Better Care. Lower Costs.

Impacts and Outcomes of Telehealth in Alaska



"Telemedicine" is the use of medical information exchanged from one site to another via electronic communications to improve a patient's clinical health status."

Source: The American Telemedicine Association (ATA)

The ATA treats **telemedicine** and **telehealth** as synonyms and uses the terms interchangeably.

Types of Telemedicine

Video-Teleconferencing (VTC)

Synchronous Telemedicine Video-Based *Live*



Store-and-Forward (S&F)

Asynchronous Telemedicine





Home Telehealth (HTM)

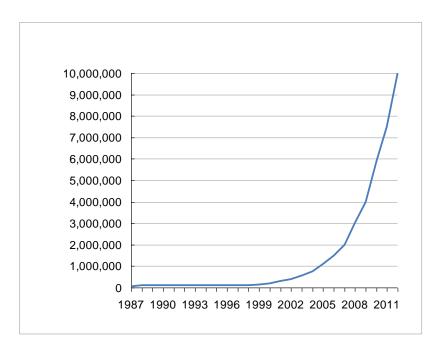
Remote Patient Monitoring (RPM)

May be Live or S&F or both



How Typical is Telemedicine?

- Currently about 200 telemedicine networks in U.S.
- ➤ 3,500 service sites in the U.S.
- ➤ Over half of all U.S. hospitals now use some form of telemedicine.



Patients Served by Telemedicine in North America

Source: The American Telemedicine Association (ATA)

Alaska Tribal Health System

Medical Care Service Levels

- Alaska Native Medical Center tertiary care
 - Referrals to private medical providers and other states for complex care



- 6 regional hospitals
- 4 multi-physician health centers
- 25 subregional mid-level care centers
- 180 small community primary care centers

AFHCAN "Store and Forward" Usage

FY15

- 43,000 TelehealthCases
- **1,500** Providers
- **26,000** Patients

2001-2015

- 265,000 TelehealthCases
- **4,300** Providers
- 99,000 Patients

Specialty Healthcare Clinics available by VideoTeleconference

- Oncology
- Cardiology
- Pediatric Endocrinology
- Pediatric Speech Language Pathology
- Adolescent Medicine (care delivered by Seattle Childrens Hospital)
- Breast Cancer Screening (care delivered by Mayo Clinic)
- Endocrinology
- Pulmonology
- HIV/Early Intervention Services
- General Internal Medicine

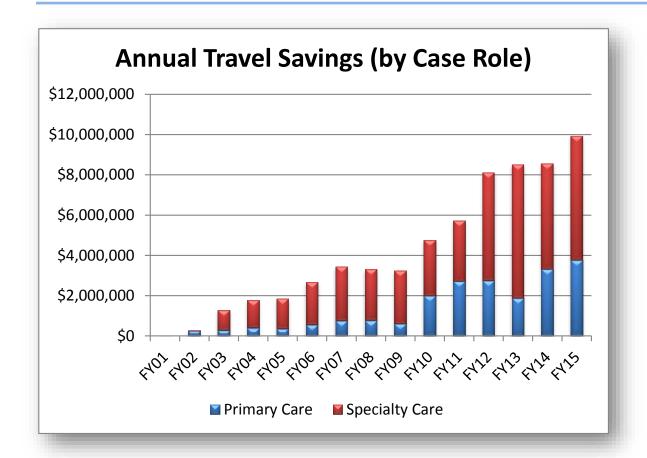
- Infectious Disease
- Neurology
- Dermatology
- Emergency Department Services
- Gastroenterology
- Hepatitis
- Nephrology
- Diabetes
- Rheumatology
- ENT
- OB/GYN
- Primary Care

Many others are in development

Provider Reviews

- **76%** of encounters are rated as <u>improving the</u> <u>quality of care</u> for the patient (n=11,490).
- **67%** of encounters are rated as <u>improving patient</u> <u>satisfaction</u> (n=11,477).
- **55%** of encounters are rated as playing a role in educating the patient (n=12,144).
- **63%** of encounters are rated as <u>making the job</u> more fun (n=12,803).

