GeriCare:
The Singapore Model

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Developing partnerships between restructured hospitals and nursing homes to enhance care.

Leveraging on knowledge, skills and technology to enhance training and care in NHs.
Empower residents to communicate their wishes pertaining to care.
Creating a network of clinical staff working in and those supporting NHs.
Supporting end-of-life care emphasizing the principles of good palliative care in NHs.
Our “Soft” Approach

**CHAMPION WITH ABUNDANCE MINDSET**
- Staying true to the vision
- Well-defined strategy

**EMPOWERMENT & OWNERSHIP**
- NHs contributed to the overall direction, vision and strategy and felt increased ownership

**BUILDING TRUST**
- Sensitive to nursing homes and respect their privacy
- Gained acceptance in adapting telemedicine

**INCLUSIVE RELATIONSHIPS**
- Engaged key nurses who are able to further champion GeriCare@North

**SPACE & TIME FOR LEARNING**
- Introduced new skills and capabilities
- Allocated sufficient resources and time in early stages of implementation
The GeriCare Thrusts

Training & Equipping

Telegeriatrics

Advance Care Planning & End-of-Life Care

Upskilling of care

Enhance residents’ quality of life

Reduce unnecessary utilization of acute hospitals’ resources

Improve competencies & professionalism of Intermediate & Long-Term Care sector
Telemedicine Consultation

- 26” LED monitor screen
- 10x HD Videoconferencing Camera
- Microphone with touch-screen interface
- Remote control
<table>
<thead>
<tr>
<th>Item</th>
<th>Year 2010</th>
<th>Year 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>TV 26 inch</td>
<td>USD$255 (LCD)</td>
<td>USD$180 (LED)</td>
</tr>
<tr>
<td>Videoconferencing system</td>
<td>USD$9,100</td>
<td>USD$4,600</td>
</tr>
<tr>
<td>Trolley</td>
<td>USD$3,000</td>
<td>USD$2,900</td>
</tr>
<tr>
<td>Subscription services (Nursing Home)</td>
<td>USD$420</td>
<td>USD$150</td>
</tr>
<tr>
<td>Subscription services (Hospital)</td>
<td>USD$200</td>
<td>USD$200</td>
</tr>
<tr>
<td>IT Support manpower (per man day)</td>
<td>USD$440</td>
<td>USD$440</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>USD$13,415</strong></td>
<td><strong>USD$8,470</strong></td>
</tr>
</tbody>
</table>
Continuing Training & Nurse Education

Tele- Continuing Nurse Education

Telegeriatrics Nurse Training Course

Tele- Multidisciplinary Meeting

Advance Care Planning Training

Mortality Audits
Nursing Homes

- 66 nursing homes
- 10,780 beds in 2014
- 17,150 beds by 2020
- Residents are wheelchair-bound or bed-bound without caregivers at home.

Voluntary Welfare Organization (VWO)
- Charity organization
- Subsidy: 10%-75%
- Subsidised fees: USD$210-USD$1,300 per month
- 10% of beds are for private residents: up to USD$2,600 per month

Private
- Full fees: USD$1,140-USD$3,600 per month
- Portable subsidy: 10%-75%
- Subsidised fees: USD$390 - USD$2,000 per month
- Average cost of running a nursing home bed: USD$420/week

