Kellogg Foundation Evaluation of the Alaska Dental Health Aide Therapist Program

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Overview

- Summarize the Alaska Dental Health Aide Therapist Program
- Review the goals of the Kellogg Foundation evaluation of the Alaska Dental Health Aide Therapist Program
- Examine the methodology used in the evaluation

Background

- 2003 the Alaska Native Tribal Health Consortium (ANTHC) began the Alaska Dental Health Aide Initiative to provide dental health aide therapists (DHATs) to rural villages
- 10 DHATs were trained in New Zealand and credentialed to practice
- Working under the general supervision of dentists at regional offices, DHATs may perform cleanings, restorations, and uncomplicated extractions

Primary Dental Health Aides

- Village based
- Provides education
- Provides topical fluoride applications
- Places Sealants
- Exposes radiographs
- Performs prophylaxis
- Performs Atraumatic Restorative Treatment (caries control)
- Manages emergencies
- Assistant when dentist is in village

Expanded Functions
Dental Health Aide

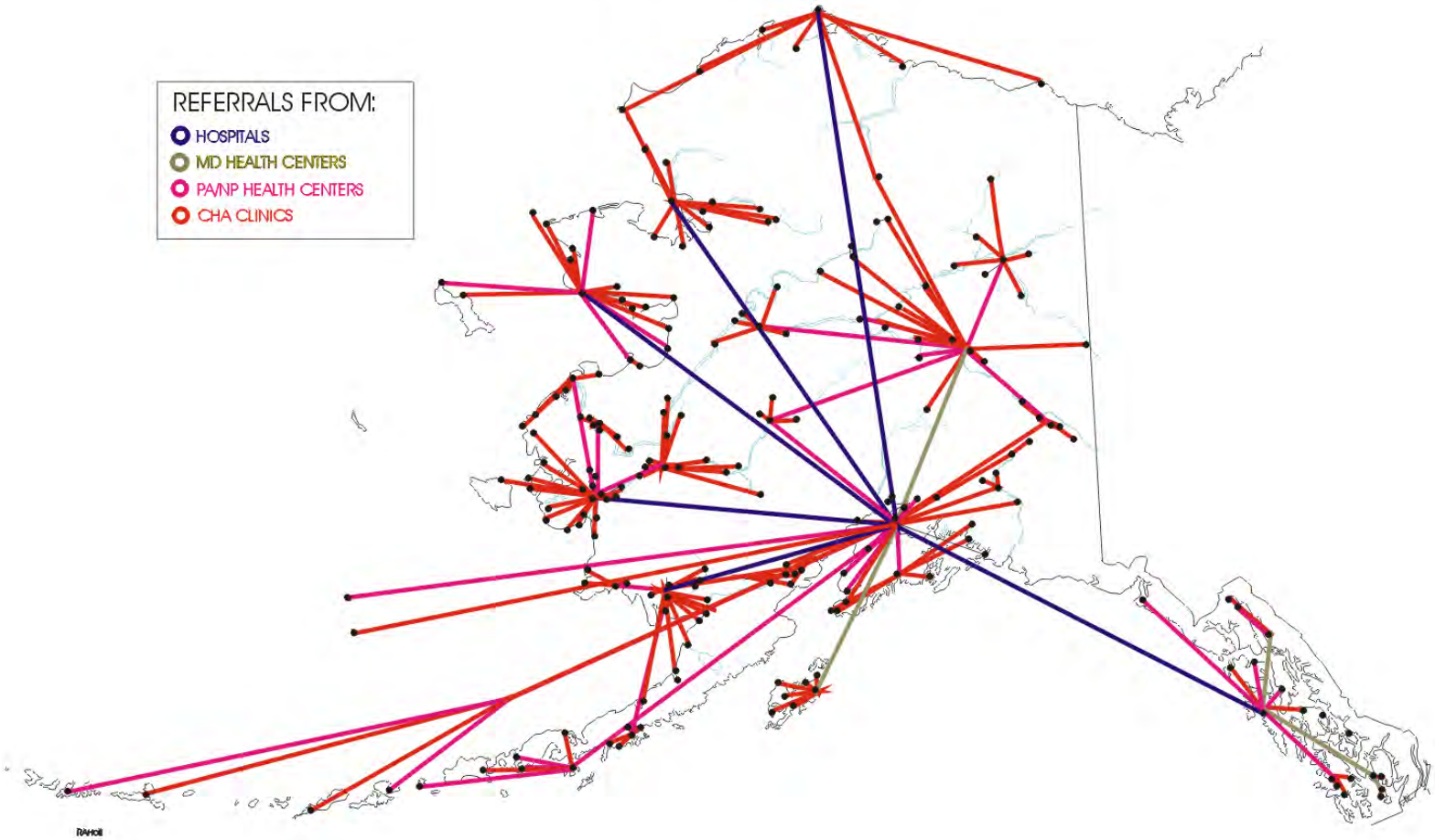
- Clinic based
- Functions as dental assistant
- Performs expanded functions
  - Place filling materials in prepared teeth
  - Perform prophylaxis
  - Place SSCs
  - Lab and prosthetic procedures

