Abstract: P3352

Telemedicine transcends national boundaries in quest of creating a behemoth ami program

Authors:
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Topic(s):
Trial Design

Citation:
Background: The Latin America Telemedicine Infarct Network (LATIN) has exploited the remarkable competence of telemedicine for remote guidance. In doing so, LATIN created a mammoth population-based AMI network that employed experts located several hundred miles away to guide the reperfusion strategies for almost 800,000 screened patients. In this pioneering project, telemedicine was initially utilized to guide AMI management within national confines. We speculated whether LATIN telemedicine navigation could outstrip countrywide borders.

Purpose: To maximally harness the vast possibilities of telemedicine for improving AMI care.

Methods: During its pilot phase, LATIN began as a hub and spoke, AMI system in Colombia where 20 spokes (small community health centers and rural clinics) were configured with 3 hubs that could perform Primary PCI. These sites were linked through web-based connectivity. Expert cardiologists, located 50-250 miles away in Bogota, Colombia, used sophisticated telemedicine platforms for urgent EKG diagnosis and teleconsultation of the entire AMI process. Based upon the duration of chest pain and travel time to the hub, these experts guided patients through guideline-based strategies of thrombolysis, pharmaco invasive management or primary PCI. Efficiency of the telemedicine process was measured with the new metric of time to telemedicine diagnosis (TTD). Cloud computing, GPS navigation, and numerous business intelligent tools were gradually incorporated into LATIN telemedicine. As systems became more scalable, the program was expanded to Brazil, where LATIN flourished. Over the last 18 months, LATIN telemedicine capabilities have been pressed across national boundaries. Presently, all 82 LATIN centers in Mexico are guided by experts located in Bogota, Colombia and the 7 Argentina centers channeled through Santiago, Chile.

Results: 784,947 patients were screened for AMI at 350 LATIN centers (Brazil 143, Colombia 118, Mexico 82, Argentina 7). Navigation pathways are depicted in the attached figure. TTD remains extremely low in all four countries, and comparable efficiency and tele-accuracy have been achieved. With expanded geographic reach, 8,448 (1.08%) patients were diagnosed with STEMI and 3,911 (46.3%) urgently reperfused, including 3,049 (78%) with Primary PCI. Time to TTD ranged between 2.8 to 5.8 minutes, with a mean of 3.5 min. Tele-accuracy was 98.5%, D2B 51 min, and in-hospital mortality 5.2%. Various other comparative metrics for the 4 countries are being gathered and will be available at the time of presentation.

Conclusions: LATIN demonstrates the robust ability of telemedicine to transcend national boundaries to guide AMI management. This strategy can be adopted in under-developed countries in Asia and Africa to provide an umbrella of AMI care for the millions of disadvantaged patients.
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Telemedicine Pathways

<table>
<thead>
<tr>
<th>Country</th>
<th>Center</th>
<th>TTD (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mexico</td>
<td>Bogota</td>
<td>4 min</td>
</tr>
<tr>
<td>Colombia</td>
<td>Bogota</td>
<td>3 min</td>
</tr>
<tr>
<td>Brazil</td>
<td>Uberlandia</td>
<td>3 min</td>
</tr>
<tr>
<td>Argentina</td>
<td>Santiago de Chile</td>
<td>3.5 min</td>
</tr>
</tbody>
</table>