What are you interested to learn about the ComSA Model?

Share with us your thoughts!

1. Open the web browser on your phone and go to www.slido.com

2. Enter ‘5806’ as the event code and click ‘Join’

3. Type your question (160 characters) and click ‘Send’! Feel free to add your name, organisation if you like

4. If you see a question someone else has already posed, click the ‘thumbs up’ icon to indicate your similar interest

5. Questions will be addressed during the Q&A Panel Session
<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.30 am – 10.00 am</td>
<td><strong>Introduction to Community for Successful Ageing (ComSA)</strong>&lt;br&gt;<strong>Ms Peh Kim Choo, CEO, Tsao Foundation</strong></td>
</tr>
<tr>
<td>10.00 am – 10.30 am</td>
<td><strong>Development of ComSA Biopsychosocial Risk Screener Tool</strong>&lt;br&gt;<strong>Professor Hubertus Vrijhoef, CEO, Panaxea</strong>&lt;br&gt;<strong>Dr Ng Wai Chong, Chief of Clinical Affairs, Tsao Foundation</strong></td>
</tr>
<tr>
<td>10.30 am – 10.45 am</td>
<td><strong>TEA BREAK</strong></td>
</tr>
<tr>
<td>10.45 am – 11.15 am</td>
<td><strong>Evaluation of ComSA’s Community Development Interventions</strong>&lt;br&gt;<strong>Ms Susana Harding, Senior Director, ILC Singapore</strong></td>
</tr>
<tr>
<td>11.15 am – 11.45 am</td>
<td><strong>Realist Evaluation of ComSA</strong>&lt;br&gt;<strong>Professor Hubertus Vrijhoef, CEO, Panaxea</strong></td>
</tr>
<tr>
<td>11.45 am – 12.30 pm</td>
<td><strong>Q&amp;A Panel</strong></td>
</tr>
</tbody>
</table>
MS PEH KIM CHOO
CEO, TSAO FOUNDATION
IT TAKES A KAMPONG: The Community for Successful Ageing (ComSA)

Peh Kim Choo
CEO
Tsao Foundation
THE VISION
The Community for Successful Ageing (ComSA)

An experiment in a ground up, community wide, multi-components, multi-systems approach to optimize on the longevity dividend of added years where older people can thrive.
ComSA: Vision

A community that takes collective ownership of positive ageing, thereby maximizing individual potential to gain dividends of longevity

Positive Ageing

Independent and Empowered Older Persons

Maximizing Human Spirit

Desired Impacts

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Whampoa

Number of residents older than 60 years - 7400
(18% of total population of 41,000)

Housing type:
Public housing 3-room flats or smaller - 49%
4-room public housing flats - 33%
5-room flats and bigger - 18%

Currently expanded to 9 precincts.
Community Survey: EASY-Care + Comsa BPS Risk Screener, Aug 2014

Population
Number of residents older than 60 years = 5000, out of 30000.
7 precincts (prior to 2015 GE)

Findings:
1. 10% Cognitive impairment risk
2. 15% ComSA Risk Screener 4 or higher
3. 50% LSNS Social Isolation +ve
4. 3% ‘feels threatened or harrassed’
5. 36% never married, widowed or divorced
6. 9% live alone
7. 25.6% may not see a doctor even if they have to
THE FORM
ComSA Programmes

**Housing and Transport**
- Long-term care facilities in ‘stealth’
- Person-centred universal design
- Food, shopping and recreation
- Enabling technology

**Infrastructure and neighbourhood**

**ComSA**

**Community Development through Self Care**
- Community Assessment
- Self-care groups
- Mindset and cultural shift
- Capacity Building
- Outreach and engagement
- ‘Community Family’

**Care System**
- Risk Screener/Risk Stratification
- ‘PCMH’
- Service network
- Network of volunteers

**Evaluation**
Components of ComSA

**HOUSING & TRANSPORT**

- Infrastructure and neighbourhood
  - Long-term care facilities in ‘stealth’
  - Person-centred universal design
  - Food, shopping and recreation

**COMSA CENTRE**

- Care System
- ComSA Kawan
- Learning Room

**PCMH**
- Person Centered Medical Home
- Foundation in Frail Care

**EPICC**
- Centre- and home-based Frail Care

**Primary Care**

**Care Management**

**Service Partners**

**GP Networks**

**COMMUNITY DEVELOPMENT**

- Community Action
  - Community engagement
  - Self Care
  - Social Participation

**COMMUNITY ACTION**

- Community engagement
- Self Care
- Social Participation
Current PCMH Model

Referred from hospitals, community partners or self referral

Passed Risk Screener

Assessments: Comprehensive Geriatric Assessment, InterRAI

Case management by inter-disciplinary teams (doctor, nurses, social workers)

CM team  DCS team  Community support; internal and external.
Community Development at ComSA

Self care

- SCOPE (Self Care of Older Persons)
- Guided Autobiography (GAB)
- Health Partners

Care for the community/civic action

- SWING (Sharing Wellness and Initiatives Group)
- BIG SWING (monthly)
- ComSA Champions

Positive image of older people

- Longevity Parties
- Curating Whampoa project: Rumah Whampoa exhibit’ in 9RCs, 2 CCs & ComSA Centre & ‘In An Echo We Remember’ Exhibit at SOTA
- IDOP (Oct 2018)
- Health Carnival (July 2018)
- Volunteer Carnival
ComSA Kawan

A community space to encourage social interactions and reduce social isolation, increase community participation for seniors in the Whampoa community.