Dental Health Aide Therapists - Scope

- Clinic or village based
- Provide the spectrum of health education and preventive services
- Restore teeth to function utilizing amalgam and composite materials
- Provide SSCs and pulp treatment for primary teeth
- Extract teeth and manage dental emergencies
- Screen for oral and peri-oral disease

THE ALASKA NATIVE HEALTH CARE SYSTEM

Typical Referral Patterns



Background

- In January 2008, the W.K. Kellogg Foundation requested an independent and detailed evaluation of the initial implementation of the DHAT program
- Supported by W.K. Kellogg Foundation Rasmuson Foundation, and the Bethel Community Services Foundation
- Research Triangle Institute International was granted the contract for the evaluation

DHAT Training and Certification

- 2-year training program in New Zealand
- 10 completed the training and were credentialed to practice
- 400 hours of preceptorship must be competed with supervising dentist
- 4-year payback
- general supervision of dentists at regional offices

Goals of the Evaluation

- Quality of preventive and restorative treatment and other forms of dental care
- Level of patient satisfaction resulting from using DHATs
- Development and implementation of community-based prevention plans and programs

Goals of the Evaluation

- Practice procedures
  - Treatments
  - Complications
  - Referral patterns
  - Safety of care
  - Infection control practices, radiation hygiene, history taking, and record keeping, as well as other practice management procedures.

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Quality Assessment

- Clinic observations
  - Sealant placement
  - Composite preparation and placement
  - Amalgam preparation and placement
  - Counseling practices (oral hygiene, smoking cessation)
- Not observed
  - Extractions
  - Pulp therapy
  - Stainless steel crown preparation and restoration

Quality Assessment

- Chart Reviews
  - Effectiveness of care measures
    - Seven effectiveness of care measures were calculated (Bader et al, 1999)
  - Use of services measures
    - Two measures that report use of services were calculated: the percentage of patients receiving at least one prophylaxis, and the ratio of preventive procedures to intracoronal restorations (Bader et al., 1999)
  - Complication rates
    - The proportions of extraction procedures and restorative procedures where post-procedure complications arose were calculated

Quality Assessment

- Chart Reviews
  - Provision of examinations and preventive procedures
    - The mean numbers of examinations, prophylaxes, and fluoride treatments per patient, and the percentages of patients receiving oral hygiene instruction and oral cancer exams were calculated separately for children (under 18 years of age) and adults (age 18 or older).
  - Gingival bleeding assessment
  - Consultation

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Patient Satisfaction and Quality of Life

