Emerging Telehealth Environment in the State of Hawai`i
Pacific Telecommunication Council PTC’17
Christina Higa, Co-Director, PBTRC, University of Hawai`i
January 15, 2017
Communications services including broadband is critical to development in the Pacific islands, as are applicants of communications technologies for health care and education, government services, and entrepreneurial activities. This talk will present lessons and examples from indigenous regions of Alaska and northern Canada as well as from Africa and other developing regions that are relevant to the Pacific. Applications discussed will include telemedicine, distance education, indigenous content, and radio plus interactivity using mobile telephones to support sustainable agriculture. The importance of participation by indigenous and community groups in the policy and regulatory process will also be addressed. The talk will include references to the work of Wilbur Schramm and Meheroo Jussawalla, both of whom were mentors of Prof. Hudson.

Professor Hudson is former Director of the Institute of Social and Economic Research (ISER) at the University of Alaska Anchorage, and was founding Director of the Telecommunications Management and Policy Program at the University of San Francisco. She is a Visiting Scholar at the Information School at the University of California Berkeley. She has written and consulted extensively on communications policies and applications for rural and development.

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pictdc.socialsciences.hawaii.edu
Presentation Outline

• Framework for Telehealth

• Emerging Telehealth Environment in Hawaii
  – Veterans Administration
  – Hawaii Stroke Network

• Telehealth Policy Updates
Telehealth Modalities

- **Store and Forward**
  - Asynchronous transmission of images, test results, other data
  - *Remote cardiology, dermatology, ophthalmology, pathology, radiology reading or interpretation services*

- **Remote Monitoring**
  - Real-time transmission of patient physiological or biometric data
  - *In home monitoring for chronic disease patients, or intensive care monitoring for ICU patients*

- **Live Consultation**
  - Remote synchronous services provided by live video conferencing
  - *Real time and interactive facility based services between patients, primary care providers, and medical specialists*

- **Mobile Health**
  - Communications and data or image transfer via mobile devices
  - *E-visits, health education, remote monitoring and transfer of data*
Telehealth in Hawai`i
Hawaii’s Emerging Telehealth Environment

- **Private Sector**
  - Queens Health System Hawaii Telestroke Network
  - Shriners Hospital for Children
  - Ho`okele Health Health Navigators

- **Federal Government**
  - VA Pacific Islands Health Care System
  - Department of Defense

- **Academia**
  - Continuing Medical Education
  - UH JABSOM Telepsychiatry
  - Integrating into curriculum: PBL, Colloquia, Rural Health Interest Group

- **Hawaii Department of Health**
  - Child and Adolescent Mental Health Division
  - Family Health Services Division
    - Genetic counseling
    - Medically fragile home monitoring
Highlighted Programs
VA Pacific Islands Health Care System
(Thandiwe Nelson-Brooks, RN, MPH, Telehealth Coordinator)
VA Pacific Islands Health Care System
(Thandiwe Nelson-Brooks, RN, MPH, Telehealth Coordinator)

Modalities
• Home Health
• Clinical Video Telehealth
• Store-and-Forward

Services – 30+
• Primarily Mental Health Services
• Endocrinology, Nephrology, Nutrition, Dermatology, etc.
• Other VISNs – Yoga, Tai Chi
Innovation: CVT Patient Tablets: Making the Home the Preferred Place of Care

• VA Approved Video Application
• Mobile
• Easy to operate
• Built in 4G connection or Wi-Fi capable
• Locked tablet for VA use only
• No cost to patient
## VA Pacific Islands Health Care System
(Thandiwe Nelson-Brooks, RN, MPH, Telehealth Coordinator)

### VAPIHCS FY16 YTD (thru Aug)

<table>
<thead>
<tr>
<th>VAPIHCS</th>
<th>FY16 YTD (thru Aug)</th>
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<tbody>
<tr>
<td>Total percent (%) of PIHCS Veteran population</td>
<td>8%</td>
</tr>
<tr>
<td>Number of Unique Veterans Receiving Telehealth</td>
<td>2,575</td>
</tr>
<tr>
<td>Home Telehealth</td>
<td>413</td>
</tr>
<tr>
<td>Clinical Video Telehealth</td>
<td>1,704</td>
</tr>
<tr>
<td>Store-and-Forward Telehealth</td>
<td>582</td>
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<tr>
<td><strong>Total Telehealth Visits</strong> (excludes Home Telehealth encounters)</td>
<td><strong>5,223</strong></td>
</tr>
<tr>
<td>Clinical Video Telehealth Visits</td>
<td>4,636</td>
</tr>
<tr>
<td>Store-and-Forward Telehealth Visits</td>
<td>587</td>
</tr>
</tbody>
</table>

### NATIONAL OUTCOMES

**Home Telehealth**
- 58% < bed days of care
- 35% < hospital admissions

**Clinical Video TeleMental Health**
- 28% < acute psychiatric bed days of care
- 11% of Vets seeking care, 48% rural

Source: VAPIHCS
Hawaii Stroke Network
(Dr. Matthew Koenig, Program Director)
Hawaii Stroke Network
(Dr. Matthew Koenig, Program Director)

- Stroke is the #1 cause of chronic disability in adults, the #3 cause of death in Hawaii
- IV tPA (clot buster) is the only FDA-approved treatment for acute stroke
- IV tPA must be administered within 4.5 hours of symptom onset
- Standard of care is initiation of IV tPA within 60 minutes of patient arrival to the ER

Time is of Essence for Stroke Victims = Telehealth a Good Fit
After occlusion, neuronal death begins at a rate of 1.9MM neurons/min
• IV tPA 90 min from onset
• LOS 4 days
• Discharge home
• IV tPA 160 min from onset
• LOS 10 days
• Discharge to rehab
• IV tPA 230 min from onset
• LOS 21 days
• Discharge nursing home
Is it a stroke? Check these signs FAST!

