining and maintaining student's optimum fitness to learn. Through these services, she also increases the students' understanding of health and health problems.

Examples of Service:

1. Health assessment:
 - Cumulative health record
 - Health history; students' complaints
 - Teacher/nurse observations
 - Physical inspection; dental screening
 - Tuberculin testing
 - Vision screening
 - Hearing screening
 - Physical examination (assists physician)
2. Counsels pupils, teachers, parents, and others on students' health problems and assists them plan for appropriate care.
3. Reinforces and supplements teachers' health education activities by assisting with materials or suggested content.
4. Provides and arranges for care of injuries, and of emergency or continuing illness.

CRIPPLED CHILDREN'S SERVICES

Public health nurse helps to locate and restore Alaska's handicapped children to as nearly a normal life as medical science can accomplish, so they may develop to their maximum potential and become useful and productive members of society.

Examples of Service:

1. Case-finding through home, school, and Child Health Conferences.
2. Referrals for service: Eye, E.N.T., orthopedic, pediatric clinics.
3. C.C.S. clinics: Organizing; participating.
4. Followup nursing service after diagnostic procedures and treatment.

CHILD STUDY CENTER

Public health nurses assists with:

1. Locating children suspected of mental retardation, development disabilities, emotional disorders.

CHILD STUDY CENTER (Cont.)

2. Referrals to Child Study Center for developmental evaluation.
3. Multi-discipline case conference - participant.
4. Assistance to parents in accepting child and limitations.
5. Counseling parents on self-help training of MR child, and coping with other disabilities.
6. Stimulation of community interest in mental retardation, developmental disabilities, emotional disorders.

COMMUNICATIVE DISORDERS (Hearing Loss/Speech Problems)

Public health nurse helps to identify children with speech, hearing, and language disfunctions, and assists the individual attain his full potential in good communication.

Examples of Service:

1. Auditory threshold tests on children who failed screening test.
2. Refers to private, state, or federal program for care.
3. Followup audiograms after otological surgery.
4. Instructing families on preventing acute and chronic otitis media.

ACUTE AND CHRONIC DISEASES IN CHILDREN AND ADULTS

Public health nurse aids in the detection of families with acute and chronic illnesses and encourages individuals to seek prompt and adequate care, or renders direct care according to NSO in absence of immediate medical treatment. Assists with followup of medical recommendations through interpretation and encouragement to family.

MENTAL HEALTH - MENTAL DISORDERS - ALCOHOLISM - DRUG ABUSE

The public health nurse assists with case-finding, referral for evaluation, hospital arrangements, emergency handling and treatment of acute conditions, and patient/family support, including supervising home care of the ill patient.

Public health nurse works on an individual, group, and community-wide basis to assure use of all available measures to prevent mental disorder or emotional malfunction, including alcoholism and drug abuse.

HEALTH EDUCATION

Public health nurse uses health education techniques and materials in all personal contacts and community health activities. Among her various tools are films, slides, pamphlets, posters, demonstration kits, etc.

Every individual or family problem, however minor, has its teachable moments. Health education is directed toward defined problems that families recognize, and toward a specific course of action that they see as reasonable and possible.

Community health education is directed toward the health needs of the community, what the community perceives as their health needs, the community's level of understanding, and their readiness for group health education in relation to their health problems.

COMMUNITY HEALTH AIDE TRAINING PROGRAM

Trained Community Health Aides are employed in each village to assume increasing responsibilities in acute episodic health problems, in matters of health surveillance and preventive health services. As the Community Health Aide training program continues to advance and improve the curricula in order to provide the Aides a solid foundation on which to build better village health services, there is a need for on-going supervision by health professionals for both technical and legal reasons, and evaluation of the Community Health Aide's work performance and training.

The Public Health Nurse acts as consultant and teacher to the Community Health Aide in the village setting, particularly in areas of preventive health and nursing and assists the training programs evaluate the work performance and formal training of the Community Health Aides via quarterly progress reports.

