

Telehealth in Hawaii

Telemedicine Program Development

- **Shriners Hospitals for Children-Honolulu (SHC)**
- **Pacific Islands Emergency Medical Services for Children (PIER)**

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Rural Health Annual Conference

October 23, 2014

Objective

1. Historical Commitment to Children

- Shriners Hospitals for Children (SHC)
Honolulu Unit **90th anniversary**
- Emergency Medical Services for Children (EMSC)
HRSA Hawaii Partnership Grant **30th anniversary**

2. Partnership to Promote Telemedicine Access



Shriners Hospitals for Children Honolulu, Hawaii





Inpatient



Surgical Services

Over 500 surgeries per year







Physical Therapy



Occupational Therapy



Recreation Therapy



Medical Staff



Outpatient Clinic



Over 7,830 outpatient visits in the past year

Dental Clinic



Outreach Clinics



Over 3000 outreach patients seen in the past year

Hawaii Outreach Clinics

Potential Telemedicine Sites

- **Kauai**
- **Maui**
- **Molokai**
- **Hawaii Island (Kona, Waimea, Hilo)**

Total of 1,042 children evaluated

Service Area



The region spans an area larger than the continental United States

PIER

Pacific Islands Emergency Medical Services for Children Region



American Samoa
Commonwealth of the Northern Mariana Islands
Guam
Hawai`i
Republic of Palau
Federated States of Micronesia
Republic of the Marshall Islands

The Pacific Ocean



Next PIER Steps

Build the Building.....

- **Have a general vision of what we want**

- State-of-the-art emergency medical care for ill or injured children and adolescents regardless of where they may be when the need arises;
- Pediatric services are well integrated into an emergency medical services backed by optimal resources; and
- That the entire spectrum of emergency services – including illness and injury prevention, acute care and rehabilitation – is provided to children and adolescents as well as adults.

- **Prepare a strong foundation**

- Our PIER Team
- Our PIER Team Support, Partners, and Communities

- **Choose strong materials to build with:**




- Telemedicine Program(s),
- Health Information Exchange & Data Repositories
- Transportation Guidelines
- Evaluate our Region



Continued PIER Goals



HRSA MCHB grant funding



**EMSC PERFORMANCE MEASURES 76 AND 77:
MAKING TRANSFERS WORK FOR CRITICALLY ILL AND INJURED CHILDREN**

A major focus of the Emergency Medical Services for Children (EMSC) Program is to ensure that prehospital providers have the equipment, protocols, and training needed to provide appropriate care for children. It is equally important to ensure that emergency departments (ED) that receive children are also adequately prepared.

Unfortunately, many hospitals – particularly those in rural or remote areas – do not have the specialty resources needed to

This presentation was developed by the EMSC Program

Transfer Guidelines



Figure 1

- 1) A referring facility unable to meet the patient's medical needs identifies an accepting facility capable of providing the required higher level of care.
- 2) Referring facility determines appropriate transport mode for the patient. This may include a commercial airline, helicopter, ferry service or an airline specifically geared towards medical transport. Referring facility arranges ground ambulance or private transport from the medical facility to the airport or seaport for off-island transfer.
- 3) The patient may arrive at the airport or seaport of the location of the accepting facility (if coming by commercial airlines or fixed wing aircraft) or go directly to the accepting facility (if coming by helicopter).
- 4) If arriving at an airport, the patient must be transferred by ground transport to the accepting facility.
- 5) After the patient has received the needed medical care, the accepting facility arranges transfer of the patient back to the referring facility for continuation of care.
- 6) Accepting facility will contact referring facility to coordinate the appropriate arrangements for ground transportation to the airport and then air transportation back to the referring facility location. When arriving at the referring facility location, ground transportation may again be needed to return the patient to the referring facility.