Estimated Travel Savings from Telehealth for **ALL** Patients



Medicaid
now saves
an estimated
\$10 to \$11
for every \$1
spent on
specialty
telehealth
consultations

Estimated annual savings from telehealth for all patients amounts to about \$10m with a total savings of \$63.4m since 2003.

Telehealth Impact on Extended Waiting Times (> 4 months)

ORIGINAL RESEARCH

The Impact of Telehealth on Wait Time for ENT Specialty Care

Philip J. Hofstetter, Au.D., John Kokesh, M.D., 2 A. Stewart Ferguson, Ph.D.³ and Linda J. Hood, Ph.D.⁴

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²Department of Otolarnygology, Alaska Native Medical Center,

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⁴Department of Hearing and Speech Sciences, Vanderbilt University, Nashville, Tennessee.

Audiology in rural Alaska has changed dramatically in the past 6 years by integrating store and forward telemedicine into routine practice. The Audiology Department at the Norton Sound Health Corporation in rural Nome Alaska has used store-and-forward telemedicine since 2002. Between 2002 and 2007, over 3,000 direct audiology consultations with the Ear, Nose, and Throat (ENT) Department at the Alaska Native Medical Center in Anchorage were completed. This study is a 16-year retrospective analysis of ENT specialty clinic wait times on all new patient referrals made by the Norton Sound Health Corporation providers before (1992-2001) and after the initiation of telemedicine (2002-2007). Prior to use of elemedicine by audiology and ENT, 47% of new patient referrals would wait 5 months or longer to obtain an in-person ENT appointment; this dropped to 8% of all patients in the first 3 years with telemedicine and then less than 3% of all patients in next 3 years using telemedicine. The average wait time during the first 3 years using telemedicine was 2.9 months, a 31% drop compared with the average wait time of 4.2 months for the preceding years without telemedicine. The wait time then dropped to an average of 2.1 months during the next 3 years of telemedicine, a further drop of 28% compared with the first 3 years of telemedicine usage.

DOI: 10.1089/tmj.2009.0142

Key words: telehealth, telemedicine, teleaudiology, audiology, ENT, otoscopy, extreme environments

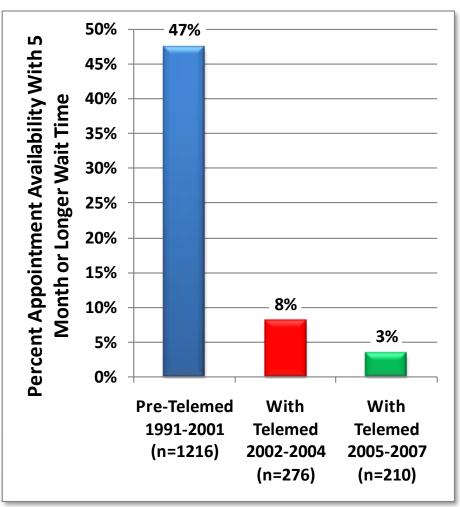
elehealth is fast becoming recognized as a method to improve healthcare in developing nations, regions of low population density, and areas with limited access to both primary care providers and specialists.¹⁻⁴ The lack of providers or access to specialists in rural regions is well documented.56 The World Health Organization (2008) reports that there are currently 26 physicians per 10,000 Americans in general, with a drop to less than 10 physicians per 10,000 Americans specifically in rural Alaska.