ACTION PLANS FOR
OBSTETRICAL HIGH-RISK FACTORS

SECTION I: STATISTICAL INFORMATION

In general, these items simply place the patient in a high-risk group statistically speaking; that is, patients falling in this classification have more complications with pregnancy. For most patients in these classifications, no specific treatment plan is necessary other than routine follow-up with attention to weight gain, blood pressures, nutrition counseling, and such factors.

Age 16 or younger: Particular attention should be paid during the prenatal course to possible development of toxemia, to alleviating anxieties regarding pregnancy, and to her nutritional status.

Primigravida, age 35-40: The high-risk situation is especially at the time of labor, during which she should be closely followed both for fetal well-being and for satisfactory progression of labor. If there have been no complications during pregnancy she can be followed at the hospital nearest her residence. If any abnormalities develop, specialty consultation should be obtained.

Age 40 or greater: Consideration should be given in early pregnancy to diagnostic amniocentesis for chromosomal abnormalities with the understanding that such a procedure involves risk to pregnancy and a positive diagnosis would lead to the recommendation of abortion.

Patients Para V or more: This patient is especially high-risk at the time of delivery and post-partum period for abnormalities such as labor dystocia, increased incidence of uterine rupture, and increased incidence of post-partum hemorrhage.

Two or more spontaneous abortions in first trimester: Ideally, such patients should have specialty consultation and evaluation between pregnancies. Once the patient is pregnant specialty consultation should be obtained regarding further treatment of this problem.

SECTION II: PREVIOUS OBSTETRICAL HISTORY

Infertility for more than two years: Such a history places a patient in a higher statistical group for complications of pregnancy, though no specific care plans can be formulated. This patient is more likely to have a first-trimester loss, as well as more likely to have problems such as premature labor and delivery. She should be followed closely during pregnancy, monitored to the extent possible for fetal well-being, and observed closely during the time of labor.

Major birth defects: Care for such a patient needs to be individualized according to the specific defect and the chances of its repetition. When indicated, a diagnostic amniocentesis can be performed for chromosome studies, again with the idea of abortion for abnormalities.

Infant weight greater than ten pounds: Such a patient should be screened for chemical evidence of diabetes mellitus with a two-hour post-prandial glucose, both at the time initially seen and again in the early third trimester. Attention should be paid to this patient at the time of delivery for repeat fetal macrosomia with resultant labor dystocia or problems such as shoulder dystocia.

Complicated labor: This previous complication should alert the attendants at the time of labor to the likelihood of a repetition. Some time during the prenatal period a good clinical evaluation of the pelvis should be performed; otherwise, there are no specific treatment care plans.

Breech presentation or abnormal presentation: The patient should be carefully examined as she nears the last four weeks of pregnancy for fetal presentation, referring any suspicious presentations for physician evaluation with referral to a specialist for confirmed abnormalities.

Difficult or mid-forceps delivery: Such a history should alert the physician at the time of labor to the possibility of some pelvic abnormality with repetition of the problem during this pregnancy.

Previous cesarean section: Such a patient should be seen as early as possible in pregnancy to confirm dates as rapidly as possible. The uterus should be measured uniformly to note regular growth. Care should be taken to determine fetal heart tones in the area of 33 weeks, and to note the time of initial fetal movement. Attention to such details will aid in confirming the gestational age of the pregnancy, and allow a cesarean section at term with more assurance of a mature infant. The patient should be referred at 35-37 weeks gestation to the physicians who will perform her surgery.

Premature delivery and spontaneous abortion in second trimester: Attention to the history in these patients should be meticulous regarding details of the previous incident. Of special importance is whether the patient was actually in labor, whether the loss was preceded by a very short period of contractions, or whether there were recurrent uterine and no contractions. The history of loss with no significant contractions suggests an incompetent cervix, and the patient should be referred to a specialist in early pregnancy, so that her cervix can be evaluated and appropriate surgical procedures performed, if indicated, to prevent recurrence. If the patient, on the other hand, had a normal labor pattern followed by premature loss, problems such as congenital anomalies of the uterus must be considered. Should there be signs of premature labor again,

the patient should be referred for physician evaluation and possible specialist consultation. Every post-partum patient with a second trimester loss should have specialty consultation and evaluation prior to attempting to become pregnant again.