- Patient Satisfaction
  - The instrument was adapted from the Agency for Healthcare Research and Quality's (AHRQ's) CAHPS Dental Plan Survey (AHRQ, 2007)
- Quality of Life
  - Oral Health Impact Profile (Slade et al., 1995)
  - Early Childhood Oral Health Impact Scale (Pahel et al, 2007)
  - Parental Perceptions Questionnaire (Locker et al., 2002)

Goals of the Evaluation

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Practice Procedures

- Office Assessment Instrument (OAI) developed by MetLife, Inc
  - System-level assessment of the environment in which the DHAT and other providers are operating
  - Clinic facilities, policies, personnel, and procedures evaluation
    - 91 items assessing quality criteria organized into 8 dimensions

Practice Procedures

Clinic facilities, policies, personnel, and procedures evaluation

91 items assessing quality criteria organized into 8 dimensions:

- facilities (8 items)
- equipment (10 items),
- personnel numbers and training (6 items),
- written descriptions of administrative systems for patient care (9 items)
- personnel and Occupational Safety and Health Administration (OSHA)-related elements of infection control (10 items), materials for patients (4 items),
- practice management (5 items), and sterilization and
- infection control (39 items).

Practice Procedures

- Office Assessment Instrument (OAI) developed by MetLife, Inc
  - Record-based process review
    - evaluation of the organization and completeness of the record, the presence and appropriateness of the treatment plan, and the most current bite wing radiographs

Oral Health Surveys

- World Health Organization exam criteria
  - Two calibrated examiners
  - DMFS/dmfs
  - Community based
  - Children and adults
  - Provides a snapshot of disease prevalence

Key Informant Interviews

Stakeholder Category	Number Interviewed	Number with Recorded Interviews
DHATs	9	7
Supervisory Dentists	6	2
Other dental staff	8	3
ANTHC staff	6	3
Community health aides	5	3
Other medical staff	10	6
School personnel	8	6
Representatives of tribal organizations	6	2
Village residents	6	4
Total	65	36

Site Selection

Site	Dental Services and Setting	DHAT Role
A	Modern hospital-based Hub clinic with 5 dentists and 8 operatories	DHAT primarily based in site clinic with limited travel to two other villages
B	Modern subregional medical/dental clinic with 4 operatories, 1 to 2 DHATs, and 2 chairside assistants	DHAT primarily based in village with periodic travel (8 to 12 weeks per year) to several other villages
C	Modern village clinic with one operatory served by visits of itinerant dentists and DHATs	DHAT visits approximately every 2 to 3 months for 1-week visits
D	Modern subregional medical/dental clinic with 2 operatories served by itinerant visits by dentists and 1 DHAT	During the past 2 years, DHAT has made regularly scheduled visits approximately 1 week per month
E	Dental clinic in small trailer adjoining modern medical facility	DHAT based solely in village

Site Selection

Site	Population	Percent Native	Median Age	Average Family Size	Average Household Size
A	8,627	24.7	35.2	3.2	2.6
B	725	87.7	30.6	3.8	3.3
C	432	96.8	17.8	5.2	4.8
D	553	87.6	25.8	4.6	3.6
E	820	92.7	23.4	4.5	4.0

Site Selection

Site	No. Housing Units	Median Household Income	Per Capita Income	Percent Living Below Federal Poverty Level	Unemployment Rate	Percent of Adults Not In Workforce
A	3,650	$51,901	$23,622	7.81	7.78	31.8
B	242	$42,083	$15,845	11.0	14.6	48.6
C	89	$38,333	$9,624	11.9	33.8	57.3
D	186	$39,375	$15,837	20.4	11.34	35.4
E	221	$23,977	$9,676	29.9	26.8	66.7

Caveats: Issues not addressed in the evaluation

- Not a randomized trial of quality assessment that compares DHAT skills to licensed dentists
- Cross sectional assessment
  - does not afford a reliable quantitative assessment of how dental care access may be changing in Alaska
- Focus on quality and implementation not access to dental care

Results……..To be announced