This ratio becomes worse for specialty providers. For example, there are less than five audiologists or otolaryngologists per 10,000 people in Alaska. Rural regions traditionally have poor providerpatient ratios that add to the already difficult access to healthcare for persons in these areas. Retention of providers, regardless of rural or nonrural location, has been shown to break down when provider networks and specialty referral processes are lacking.⁶ Studies have long linked socioeconomic status with poor and dissatisfying healthcare.9-11

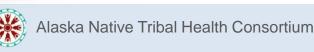
Impovenshed rural patients and patients of Alaska Native American Indian ethnicity are reported as the least satisfied with their healthcare. 10 Increased demand for healthcare and low providerpatient ratios, particularly in the rural regions with low socioeconomic status, have led to long wait times for care, Limited access to healthcare and lack of availability of appointments distress patients, ¹² Providers are overwhelmed with demands for clinic appointments, which may need to be booked weeks, or sometimes months, in advance. Although open access models have helped to improve wait times in some healthcare organizations, access and wait time problems continue to be prevalent.

Delivering quality healthcare in Alaska, with a population of 636,932 (U.S. Census, 2000)¹³ in 586,412 miles, is challenging. The population is very dispersed with a density of 1.1 persons per square

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Data courtesy of Phil Hofstetter



ANMC Turnaround Time

25% of cases are turned around in60 minutes

60% of cases are turned around in the same day

Segment Care Management Models Based on Patient Care Needs

High-Risk Patients

5% of patients.
Usually with complex disease(s), comorbidities.

Trade high-cost services for low-cost management.

Rising-Risk Patients

15% - 35% of patients. May have conditions not under control.

Avoid unnecessary higher-acuity, higher-cost spending.

Low-Risk Patients

60% - 80% of patients. Any minor conditions are easily managed.

Keep patient healthy, loyal to the system.

Source: Playbook for Population Health, © The Advisory Board Company 2013

Supports Provider Collaboration and Team-Based Care

Maniilaq Association

- Expanding services for Developmentally Disabled
- Piloting elderly care project 100%
 Telehealth

Medicaid Tribally Targeted Case Management

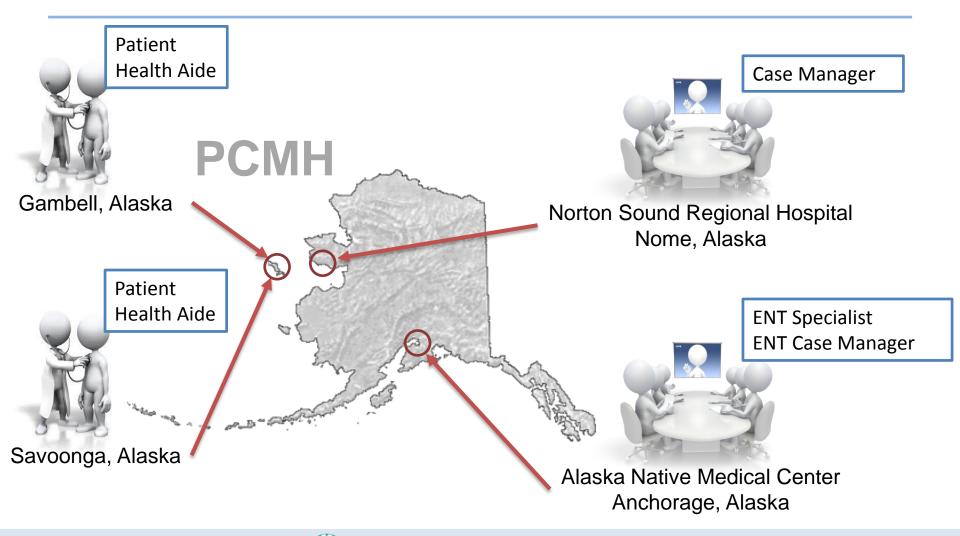
 Approved demo projects with complex diabetes patients, cardiac patients, infant learning.