Evaluating Pacific Pediatric Transports

| Pacific Inter Island Transfer – Am Samoa | | | | |
|--|---------------------|---|-------------------------------|--------------------------|
| Year | Number of Transfers | Transfer of children – 1 day to 17 years of age | Pediatric Patient Destination | % of Pediatric Transfers |
| 2011 | 140 | 21 | Honolulu | 6.6% |
| 2010 | 91 | 4 | Honolulu | 22.75% |
| 2009 | 138 | 14 | Honolulu | 9.8% |

- Total pediatric patients for 2009 is 25, 21 left on their own (some have private insurance, TRICARE, Medicare, or Akamai program), 3 no funds, and 1 Shiner's case)
- Total pediatric patients for 2010 is 19, 4 actually left on their own and 15 did not have funds
- Total pediatric patients for 2011 is 25, 8 left on their own, 4 Shiner's, 10 no funds, and 3 deceased

The patients that actually left have private insurance, TRICARE, Medicare, or the Akamai program.

| Pediatric Patient Transfer Diagnoses (top 5 for years 2009-2011) | % |
|--|------|
| Leukemia | 4.6% |
| Congestive Heart Failure | 3.8% |
| Cleft Palate w/tube feeding | 9.8% |
| Lung Disease | 7.6% |
| Acute Rheumatic Fever | 7.6% |

| Pacific Inter Island Transfer - GUAM | | | | |
|--------------------------------------|---------------------|---|--------------------------------|--------------------------|
| Year | Number of Transfers | Transfer of children – 1 day to 17 years of age | *Pediatric Patient Destination | % of Pediatric Transfers |
| 2011 | 6/60 | No age data | | 10% |
| 2010 | 10/77 | No age data | | 13% |
| 2009 | 19/78 | No age data | | 24% |

*St. Luke's, Philippines; Children's Hospital, Los Angeles; Commonwealth Health Center, Saipan, CNMI; Asakati Sogoru Hospital, Japan; Loma Linda University Medical Center, CA; UCLA Children's Hospital; Philippine Heart Center; Asan Hospital, Korea; National Kidney Institute, Philippines; St. Luke's Global City, Philippines; Kapiolani Hospital for Women and Children, HI

| Pediatric Patient Transfer Diagnoses (top 5 for years 2009-2011) - GUAM | % |
|---|-----|
| Cardiac | 40% |
| Gastrointestinal | 23% |
| Pulmonary | 17% |
| Neurological | 14% |
| Hematology | 1% |

| South Pacific Region REFERRALS – Encounters at Kapi'olani Medical Center for W&C and Straub Clinic & Hospital | | | | |
|---|-------------------------------|---|--|----------------------|
| Year | Total Adult/Ped Count = 2,470 | Pediatric Encounters Ages 1 day to 17 years Count = 287 | Referring Entity | % of Pediatric |
| 2011 | 910 | 88 | Am Samoa, Guam, Saipan, Majuro, Okinawa, Chuuk, Pohnpei, | 10% |
| 2010 | 855 | 102 | Am Samoa, Guam, Saipan, Majuro, Kosrae, California | 14% |
| 2009 | 710 | 98 | Am Samoa, Guam, Saipan, Majuro, Kwajalein, Chuuk | 14% |
| DEFERRED | COUNT | DIAGNOSIS (Ped) | RE-DIRECTED | REASONS for Deferral |

| Pacific Inter Island Transfer | | | | |
|-------------------------------|---------------------|---|-------------------------------|--------------------------|
| Year | Number of Transfers | Transfer of children – 1 day to 15 years of age | Pediatric Patient Destination | % of Pediatric Transfers |
| 2011 | 798 | 72 | Guam, Hawaii & Philippines | 9 |
| 2010 | 1117 | 100 | Guam, Hawaii & Philippines | 8.9 |
| 2009 | 924 | 72 | Guam, Hawaii & Philippines | 7.8 |

| Pediatric Patient Transfer Diagnoses (top 5 for years 2009-2011) | % |
|--|----|
| ENT | 18 |
| Cardiology | 7 |
| Oncology | 9 |
| Orthodontic | 9 |
| Urology | 6 |

**University of
Hawaii**

**Telecommunications
and Social
Informatics Research
Program**

Norman H. Okamura, PhD
Faculty Specialist
Primary Investigator

Christina Higa
Director/Co-Principal
Investigator

Thomas Okamura
Manager, Systems and
Operations

- In alignment with the University of Hawaii Strategic Plan Goal 3, the UH TASI is dedicated to strengthening and advancing the local, regional and international initiatives and collaborative opportunities.
- TASI conducts, facilitates and supports basic and applied research into Information and Communication Technology (ICT) policy, regulation, technology systems and applications in Hawaii and the Pacific Islands Region and shares its knowledge through education, training, workshops, and other program activities.
- TASI's areas of research include distance learning, telehealth and Health Information Technology and its application in rural and remote communities within Hawaii and the Pacific Island economies