Face: Does the face look uneven? Ask them to smile.

Arm: Does one arm drift down? Ask them to raise both arms.

Speech: Befri fleu. Does their speech sound strange? Ask them to repeat a phrase.

Time: Every second brain cells die. Call 9-1-1 at any sign of stroke! Call 9-1-1 at any sign of stroke.
Hawaii Stroke Network

(Dr. Matthew Koenig, Program Director)

- (14) Hospital Survey by DOH
- (0) Neurologist on-site 24 x 7
- (9) Access to a neurologist
- (2) Acute stroke team
- (7) ED physician willing to administer tPA without neurologist consultation

- <2% received tPA – Hawaii*
- 6% received tPA – US Avg.
- 20% - Best Regional

(*2010 - 3,096 were discharged with acute ischemic stroke)
Hawaii Stroke Network
(Dr. Matthew Koenig, Program Director)

Technical System:
• Interactive video, mobile cart (small footprint), web based

Use Case:
• Stroke patient → ER
• Establish time of on-set (tPA must be given within 4.5 hours)
• Patient to CT Scan (bleeding or clotting)
• Notifies Queens transfer hotline

• Physician logs-on HSN
• Within 5-min Physician views CT image and examines patient
• Makes determination if patient is qualified for tPA
• Patients gets drug or not
• EHR note sent to local medical record
• Patient stays or gets transferred to Queens
Pan-tilt-zoom web camera

Camera base with on button (on button) and indicator lights

Tablet computer

VOIP phone

ER View

Physician View
Dr. Matthew Koenig, HSN, Program Director

Annual Telestroke Rates 2012-2016

109 treated patients x $45,000 cost savings per treated patient = $4.9 million
Hawaii’s Emerging Telehealth Environment: Challenges & Opportunities

Only <15% of Hawaii Providers adopted telehealth

Source: UH AHEC 2015
Top Challenges & Opportunities

Challenges
- Policies
- Lack of Incentives
- Encounter Payments
- Non-Tech Savvy Providers
- Client Demands

Opportunities
- Technology
- Workflow/Change
- Novel
- Evolving
- National Programs
- Pay for Performance
- Increasingly Technical Generation
- Client Demands
- Less expensive/better
- Training/Integrate
- Norm
Top Policy Barriers

- Reimbursement
- Malpractice Coverage and Liability
- Interstate Licensure
- Hospital Privileges and Credentials
  (CMS/TJC Proxy Process Optional)
Advancing Telehealth Policy
(State Level)

2014 Parity Law - Act 159
• Equal reimbursement for f2f and telehealth services
• Requires existing provider-patient relationship & presence of two providers and a patient

2016 PBTRC/Sen. Schatz Telehealth Policy Workshop (Jan 7)
• Stakeholder Input
• White Paper of Issues
• Policy Makers Listened
• SB2395
Advancing Telehealth Policy
(State Level)

2016 Telehealth Law - Act 226 (July 7)

Added Requirements for:
- Malpractice coverage for TH equivalent to F2F;
- Medicaid to cover services provided through TH;

Removed Requirements for:
- Prior established patient-provider relationship;
- Geographic restrictions (non-clinical setting);
- Presence of second provider/presenter (appropriately);

Inclusion of:
- Virtual home visits, mhealth, S-F, remote monitoring, interactive
- Provider-patient relationship to be established via telehealth by referral

Note:
- Provider must have Medical License in Hawaii
- Federal laws apply for prescription of controlled substances

Effective date is Jan. 2017 but a lot of work to put policies in place!
B1: Invest in telehealth to improve health access

Plan: The State of Hawaii lacks clear objectives regarding telehealth, this despite recent increasing proliferation of cost-effective technology and supportive public policy. The DOH will work with community to establish governance and accountability in assuring telehealth as a sustainable, if not preferred modality for specialty provider shortages, long waitlists for specialists, geographic barriers, improve access to certain kinds of care, and to support specialty consultation to primary care practices. Community Paramedics is a developing venue for Telehealth.
Advancing Telehealth Policy (Federal Level)

Medicare Reimbursement Issues
- Geographic restrictions / HPSA
- Far end requirements: clinical environment, second provider / presenter
- HI/AK federal demonstration project for store-and-forward

2017+ CONNECT for Health Act S.2484 /H.R. 4442 - Introduced by Senators Schatz (Hawaii), Wicker, Cochran, Cardin, Thune, and Warner and Representatives Black, Welch, Harper, and Thompson (bi-partisan)
- Expand the use of telehealth and remote patient monitoring services in Medicare
- 2/16 Referred to Sen. Com. (Finance); H. Subcom.(Health)

2017+ Federation of State Medical Boards (FSMB) - Interstate Medical Licensure Compact
- 18-Stated Enacted + 1-Introduced
- Streamline licensure process across states. Requires state legislation, Interstate Med. Licensure Compact Commission
- NOT the same as the Nursing Licensure Compact
Mahalo!

Thank you for your time today.