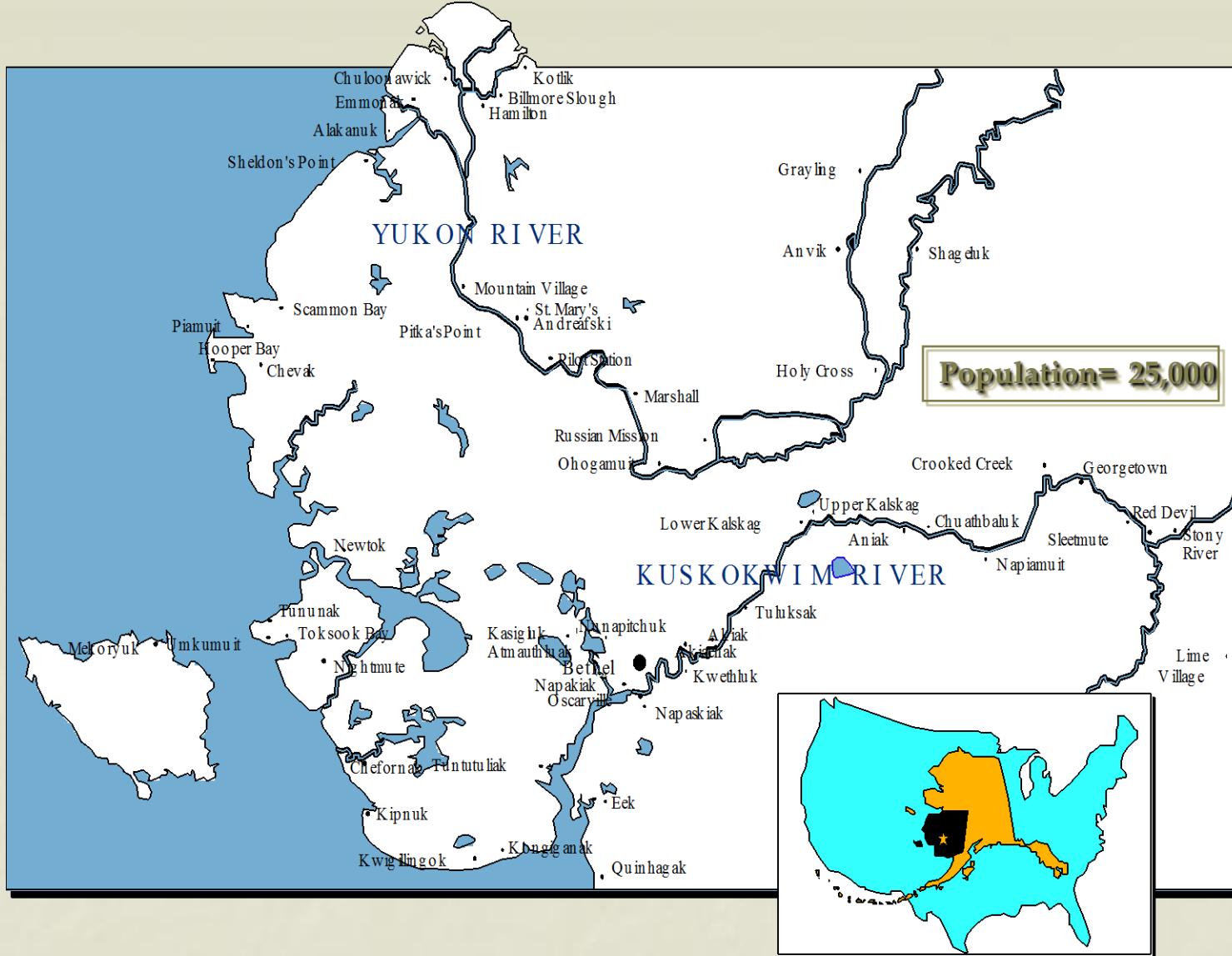


Pediatrics in Western Alaska: Remote But Not Isolated