**the HRSA funded Pacific
Basin Telehealth
Resource Center (PBTRC)**

**TASI Support Specialist
Team**

Kaina Lingaton
Senior ICT Specialist

Pacific Region Partnership

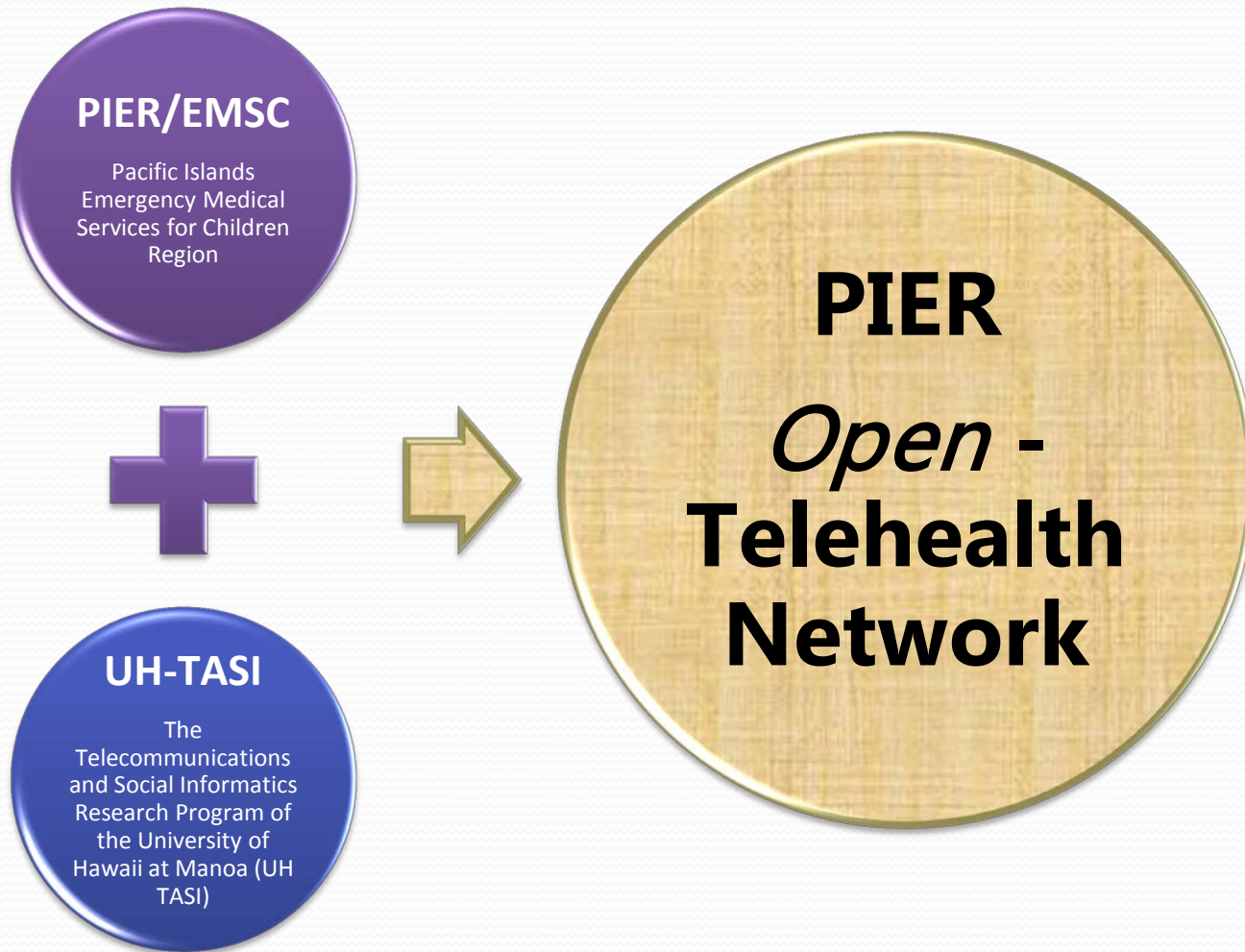
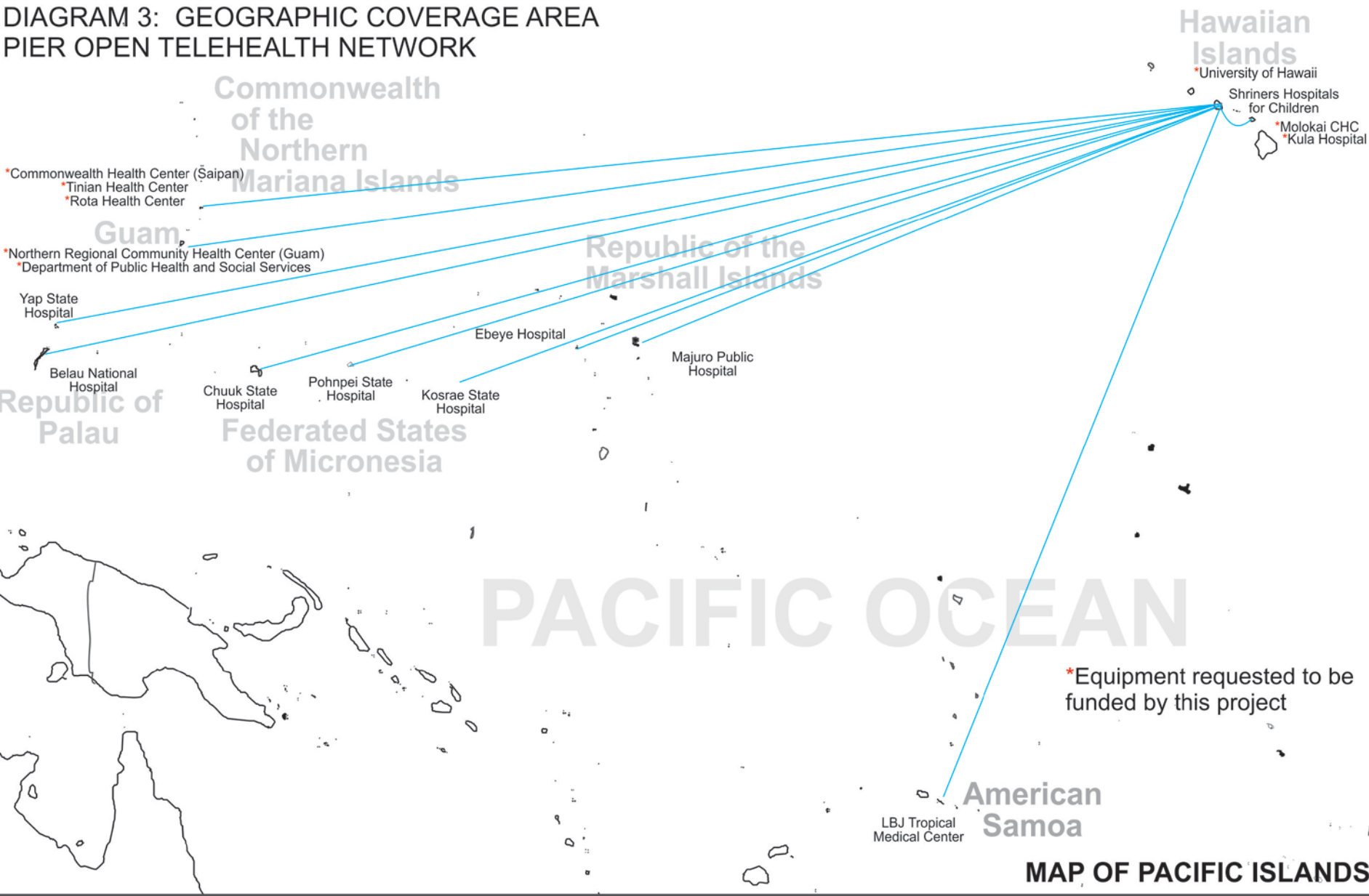


DIAGRAM 3: GEOGRAPHIC COVERAGE AREA
PIER OPEN TELEHEALTH NETWORK



Telemedicine Development

SHC Outreach Clinics Hawaii and Pacific Islands





2014 PIER Conference



Moving Forward for our Children

Strong Partnerships

Blending Mission and Vision

Ensuring High Quality Access