Utilizing TeleMedicine to Improve Access to Medical Care in Idaho

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Presentation Outline

• Introduction to TeleHealth Technology
• Idaho Overview
• Our Experiences
• The Future
Introduction

**TeleHealth:** a mode of delivering health care services that utilizes information and communication technologies to enable the diagnosis, consultation, treatment, education, care management and self-management of patients at a distance from health providers.¹

1 Center for Connected Health Policy, “Advancing California’s Leadership in TeleHealth Policy: A TeleHealth Model Statute and Other Policy Recommendations”, February 2011

**TeleMedicine:** The use of medical information exchanged from one site to another via electronic communications to improve patient’s health status¹

¹ Center for Connected Health Policy, “Advancing California’s Leadership in TeleHealth Policy: A TeleHealth Model Statute and Other Policy Recommendations”, February 2011
Why TeleMedicine

- 35 of Idaho’s 44 counties are Rural or Frontier
- Idaho has 27 Critical Access Hospitals
- 48 Medically Underserved Areas/Populations
- 158 Health Professional Shortage Areas
- Rural Idaho faces recruitment and retention challenges
- Limited access to specialty care in many areas
Our Experience: The IDA/ORE Network
## IDA/ORE Network Services

<table>
<thead>
<tr>
<th>Emergency Consultations</th>
<th>Outpatient Services</th>
<th>In-Patient / Other Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>E.D. to E.D</td>
<td>Psychiatry</td>
<td>Intensivist Program</td>
</tr>
<tr>
<td>Stroke</td>
<td>Oncology</td>
<td>Hospitalist Program</td>
</tr>
<tr>
<td>Burns</td>
<td>Orthopedics</td>
<td>Interpretive Services</td>
</tr>
<tr>
<td>Neonatology</td>
<td>Dermatology</td>
<td>Televisit</td>
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<tr>
<td></td>
<td>Rheumatology</td>
<td></td>
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<td></td>
<td>Cardiology</td>
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<tr>
<td></td>
<td>Genetic Counseling</td>
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<td></td>
<td>Burn Follow-up Clinics</td>
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<tr>
<td></td>
<td>Wound Care*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stress-echo Services*</td>
<td></td>
</tr>
</tbody>
</table>

* In development
Service Utilization: Year over Year Growth

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Patient Encounters</th>
<th>Percent Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007*</td>
<td>26</td>
<td>23%</td>
</tr>
<tr>
<td>2008</td>
<td>518</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>1285</td>
<td>13%</td>
</tr>
<tr>
<td>2010</td>
<td>1583</td>
<td>16%</td>
</tr>
<tr>
<td>2011</td>
<td>1795</td>
<td></td>
</tr>
<tr>
<td>2012*</td>
<td>2079</td>
<td>16%</td>
</tr>
</tbody>
</table>

*2007 5 months of data
*2012 Data is annualized
### Outpatient Clinics: Serving Patients at Home

<table>
<thead>
<tr>
<th>Outpatient Travel Expenses</th>
<th>Clearwater Valley</th>
<th>St. Mary’s*</th>
<th>Grande Ronde*</th>
<th>SA Baker City</th>
<th>SA Ontario</th>
<th>West Valley</th>
<th>Walter Knox</th>
<th>Cascade</th>
<th>Syringa</th>
<th>SARMC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Encounters</td>
<td>2500</td>
<td>956</td>
<td>177</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>18</td>
<td>221</td>
<td>54</td>
<td>92</td>
</tr>
<tr>
<td>Travel Miles Avoided</td>
<td>615,262</td>
<td>276,608</td>
<td>28,896</td>
<td>632</td>
<td>224</td>
<td>100</td>
<td>1,044</td>
<td>35,360</td>
<td>8,424</td>
<td>62,376</td>
</tr>
<tr>
<td>Expense per Mile</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Total Expense</td>
<td>$307,631</td>
<td>$138,304</td>
<td>$14,448</td>
<td>$316</td>
<td>$112</td>
<td>$50</td>
<td>$522</td>
<td>$17,680</td>
<td>$4,212</td>
<td>$31,188</td>
</tr>
</tbody>
</table>

**Total Patient Travel Expense Avoided** due to Availability of TeleMedicine:

- Cardiology patients at Grand Rhond must travel to Boise for care
- Child Psychiatry patients at St. Mary’s and Clearwater Valley must travel to CDA for care
- SARMC patients with severe burns were traditionally transported to University of Utah’s Burn Center for care prior to TeleMedicine implementation.

