Teledermatology: Fleshing out the Benefits

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Introduction

• FQHCs are some of the most efficient methods of health care, able to bring healthcare to Medically Underserved Areas (MUA).
• Access to specialty care is still a problem for most MUAs.
• Telehealth has the potential to address this problem with technology currently present in Community Health Centers (CHCs).
Background

• Telehealth is nothing new
  • Dutch physician had electrocardiographs carried to him by horseback – 1905
  • 1920 radiologic consults completed between ships and islands to doctors on the mainland.
  • US begin transmitting radiographs in 1950’s
Three forms of Telehealth

1. **Store-and-Forward Telehealth (SFT):** objective data is digitized, stored on a server, and sent to a specialist for assessment on their own timeline.

2. **Live-Interactive (LI):** consults via web-based communications.

3. **Hybrid:** SFT and LI may be combined

SFT teledermatology was used for this study due to its asynchronous nature.
Methodology

• Next Gen Electronic Health Records were used to identify encounters resulting in an ICD-9 dermatologic code from Jan 1, 2014 – Jun 30, 2014.

• Administrative personnel provided average cost to per visit and number of dermatology referrals for the given timeframe. They also provided average administrative time for referrals.

• Research papers were used to identify costs of dermatology visits and teledermatology consults.
Results

• The dermatologic load for [redacted] was almost 4 x’s less than the load determined by the American Dermatologic Association.

• Regardless of this fact the amount of potential money [redacted] could save per year is ~ $70,000.00.

• Administrative time for [redacted] would equate to ~80 hrs of extra time per year.

• Time spent by dermatologists on patient care if all patients with a referral and those requiring a second visit for a dermatologic issue used SFT a a time savings of ~160 hrs per year.
Results (Cont’d)

Visits with Dermatology ICD-9 codes compared to all other visits

- Dermatology: 8%
- Non-Dermatology: 92%

Dermatology patients

- ADA load for Primary Care Centers
- Next Gen elucidated Load CentroMed Load

Chart showing percentages and comparisons.
## Results (Cont’d)

<table>
<thead>
<tr>
<th>Monetary Costs</th>
<th>Number</th>
<th>Cost ($72.00/visit, *$93.09/clinical dermatology visit)</th>
<th>Cost if teledermatology used ($38.00/patient [7])</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient’s with repeat visits resulting in ICD-9 coding</td>
<td>1,007</td>
<td>N/A</td>
<td>$38,266.00</td>
</tr>
<tr>
<td>Repeat visits resulting in ICD-9 coding</td>
<td>1495</td>
<td>$107,640.00</td>
<td>One f/u visit for continuity of care = $0.00</td>
</tr>
<tr>
<td>Repeat visits &gt; 1 resulting in ICD-9 coding</td>
<td>488</td>
<td>$35,136.00</td>
<td>Third visit avoided -$35,136.00</td>
</tr>
<tr>
<td>Referrals</td>
<td>695</td>
<td>*$64,697.55</td>
<td>($26,410.00 - $64,697.00) = -$38,287.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total Financial Cost</td>
<td>-$35,157.00</td>
</tr>
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</table>
## Results (Cont’d)

<table>
<thead>
<tr>
<th>Temporal Cost</th>
<th>Number</th>
<th>Time dermatologist spends on clinic visit (24.4 min/patient [7])</th>
<th>Time dermatologist spends on SFT consult (7.2 min/patient [7])</th>
<th>Administrative time spent on traditional dermatology referral (80% of referrals require ~ 52.5 min, 20% require 17.5 min)</th>
<th>Administrative Time spent for SFT operations (20 min per patient and referral [7])</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients</td>
<td>1007</td>
<td>N/A</td>
<td>7,250.4 min</td>
<td>N/A</td>
<td>20,140</td>
</tr>
<tr>
<td>Referrals</td>
<td>695</td>
<td>16,958 min</td>
<td>(5,004 min - 16,958 min) = -11,954 min</td>
<td>31,620 min</td>
<td>(13,900 min - 31,620 min) = -17,720 min</td>
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<td></td>
<td>Time spent by Dermatologist if utilizing SFT</td>
<td>Administrative Time Spent if using SFT for dermatology</td>
<td>2,420 min</td>
</tr>
</tbody>
</table>

-4,703.6 min

-11,954 min

-17,720 min
Discussion

- Findings suggest teledermatology would greatly benefit CentroMed by benefiting their constituents.
- The amount of time necessary for operations would be miniscule compared to the money saved and benefits to the patients.
- Cautious optimism should be drawn from this study because it is a simplistic approach to a complicated matter.
- CentroMed may benefit from future projects exploring telehealth so they can remain a leader in innovations in the rapidly evolving healthcare climate.
Recommendations

• Design a study more relevant to the patient needs (i.e. telepsychology) for future PCLP scholars to assess.

• Use University resources and philanthropic entities to trial telehealth practices.

• Utilize models set-up in California to construct these models for study.

• Use California laws to lobby government officials for changes to payment schemes.
Conclusion

• Teledermatology shows a potential future for expanded telehealth practices in the Community Health Care setting.

• Future research projects might benefit from as the evolution of healthcare allows for telehealth reimbursements in order to remain a leader in healthcare innovation.
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