Acute Hospital

- 26 hospitals & specialty centers
- 11,230 beds in 2014

For any case of hospital admission in elderly

Average Length of Stay: 7 days
Cost to government: USD$2015*

For any case of hospital admission in elderly

Average Length of Stay: 7 days
Cost to government: USD$2015*

## Consult: 1 Nursing Home Resident

<table>
<thead>
<tr>
<th>NH staff involvement (in NH)</th>
<th>Telemedicine consultation</th>
<th>Visit to Specialist Outpatient Clinic</th>
<th>Visit to Emergency Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>NH Nurse x1</td>
<td>30 min</td>
<td>NH Nurse x1</td>
<td>NH Nurse x1</td>
</tr>
<tr>
<td>No waiting time spent away from the NH</td>
<td></td>
<td>Driver + Ambulance x1</td>
<td>Driver + Ambulance x1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 hr 20 min</td>
<td>1 hr 0 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total time spent away from nursing home for one nurse accompanying one resident</td>
<td>No time spent away from nursing home</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 hr 20min</td>
<td></td>
</tr>
<tr>
<td>NH Nurse x1</td>
<td></td>
<td>Driver + Ambulance x1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 hr 0 min</td>
<td></td>
</tr>
<tr>
<td>Acute hospital staff involvement</td>
<td>Admin Assistant</td>
<td>Clinic Nurse x1</td>
<td>ED Nurse x1</td>
</tr>
<tr>
<td></td>
<td>10 min for administration</td>
<td>Consultant x1</td>
<td>Healthcare Assistant x1</td>
</tr>
<tr>
<td></td>
<td>15 min per consultation</td>
<td>Pharmacist x1</td>
<td>Administrative staff x1</td>
</tr>
<tr>
<td></td>
<td>Consultant</td>
<td>Administrative staff x2</td>
<td>Medical Officer x1</td>
</tr>
<tr>
<td></td>
<td>15 min per consultation</td>
<td>15 min</td>
<td>Consultant x1</td>
</tr>
<tr>
<td></td>
<td>1 hr for 4 consults (1 NH)</td>
<td>15 min</td>
<td>15 min</td>
</tr>
<tr>
<td></td>
<td>2 hrs for 8 consults (2 NHs)</td>
<td>10 min</td>
<td>10 min</td>
</tr>
<tr>
<td>NH resident</td>
<td>15 min to be assessed by a consultant</td>
<td>Going for SOC visit &amp; back to nursing home</td>
<td>6 hr 10 min (excluding procedure) in an unfamiliar environment alone</td>
</tr>
<tr>
<td></td>
<td>No travelling and waiting time</td>
<td>Stress in an unfamiliar environment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Remains in nursing home</td>
<td>Time spent going to SOC</td>
<td></td>
</tr>
<tr>
<td>Total time spent on 1 NH resident</td>
<td></td>
<td>2 hr</td>
<td></td>
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<tr>
<td></td>
<td>25 min (USD$45)</td>
<td>1 hr (USD$199)</td>
<td>1 hr 30 min (USD$191)</td>
</tr>
<tr>
<td></td>
<td>(Does not include clinic overhead costs)</td>
<td>(Does not include ED overhead costs)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Telemedicine consultation</td>
<td>Physical visit to nursing home</td>
<td></td>
</tr>
<tr>
<td>---------------------------</td>
<td>---------------------------</td>
<td>-------------------------------</td>
<td></td>
</tr>
<tr>
<td>NH staff involvement (in NH)</td>
<td>NH Nurse x1 30 min No waiting time spent away from the nursing home</td>
<td>NH Nurse x1 30 min No waiting time spent away from the nursing home</td>
<td></td>
</tr>
<tr>
<td>Acute hospital staff involvement</td>
<td>Admin Assistant 10 min for administration 15 min per consultation Consultant 15 min per consultation 1 hr for 4 consults (1 NH) 2 hrs for 8 consults (2 NHs)</td>
<td>Consultant 30 min travelling to nursing home 15 min per consultation 2 hrs for 8 consults (1st NH) 60 min travelling to next nursing home &amp; back to hospital 2 hrs for 8 consults (2nd NH)</td>
<td></td>
</tr>
<tr>
<td>NH resident</td>
<td>15 min to be assessed by a consultant No travelling and waiting time Remains in nursing home</td>
<td>15 min to be assessed by a consultant No travelling and waiting time Remains in nursing home</td>
<td></td>
</tr>
<tr>
<td><strong>Total time spent per consult</strong></td>
<td><strong>15 min</strong></td>
<td><strong>21 min</strong></td>
<td></td>
</tr>
</tbody>
</table>
Emergency Department Transfers: Mid-term stats

Nursing Home 1

Rate of ED Transfers (per 100,000 resident days)

Baseline  Yr 1  Yr 2  Yr 3  Yr 4

Nursing Home 2

Rate of ED Transfers (per 100,000 resident days)

Baseline  Yr 1  Yr 2  Yr 3

Nursing Home 3

Rate of ED Transfers (per 100,000 resident days)

Baseline  Yr 1  Yr 2

Nursing Home 4

Rate of ED Transfers (per 100,000 resident days)

Baseline  Yr 1
Specialist Outpatient Clinic Visits: Mid-term stats

**Nursing Home 1**
- Data unavailable

**Nursing Home 2**
- Year of intervention: Baseline, Yr 1, Yr 2, Yr 3, Yr 4
- Rate of SOC visits (per 100,000 resident days)

**Nursing Home 3**
- Year of intervention: Baseline, Yr 1, Yr 2
- Rate of SOC visits (per 100,000 resident days)

**Nursing Home 4**
- Year of intervention: Baseline, Yr 1
- Rate of SOC visits (per 100,000 resident days)
Preventable Emergency Department Transfers: Mid-term stats

Nursing Home 1

Nursing Home 2

Nursing Home 3

Nursing Home 4
Challenges in Implementation

- Diverse standards, practice, philosophy, & motivation
- No full-time resident specialists
  Few resident doctors
- Resistant to change
- Mainly run by overseas nurses
- High staff turnover rate & shortage of manpower
- Data collection problems – self-reported
The GeriCare Team:

James Low, Programme Director
Joanne Chia, Programme Manager
Elizabeth Ho, Clinical Educator
Cindy Koh, Clinical Educator
Magpantay Gerlie, Clinical Educator
Christine Ripotola, Clinical Educator
Toh Hui Jin, Research Executive
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Linda Koh, Admin Assistant
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Publication:
Last moments of life: can telemedicine play a role?