Cost at $0.50 per Mile: **$514,463**

Total Miles: **1,028,962**
Telepsychiatry Program
February 2009 – July 2012

Adult Psychiatry
- 201 new patients served
- 1272 total patient encounters
- 80% no current psychiatric care

Child Psychiatry
- 90 new patients served
- 1582 total patient encounters
- 80% no current psychiatric care

Total Patient Travel Expense Avoided due to Availability of TelePsychiatry:
- Total Miles: 715,775
- Cost at $0.50 per Mile: $357,888
Case Study: Telepsychiatry Health Care Cost Savings

Pre-Telepsychiatry Program:
• Diagnosed with schizophrenia and severe drug and alcohol abuse
• Average of 1 E.D. visit /month for 3 years = $46,728
• 4 hospitalizations in 3 years

Telepsychiatry Program:
• 6 E.D. visits in 18 months = $7,788
• 1 hospitalization in 18 months

*Average cost of an E.D. visit = $1298*

*Average Cost of telepsychiatry appointment = $100*
TeleHospitalist Services

- 44 inpatients retained between Nov. 2010-Nov. 2011
- Resulting in 210 days of hospitalization
- Resulting net payments to critical access hospital: $360,000

Significant savings to patients/payors:
- Avoided ground/air transfer costs
- Avoided duplication of tests
- Avoided family travel and loss of work time
- Improved continuity of care
The ESP Program coordinates specialty physicians in emergency situations using TeleMedicine technology.

Patients can then receive care in their community hospitals when appropriate.
TeleBurn Service in Partnership with U of Utah

December 2011 – July 2012

Emergency Burn Prevented Transport

Patient Transport Avoided  11
Patient Transported to Utah  10
Total  21

52% of Transports Avoided

Cost Savings of: $440,000

Burn Follow-Up Clinic

<table>
<thead>
<tr>
<th>Patient Encounters</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Patients</td>
</tr>
<tr>
<td>Returning Patients</td>
</tr>
<tr>
<td>Unknown</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Travel Miles Avoided  62,376
Travel Dollars Saved  $31,188
**TeleStroke Services**

**TPA Administration in Rural Hospitals Pre and Post ESP Program**

- **Number Eligible for TPA**: Pre ESP Program (2008-2009) - 13, Post ESP Implementation (11/11/2011 to 8/31/2012) - 4
- **Received TPA at Partner Hospital**: Pre ESP Program - 0, Post ESP Implementation - 9
- **Received TPA at Saint Alphonsus**: Pre ESP Program - 2, Post ESP Implementation - 3
- **Arrived as Saint Alphonsus Out of TPA Window**: Pre ESP Program - 2, Post ESP Implementation - 0
- **Patient Refused TPA Treatment**: Pre ESP Program - 0, Post ESP Implementation - 1

*TPA must be administered within a set time frame from the onset of symptoms*

Provided stroke education at Partnering Hospitals & with EMS teams

TPA administration rates increased at partnering hospitals by **69%**
Case Study: Improving Stroke Care and Outcomes

Patient presents to a partnering hospital emergency room with dense right sided weakness and loss of speech.

Patient was evaluated for stroke, sent for a rapid head CT, and a Tele-Stroke consult was initiated with a Neurologist.

Tele-Stroke Neurologist was able to view the CT scan immediately.

Tele-Stroke Neurologist was able to re-evaluate the patient pre and post administration of t-pa.

Two hours after treatment the patient was awake, alert, and able to answer questions.

The patient discharged with only mild weakness of his right arm.

Prior to Tele-Stroke, partnering hospital would transfer stroke patients without starting t-pa at their hospital.
Future Vision

• Telehealth utilized to provide wide variety of inpatient, outpatient and emergency services throughout the state

• Rural hospitals remain financially viable as patient revenues remain in the community

• Patients receive **appropriate, timely** access to specialty services thereby reducing costs as focus switches to prevention and improved management
Thank you

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