Abruption: The likelihood of this complication being repeated with subsequent pregnancies is high. There are no specific treatment plans for this problem, other than attention during the pregnancy to blood pressure, and physician evaluation of any abdominal pain or vaginal bleeding.

Stillbirth: This patient should be followed with attention to fetal well-being. If, in the future, determinations such as urine estriols become available, these should be obtained on a frequent basis during the last trimester. During pregnancy, the mother should be evaluated for Rh factor, antibody formation in the mother, serology, chemical evidence of diabetes, serial blood pressures, and the patient should have prompt physician referral and specialist consultation if indicated.

Infant death in the first 28 days of life: History of this incident should be explored for possible prenatal factors, and the patient should be followed much as the above patient if there is any indication of a prenatal influence on this cause of death.

Infants small for age at time of delivery: This patient should be observed closely for uterine growth during the pregnancy to be sure that it is consistent with dates. If there is any abnormality, this patient should have physician evaluation and possible specialist consultation.

Toxemia: The likelihood of this condition recurring is significant and attention should be given to blood pressures, urine proteins, weights, and the development of edema throughout the pregnancy, especially in the last trimester. There should be prompt physician referral for any deviation from normal.

Herorrhage after delivery: This condition has a high incidence of recurrence and should be watched for with the following delivery.

SECTION III: PAST MEDICAL HISTORY AND CURRENT MEDICAL PROBLEMS

Uterine surgery: The copy of operation reports must be obtained and the patient then evaluated for method of delivery for this current pregnancy, whether by cesarean section or vaginal delivery. Such evaluation should be initiated when patient is first seen. Physician referral and specialist consultation would be necessary.

Heart disease: The patient with a history of heart disease should be physician referred for a thorough medical evaluation at the time of initial visit. She should then be followed closely to avoid development of toxic anemia or fluid overload, and must be observed closely for signs of early congestive failure. Follow-up physician referral is indicated in the event of abnormality in these areas. The patient's heart condition should be treated with prophylactic antibiotics at the time of delivery.

Hypertension and chronic renal disease: These patients must be followed frequently, for example about every two weeks, for effects of the pregnancy on hypertension and renal status. This patient should be referred for any signs of deterioration in blood pressure or renal status. These patients are more likely to have retarded fetal growth and/or premature labor and delivery.

Chronic respiratory disease: Attention must be paid to good pulmonary toilet throughout pregnancy, maintaining the patient as comfortable as possible. Should there be any signs of deterioration, the patient will need physician referral and possible hospital therapy.

Diabetes: Such a patient must be under close physician supervision throughout the entire pregnancy, with frequent blood sugar determinations, and probable use of insulin, even when not required in the non-pregnant status. The patient should not be on oral diabetic agents during pregnancy. This patient should be considered for early delivery or certainly delivery not later than term. Specialist consultation is necessary.

Thyroid and other endocrine disorders: This patient likewise will need physician evaluation regarding thyroid status, or other endocrine status. In most instances, the patient will continue on medication during pregnancy as she would if she were not pregnant.

Neoplastic disease: This patient of course will need medical referral for management primarily of her neoplastic disease.

Tuberculosis: Attention should be paid to the fact that pregnancy can cause exacerbation of pre-existent tuberculosis, and appropriate consultation should be obtained for each patient with this past history.

Anemia: Initially, it is assumed most significant anemia during pregnancy is from iron deficiency and treatment is begun empirically with iron therapy, along with prenatal vitamins containing folic acid. It is important, however, to follow up with subsequent hemoglobin and hematocrit determinations, with the first determination 3-4 weeks after therapy is initiated. If there has been no improvement in these findings, the patient should be referred for further medical evaluation and perhaps treatment.

Alcoholism, drug abuse and psychiatric illness: Patients with these disorders will need careful and close observation during pregnancy, with attention both to emotional support and to other factors such as physical well-being and nutritional status.

Seizure disorder: In general, the seizure medications are continued as prior to pregnancy. If there is an increased frequency of seizures, the medication will need to be adjusted.