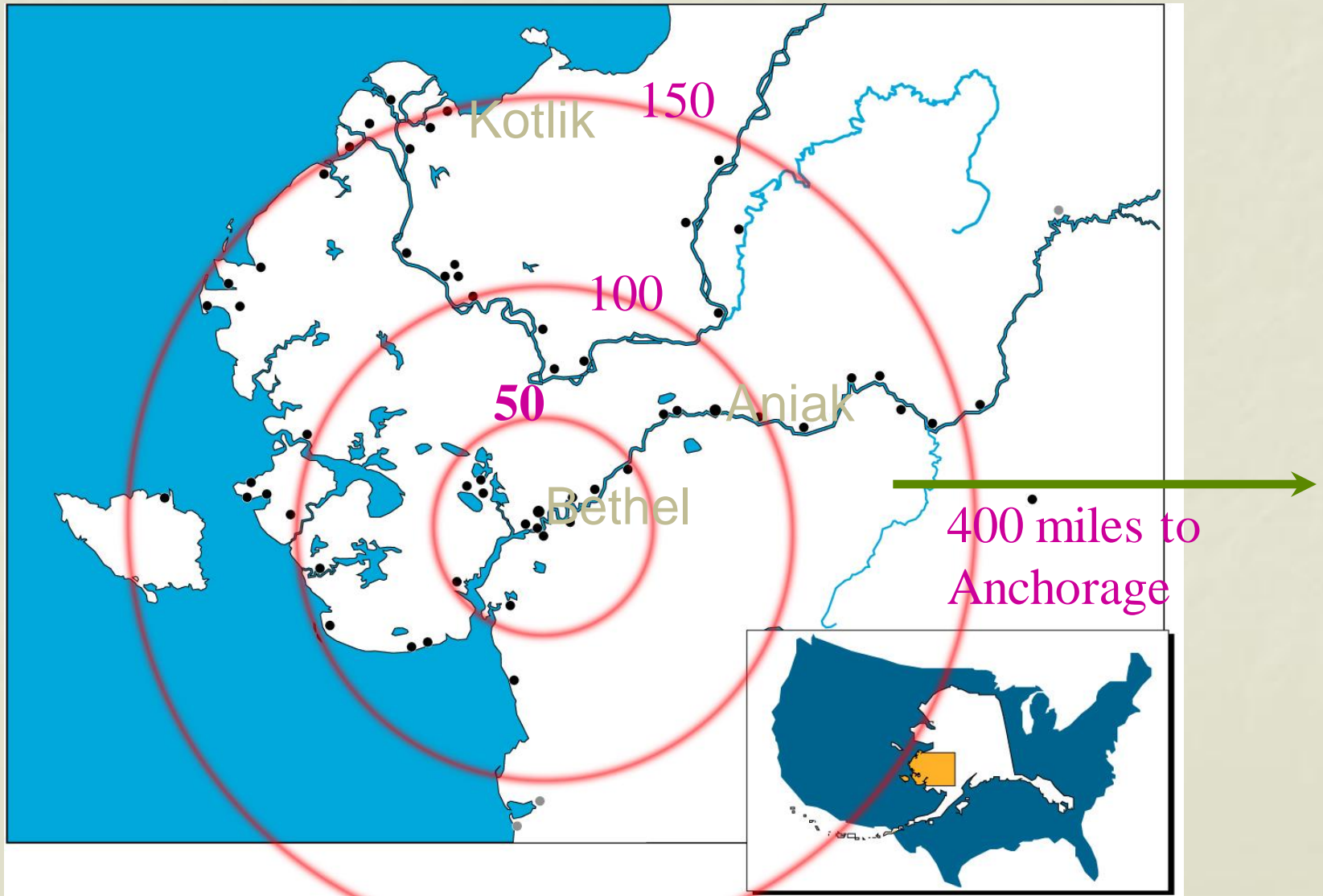
Challenges of Practicing Medicine in
the Bush

