Experience with scaling up the Victorian Stroke Telemedicine (VST) Program

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Background
- Stroke is a leading cause of morbidity and mortality worldwide
- 15,000 strokes in Victoria
  - 5,000 in rural and regional areas
- Effective treatments for ischaemic stroke – Stroke Units and time critical stroke thrombolysis (tPA)

The challenge for regional Victoria
- NSF 2013 audit - Only 7% treated with stroke thrombolysis; 4% in rural
- Rural hospitals
  - Poor access to Stroke Unit care
  - Lack of stroke specialists
  - Distance

Aims of VST Program
- Increase equity of high quality stroke care in rural and regional hospitals
- Reduce delays in diagnosis and treatment
- Improve access to stroke thrombolysis (tPA)
- Improve overall quality of care and health outcomes after stroke
- Make a contribution to developing efficient acute telestroke services in Australia

VST Clinical Process
- Rapid review of brain imaging remotely
- 24/7, 365 days
Successes and Failures in Telehealth
2014

Pilot VST project summary results
Under 4.5 hours: improved clinical processes
Thrombolysis rate: pre VST 8% → 13%
Median changes from Pre-VST to VST:
• Door-to-ED doctor: 1 min
• Door-to-CT scan: 29 mins
• Door-to-Needle (tPA): 16 mins
• Stroke-onset to needle: 45 mins

Approximately 1 in 2 VST consults led to use of tPA

Current VST Program Hospitals

VST Phases
Pre-implementation phase
Development of VST clinical protocol, education and technical training
Pilot phase
3 months or 3 patients
Fully active implementation phase
12 months
3 month follow up of patients
Sustainability phase
Ongoing monitoring through Australian Stroke Clinical Registry (AuSCR)

Data Collection
ED presentations
(possible TIA or strokes)
N=379
All confirmed strokes < 4.5 hours
N=52
Ischaemic stroke < 4.5 hours
N=58

VST consults
Average number of calls per month = 8 calls

<table>
<thead>
<tr>
<th>Type</th>
<th>%</th>
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<tbody>
<tr>
<td>Audio visual (AV)</td>
<td>41%</td>
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<tr>
<td>Phone only (AV not clinically required)</td>
<td>44%</td>
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<tr>
<td>Phone only (due to AV issues)</td>
<td>15%</td>
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<tr>
<td>Total</td>
<td>100%</td>
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VST consults - Diagnosis

- Ischaemic stroke: 68%
- Transient Ischaemic Attack: 8%
Ischaemic stroke < 4.5 hours
N=58

Ischaemic stroke
No tPA
N=45

Ischaemic stroke
Yes tPA
N=13
(10 due to VST consult)

Overall tPA rate = 13/58 (22%)

Lessons learned

- Provide adequate time for stakeholder engagement
- Dedicated local support essential
- Contingency plans for technology failures

Lessons learned

- Hospitals need follow up support
- Change management
- Clinical education

Where to next?

Implementation of new telemedicine equipment

Where to next?

- July 2013: 4 sites
- July 2014: 7 sites
- July 2015: 9-10 sites
- July 2016: 12-14 sites
- July 2017: 16 sites

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Thank you
www.vst.org.au
Any Questions?