Phlebitis: Patients with a past history of phlebitis are more likely to have a recurrence during the current pregnancy. Attention should be directed towards maintaining regular exercise, use of support stockings, elevation of legs, and other symptomatic therapy. At any evidence of recurrent phlebitis, the patient should be promptly referred for medical evaluation.

Rh negative blood type: When initially seen, this patient must have an antibody screening done, and this should be repeated at intervals throughout pregnancy, over the period of 26-28 weeks, around 32 weeks, and again at a point after 36 weeks. Any positive antibody titers indicate prompt specialist referral. After the patient delivers, the infant must be checked for blood type, and if Rh positive, the patient should receive Rhogam unless contra-indicated.

Obesity: Patients with this problem need careful nutritional counseling. They should not be instructed to attempt to lose weight during the pregnancy, but attention should be directed towards a well-balanced diet and elimination of excessive calories without food value.

SECTION IV: CONDITIONS DURING CURRENT PREGNANCY

Uncertain due dates: It is important to ascertain as nearly as possible the due date in all pregnancies, so that patients who develop complications will have this information available already. The patient should be seen as early as possible for initial uterine size, the date of the last period ascertained, as well as any deviation from normal in this period, and the time of first notice of fetal movement noted. On each visit, the patient should have an evaluation of the uterine size: around 20 weeks, if possible, the fetal heart tones should be listened for, with this reported on a weekly basis until they are heard. These items will help in the establishment of a reasonable EDC.

Rubella during pregnancy: If the patient has developed clinical rubella during pregnancy and this disease has been confirmed with blood studies, the patient should have the problem explained and the possibility of an abortion offered to the patient.

Significant toxemia or drug adversely affecting pregnancy: The probability of congenital anomalies must be considered in relationship to the specific agent involved, degree of exposure, and the time of exposure. When indicated by these factors, this patient likewise should have the opportunity for an abortion if indicated.

Development of the placenta: When toxemia is confirmed during pregnancy, this patient must have frequent prenatal and hospitalization is usually indicated. For a condition of and persisting toxemia, the patient should stay in the hospital until time of delivery. This problem is to be screened for at the time of each prenatal visit by determination of serial voltage, and blood pressures, urine protein, edema, rinitis and degree of edema.

Uterus too small or too large for weeks gestation: Regular measurements of the uterus on each visit will help point out the times in which the pregnancy seems to be growing too rapidly or too slowly. When the uterus is increasing in size too rapidly, the possibility of multiple gestation or polyhydramnios must be considered and x-ray studies are indicated. When the uterus is not growing as expected, care must be turned towards fetal well-being with re-evaluation of the due date and attention turned towards possible intervention with the pregnancy; specialty consultation is indicated.

Polydramnios: These patients should be screened for presence of diabetes and for the possibility of an abnormal fetal head as determined by x-ray. It is also to be noted that the patient can, with severe polyhydramnios, rupture membranes early and proceed spontaneously into labor, and this possibility must be observed for.

Multiple pregnancy: Once the presence of multiple pregnancy has been established, it is important the patient be informed of this, and plans made for her to spend at least the latter part of her pregnancy near a referral area for obstetrical care. This patient is much more likely to need to spend a large amount of her pregnancy on bed rest, to help alleviate the problem of premature dilatation of the cervix followed by premature labor.

Bleeding in second or third trimester: This patient should be referred for evaluation and management and will probably require hospitalization at least for a brief period of time.

Not continuing to gain weight during pregnancy: This sign should likewise be thought of as a high-risk indication. Fetal growth should be monitored, and nutritional counseling given to the patient.

Gaining more than 35 pounds during pregnancy or more than 2 pounds per week: Excessive total weight gain should be counteracted as nearly as possible by good nutritional counseling. Again, the patient should not be instructed to lose weight while pregnant, but should maintain a well-balanced diet throughout pregnancy. If it seems that the patient's weight gain is secondary to fluid overload, this sign should alert the attendant to the possibility of toxemia, and the patient should be followed closely for this condition.