K. Jane McClure
Pediatrician YKHC

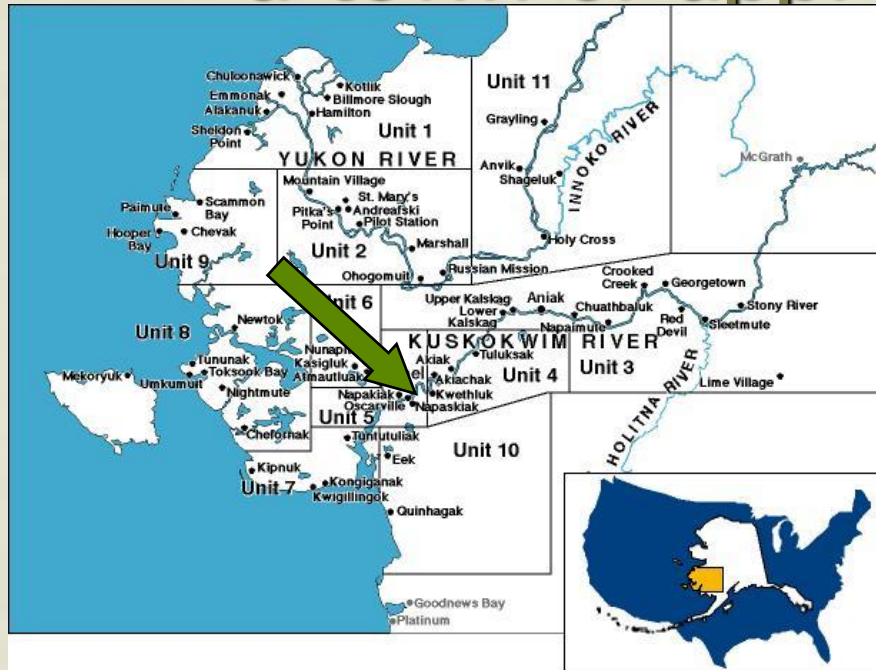


Yukon-Kuskokwim Delta
 Region served by YKHC is as large as Oregon
 about 75,000 square miles.

Air Miles from Bethel



Located in Western Alaska, Bethel is a town of approximately 5,200.



- Bethel covers a five mile radius
- 400 air miles west of Anchorage
- No roads lead to, or from Bethel
- 40 miles inland from the Bering Sea

Transportation



- Bethel is a place where no roads lead, however Bethel provides 16 miles of local roads.
- The regional transportation center is the State-owned Bethel Airport which ranks third in the state for number of flights.
- River travel is the primary means of transportation in the summer, and becomes a 150-mile ice road in the winter.

Geographical Features

- The Yukon and Kuskokwim rivers are the life-blood of the Delta
- Below the tundra lies a deep layer of arctic permafrost
- Major portion of the Delta is designated as a National Wildlife Refuge



Transportation



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Demographics

Predominantly
Yup'ik Eskimo; some
Athabascan Indian

Traditional subsistence lifestyle

English second language for most

Poorest region in AK

75% + unemployment rate in villages

High birthrate; young families

Culture of the Area

- Most Intact Traditional Yupik Eskimo culture and language in Alaska.

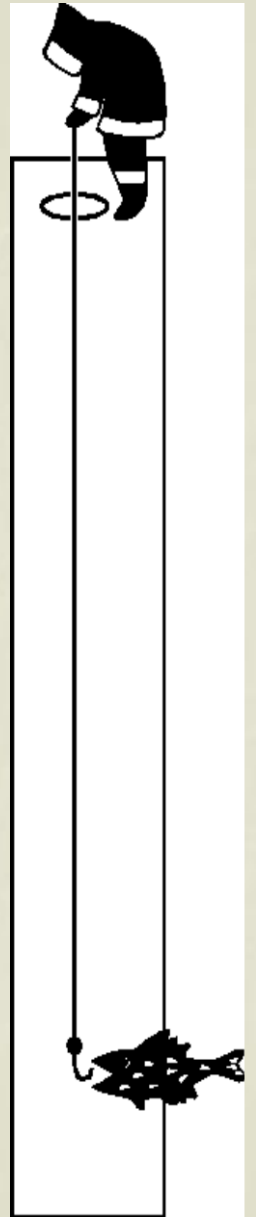






The People

- About 25,000 persons,
approximately 50% children
 - 58 federally-recognized tribes
 - Yup'ik Eskimo
 - Athabascan Indian
- Subsistence lifestyle
- English as a second language
- Lower socio-economic status