Virtual Field Clinics

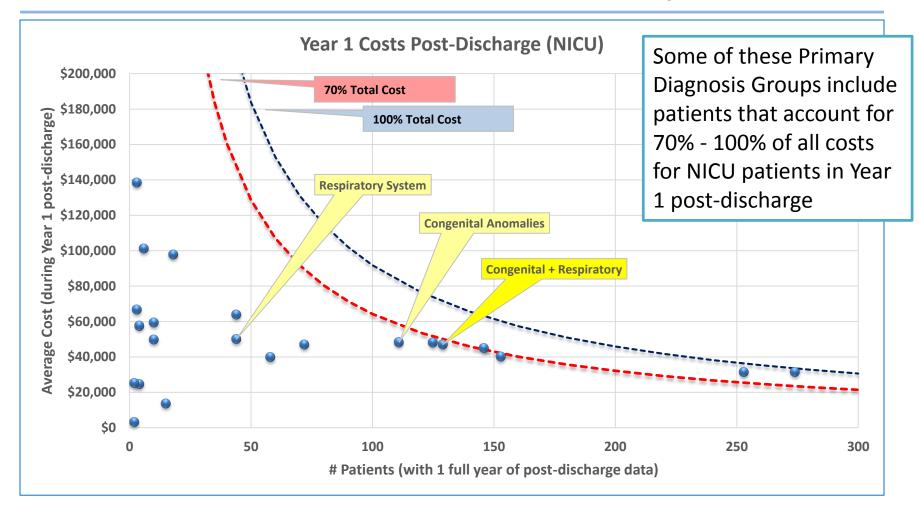
- Rheumatology (Provider in Germany)
- ENT

The use of telehealth will play an essential component as part of broad efforts to increase care coordination and integrate behavioral health and primary care.

Supports Provider Collaboration and Team-Based Care: Virtual Field Clinic



Caring for Our Most Expensive – and Most Vulnerable – Infant Population

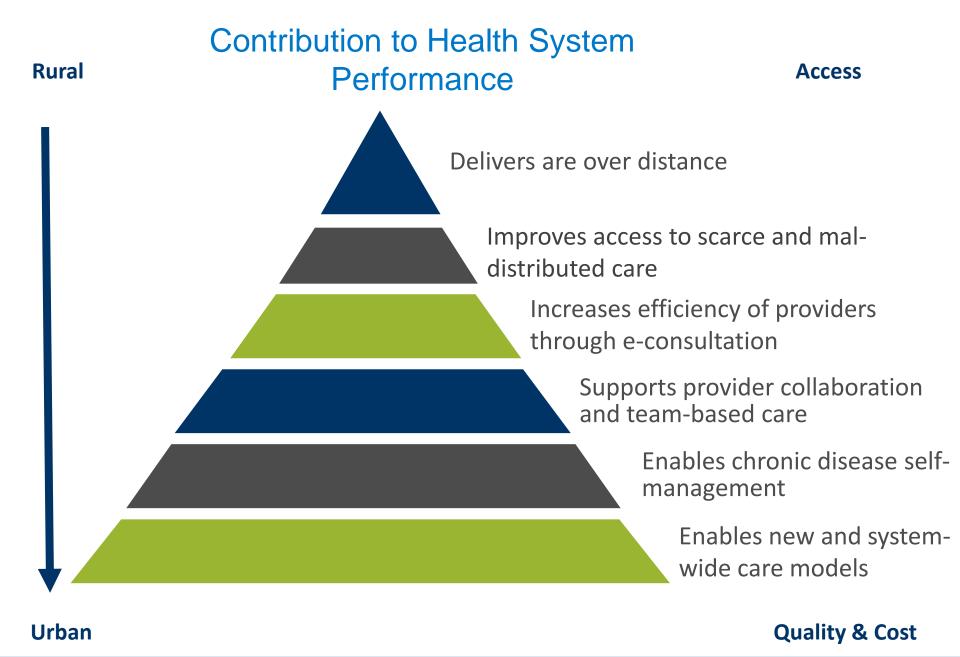


Care Coordination for the Most Vulnerable Population

We estimate we would save 37% on the cost for care of these patients by:

- ✓ Reducing emergency visits and associated costs by 60%
- ✓ Reducing inpatient hospital admissions and associated costs by 50%
- ✓ Decreasing emergent travel and associated costs by 60%
- ✓ decreasing non-emergent travel and associated costs by 20%

Most importantly – this will improve access to care and improve the overall health of these children



Questions

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