Telehealth in Hawaii

Telemedicine Program Development

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

Louise Kido Iwaishi, MD
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
Orthotics and Prosthetics
Physical Therapy
Recreation Therapy
Medical Staff
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
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...
Transfer Guidelines

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

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Transfers</th>
<th>Transfer of children – 1 day to 17 years of age</th>
<th>Pediatric Patient Destination</th>
<th>% of Pediatric Transfers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>140</td>
<td>21</td>
<td>Honolulu</td>
<td>6.6%</td>
</tr>
<tr>
<td>2010</td>
<td>91</td>
<td>8</td>
<td>Honolulu</td>
<td>22.75%</td>
</tr>
<tr>
<td>2009</td>
<td>138</td>
<td>14</td>
<td>Honolulu</td>
<td>9.8%</td>
</tr>
</tbody>
</table>

- 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 Shiners’ 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 Shiners’, 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)

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leukemia</td>
<td>4.6%</td>
</tr>
<tr>
<td>Congestive Heart Failure</td>
<td>3.8%</td>
</tr>
<tr>
<td>Cleft Palate w/Tube feeding</td>
<td>9.8%</td>
</tr>
<tr>
<td>Lung Disease</td>
<td>7.6%</td>
</tr>
<tr>
<td>Acute Rheumatic Fever</td>
<td>7.6%</td>
</tr>
</tbody>
</table>

### Pacific Inter Island Transfer - GUAM

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Transfers</th>
<th>Transfer of children – 1 day to 17 years of age</th>
<th>Pediatric Patient Destination</th>
<th>% of Pediatric Transfers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>6/60</td>
<td>No age data</td>
<td></td>
<td>10%</td>
</tr>
<tr>
<td>2010</td>
<td>10/77</td>
<td>No age data</td>
<td></td>
<td>13%</td>
</tr>
<tr>
<td>2009</td>
<td>19/78</td>
<td>No age data</td>
<td></td>
<td>24%</td>
</tr>
</tbody>
</table>

*St. Luke’s, Philippines; Children’s Hospital, Los Angeles; Commonwealth Health Center, Saipan, CNMI; Asahikai Seikyo Hospital, Japan; Loma Linda University Medical Center, CA; UCLA Children’s Hospital; Philippine Heart Center; Asian 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

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiac</td>
<td>40%</td>
</tr>
<tr>
<td>Gastrointestinal</td>
<td>23%</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>17%</td>
</tr>
<tr>
<td>Neurological</td>
<td>14%</td>
</tr>
<tr>
<td>Hematology</td>
<td>1%</td>
</tr>
</tbody>
</table>

### South Pacific Region REFERRALS – Encounters at Kaplîolani Medical Center for W&C and Straub Clinic & Hospital

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Adult/Ped Count = 2,470</th>
<th>Pediatric Encounters Ages 1 day to 17 years Count = 287</th>
<th>Referring Entity</th>
<th>% of Pediatric</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>910</td>
<td>88</td>
<td>Am Samoa, Guam, Saipan, Majuro, Okinawa, Chuk, Pohnpei</td>
<td>10%</td>
</tr>
<tr>
<td>2010</td>
<td>855</td>
<td>102</td>
<td>Am Samoa, Guam, Saipan, Majuro, Kosrae, California</td>
<td>14%</td>
</tr>
<tr>
<td>2009</td>
<td>710</td>
<td>98</td>
<td>Am Samoa, Guam, Saipan, Majuro, Kwajalein, Chuk</td>
<td>14%</td>
</tr>
</tbody>
</table>

**DEFERRED COUNT DIAGNOSIS (Ped) RE-DIRECTED REASONS for Deferral**

### Pacific Inter Island Transfer

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Transfers</th>
<th>Transfer of children – 1 day to 15 years of age</th>
<th>Pediatric Patient Destination</th>
<th>% of Pediatric Transfers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>798</td>
<td>72</td>
<td>Guam, Hawaii &amp; Philippines</td>
<td>9</td>
</tr>
<tr>
<td>2010</td>
<td>1117</td>
<td>100</td>
<td>Guam, Hawaii &amp; Philippines</td>
<td>8.9</td>
</tr>
<tr>
<td>2009</td>
<td>924</td>
<td>72</td>
<td>Guam, Hawaii &amp; Philippines</td>
<td>7.8</td>
</tr>
</tbody>
</table>

### Pediatric Patient Transfer Diagnoses (top 5 for years 2009-2011)

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENT</td>
<td>18</td>
</tr>
<tr>
<td>Cardiology</td>
<td>7</td>
</tr>
<tr>
<td>Oncology</td>
<td>9</td>
</tr>
<tr>
<td>Orthodontic</td>
<td>9</td>
</tr>
<tr>
<td>Urology</td>
<td>6</td>
</tr>
</tbody>
</table>
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
Pacific Region Partnership

PIER/EMSC
Pacific Islands Emergency Medical Services for Children Region

UH-TASI
The Telecommunications and Social Informatics Research Program of the University of Hawaii at Manoa (UH TASI)

PIER
Open - Telehealth Network
DIAGRAM 3: GEOGRAPHIC COVERAGE AREA
PIER OPEN TELEHEALTH NETWORK

Hawaiian Islands
- University of Hawaii
- Shriners Hospitals for Children
- Molokai CHC
- Kula Hospital

Commonwealth of the Northern Mariana Islands
- Commonwealth Health Center (Saipan)
- Tinian Health Center
- Rota Health Center

Guam
- Northern Regional Community Health Center (Guam)
- Department of Public Health and Social Services
- Yap State Hospital

Republic of the Marshall Islands
- Belau National Hospital
- Chuuk State Hospital
- Pohnpei State Hospital
- Kosrae State Hospital
- Ebeye Hospital
- Majuro Public Hospital
- LBJ Tropical Medical Center

Federated States of Micronesia
- American Samoa

*Equipment requested to be funded by this project

MAP OF PACIFIC ISLANDS
Telemedicine Development

SHC Outreach Clinics Hawaii and Pacific Islands

Doctor, Can You See Me Now?

More Hospitals Are Using Video to Connect Patients With Specialists Far Away, Speeding Treatment

By Ben Marcus

In August, Tom Bulger suffered a stroke, leaving him unable to move the right side of his face. There's what he went on TV.

In Pennsylvania, at the University of Pittsburgh Medical Center, 25 miles away, an expert in video came to Mr. Bulger's room.

The stroke treatment protocol is the same for most stroke patients, but delivering the treatment in a hospital can reduce the effects of stroke and limit permanent disabilities. But the risk in this case for stroke patients is a critical time of hours, with a longer delay leading to brain damage and the risk of death.

After reviewing Mr. Bulger's vital signs and an MRI scan, the remote specialist said the remote care in check with the help of the patient's treating physician and the hospital's emergency department.

Telemedicine hospitals are using video to connect with specialists, often in remote locations, to speed up treatment and improve outcomes.

Telemedicine has been around for decades, with hospitals using it to connect with specialists in different locations, but the technology has become more widespread in recent years.

Telemedicine can be used for a variety of purposes, including diagnostic consultations, treatment planning, and follow-up appointments.

Telemedicine is particularly useful in rural areas, where access to specialists can be limited.

Telemedicine is also used for mental health care, providing access to licensed professionals and allowing for remote therapy sessions.

Telemedicine has the potential to revolutionize healthcare, making it more accessible and efficient for patients and providers alike.
Moving Forward for our Children

Strong Partnerships
Blending Mission and Vision
Ensuring High Quality Access