Subsistence Way of life

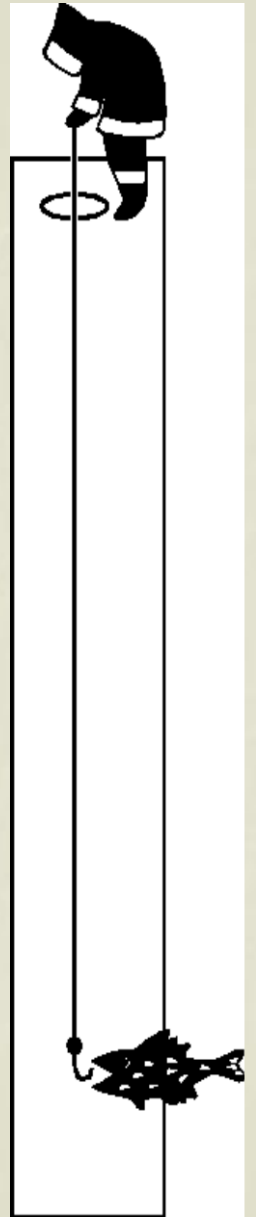






The Place

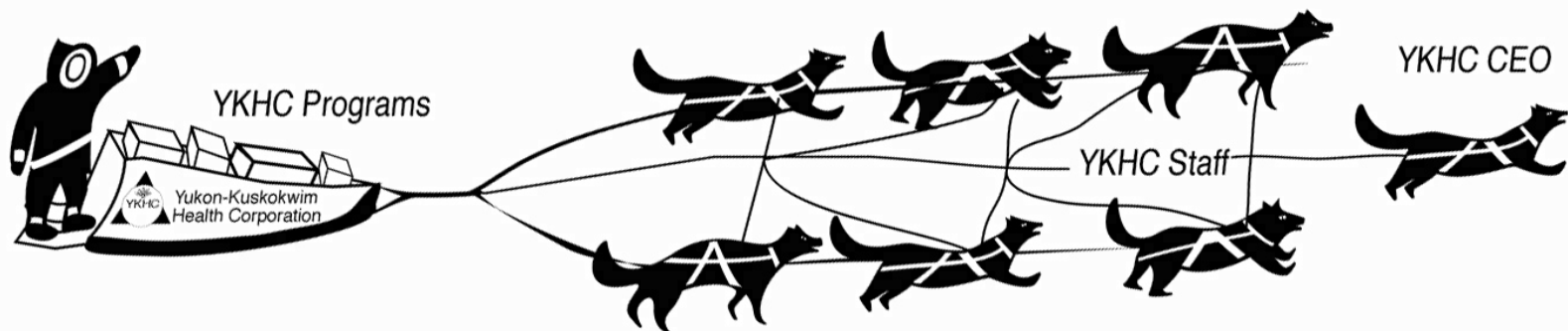
- Bethel population: 6,000
- Permafrost
- Tundra
- Wetlands
- Remote but not isolated



Four Tier Health System



YKHC Board of Directors





Newly Constructed Clinic



Nightmute Clinic



Typical Alaska Villages





Village Based Care

- Certified Health Aides
 - Local people
 - Work in village clinics
 - Provide routine & emergent care
 - Communicate with providers in Bethel



Community Health Aide Program



Provide primary care, disease prevention and health promotion activities as well as acute and emergent care.

121,000 patient encounters annually

195 Budgeted CHA Positions

43 Village Clinics









Sub-Regional Clinics

- Aniak
- Emmonak
- St. Mary's
- Hooper Bay
- Toksook



Subregional Clinics

- Mid-Level Practitioners
- X-Rays
- Lab Testing
- Dental Operatories
- Behavioral Health Master's Level Clinician
- Community Health Aides



Yukon-Kuskokwim Delta Regional Hospital

24 Hour Services

- Inpatient (50 Beds) Services
- Emergency Services
- High Risk Obstetrics
- Radiology
- Respiratory Therapy
- Laboratory
- Anesthetist
- Teleradiology



Yukon-Kuskokwim Delta Regional Hospital

(100,000+ patient encounters)



X-Ray ~ Lab

OR/CSR

Inpatient

Respiratory Therapy

Family Practice Clinic

Pharmacy

Pediatric Clinic

Optometry

Dental

Nutrition/WIC/Dietary

PT ~ OB ~ ED

Yukon-Kuskokwim Delta Regional Hospital



- 25,000 Emergency Visits
- 100,000 Outpatient Visits
- 400 deliveries
- 20 C-sections

Yukon-Kuskokwim Delta Regional Hospital

24 Hour Services

- Inpatient Services
- Emergency Services
- High Risk Obstetrics
- Radiology
- Respiratory Therapy
- Laboratory
- Anesthetist
- Teleradiology

Yukon-Kuskokwim Health Corporation Regional Center

Clinical Staff Positions

- ✉ 8 Clinic FP's
- ✉ 9 Clinic PA/NPs
- ✉ 10 Hospitalist/ER FP/EM docs
- ✉ 2 ER PAs
- ✉ 5 Clinic/Hospitalist Pediatricians
- ✉ 2 Teleradiologists
- ✉ 1 CRNA
- ✉ Dentists
- ✉ Optometrists
- ✉ 4 Physical Therapists



Pediatric Practice

- ✉ **Care for chronically ill & high risk children**
- ✉ **Act as pediatric subspecialty extenders**
- ✉ **Pediatric consultants for Family Medicine, ER, OB, Surgery, and Health Aide Practitioners,**
- ✉ **Provide 24 hours emergency pediatric stabilization & treatment**
- ✉ **Act as medevac support as needed**
- ✉ **Provide inpatient pediatric care**
- ✉ **Care Management**

Pediatric Challenges in the Region



- Severe RSV
- Congenital Adrenogenital Syndrome
- Invasive pneumococcal disease
- High teen suicide rate
- 1/2 of population under 16 years old

Special Pediatric Challenges

- High Infectious Disease RSV, HIB, MRSHA
- AGS (CAH)
- MLD
- Teen Suicide
- Firearm Injury and Fatality
- Sexual Assault
- FAS/ADHD
- Inhalant/ETOH Abuse

Spectrum of Disease

- Tuberculosis
- Hypothermia/ Frost-bite
- Bronchiectasis
- Colorectal cancer
- Skin Abscess/cellulitis
- High injury related deaths.



- Crowded living conditions
- Lack of running water and sewer

Pediatric Specialty Services

- ↓ Pulmonology
- ↓ Endocrinology
- ↓ Cardiology
- ↓ Neurology
- ↓ Psychiatry
- ↓ Genetics
- ↓ Audiology
- ↓ FAS
- ↓ Immunization Program
- ↓ Inhalant Treatment Center (under construction)



Medical Evacuation from Village to
Bethel

Medevac Services



- Service is provided by AeroMed International which is an integral part of YKHC.
- Patient transport is available 24 hours a day from villages to Bethel, and Anchorage.



Yukon-Kuskokwim Delta

Barriers to Care

- Travel Methods

- Summer

- Boat
 - Hovercraft
 - Airplane

- Winter

- Snowmachine
 - Airplane

- Spring/Fall (break-up and freeze-up)

- Airplane (helicopter)



Travel Challenges

Weather

- Serving area 80,000 square miles / 48 Villages
- Limited weather reports
- Local Service is by 1 or 2 engine planes
- Options if Bethel Weathered In?



Travel Challenges

- Weather
 - Serving area 80,000 square miles / 48 Villages
 - Limited weather reports (rely on spotters in villages to determine actual weather)
 - Local Service is by 1 or 2 engine planes
 - Options if Bethel Weathered In?



Travel Challenges

- Air Service Limitations
 - 9 Local airlines
 - Variation from village to village of number of flights and services
 - Pilots normally max out flight hours during regular day service and charters
 - Limited number of seats for any given day

Who Pays for Patient Travel?

- Self Pay (flight costs from \$80-\$280 RT)
- 3rd Party Insurance
- Medicaid
- Life or Limb (YKHC)
- Cancer Patients (YKHC)
- YKHC Incurred Over \$1 Million in Non-reimbursed Travel Costs for 1997



Travel Challenges

Air Service Limitations

- 9 Local airlines
- Variation from village to village of number of flights and services
- Limited number of seats for any given day

Chevak Satellite Communication



Travel Is a Challenge



Child psychiatrist and clinician are transported to village airport.



Telemedicine

Medical Consultation across distance

Workstation includes

Digital Otoscope

Computer workstation

EKG Equipment

Scanner

Digital Camera

Some equipped with dental Camera