- Volunteer-run programmes
- Cooking, gardening and crafts
- Café Kawan

The café opens daily during weekdays, from 11.00am to 4.00pm.
** Auxiliary courses that have been developed by Tsao Foundation will also be run at the Learning Room to cater to the needs of the community. These are not a part of the Learning Room course development and trial that comes under this grant application.
THE UNDERLYING PRINCIPLES
Care Ecosystem

COMMUNITY

HEALTH AND SOCIAL SERVICE SYSTEM

FAMILY

INDIVIDUAL

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Population-Based Health Management

- Establishing Profiles and Needs
- Targeting the Vulnerable Population
- Continuous Assessment
Life Course Approach to Well-being

Population Segmented Across the Spectrum of Health Risk

HEALTH AND PSYCHO-SOCIAL CARE

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Collaborative and Team-Managed

Nurse-social worker-physician teams

Service network partners

Community
Sustainability

Use of volunteers, virtual teams and community

‘Main-streamable’ programmes

Scaleable through training
Realist Evaluation of ComSA

Community of Successful Ageing (ComSA) – research

HOUSING & TRANSPORT
- Infrastructure and neighbourhood
  - Long-term care facilities in ‘stealth’
  - Person-centred universal design
  - Food, shopping and recreation

CARE SYSTEM
- Service Network
- EPICC Whampoa
- Learning Room
- Geriatric Edu & Research Institute (GERI)
- DCS Whampoa
- CARE (DUKE-NUS)
- Saw Swee Hock School of Public Health (NUS)
- PCMH
- CM
- SSHPH

Self-care or self-empowerment:
- SCOPE
- GAB
- SCOPE DM,
  Dementia, Frailty (new)

Community actions:
- SWING
- BIG SWING

COMMUNITY DEVELOPMENT
- Community Outreach & Engagement
  - Curating Whampoa
  - IDOP
  - Longevity Parties

CLUSTER RESEARCH
THANK YOU
ComSA BPS Risk Screener: Validation and Application

Farah Shiraz PhD
Hubertus Vrijhoef PhD
Zoe Hildon PhD
Wai Chong, NG MBBS


**Scope**

- Background
- ComSA BPS Risk Screener Version I
- ComSA Risk Screener Version II
- Applications of ComSA Risk Screener
Background

In order to develop an integrated cost-effective and equitable care system

• **Needed to identify at-risk groups of people in order to provide ‘cost-intensive’ care management interventions, taking into account all bio-psychosocial determinants of health**
ComSA BPS Risk Screener Development

• Inspired by a **biopsychosocial model** and the current understanding of the **dynamic interaction between intrinsic capacity and external supports** as the definition of health

• **Innovated a theoretical model of Successful Ageing** in the process

• Developed through **mixed method** research by an **interdisciplinary team** of community clinicians, social scientists, psychometricians and data scientists

• Measures of BioPsychoSocial (BPS) health function and related risks in ageing: **establishes risk of ‘not managing’ and allow prioritization of resources**

• Study comprised theoretical and empirical bases for validating Risk Screener tool
BPS Risk – Risk Of What?

Fig. 1: BPS Health and Risk

BPS-RS I
Methodology

• A community needs survey made up of EASY-Care\textsuperscript{4}, the 12-item Lubben Social Network Scale\textsuperscript{5} (LSNS) and some items of Cognitive Performance Scale in InterRAI assessment system\textsuperscript{6}.

• A non-randomized convenience sample of 1375 seniors above the age of 60 were engaged, 1325 seniors responded

• Based on factor analysis, some items from EASY-Care and LSNS were identified as contributory to the poorer health outcomes and were clustered meaningfully into ‘bio-functional’ (21 items), ‘psycho-emotional’ (8 items) and ‘socio-interpersonal’ (6 items) domains.

• Depending on the number of ‘positive’ answers under each domain, a ‘Domain Score’ of 0, 1 or 2 is assigned. The ‘Managing Score’, the sum of the 3 ‘Domain Scores’ ranges from 0 (‘no risk’) to 6 (‘overwhelming risk’).
The Domain Scores And Managing Scores

<table>
<thead>
<tr>
<th>BioPsychoSocial domains</th>
<th>Problems?</th>
<th>Managing counts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>None</td>
<td>0</td>
</tr>
<tr>
<td>Biological health</td>
<td>Some</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>A lot</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td>0</td>
</tr>
<tr>
<td>Psychological health</td>
<td>Some</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>A lot</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td>0</td>
</tr>
<tr>
<td>Social health</td>
<td>Some</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>A lot</td>
<td>2</td>
</tr>
</tbody>
</table>

Managing score derived from domain specific Mangeing counts

<table>
<thead>
<tr>
<th>Managing score</th>
<th>Managing counts</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1 means</td>
<td>Doing well</td>
</tr>
<tr>
<td>2-3 means</td>
<td>Some problems</td>
</tr>
<tr>
<td>4-5 means</td>
<td>Many problems</td>
</tr>
<tr>
<td>6 equates to</td>
<td>Overwhelming problems</td>
</tr>
</tbody>
</table>
Results

• The Managing Scores are validated against Self-reported General Health and shown to correlate with ‘managing’ outcomes indicated by
  • Number of falls;
  • Observed cognitive impairment;
  • Number of longstanding diseases;
  • Service utilization (self-reported/administrative data): Number of hospitalisations in 6 months; Length of Stay in acute care hospitals; and emergency Department (ED) visits.

• The Managing Scores were also shown to correlate well with actual lived experience of respondents through In-depth Interviews.
Distribution Of BPS Managing Score Using Internationally Validated Items

Distribution of Managing Score in Singapore population aged 60 and over n=1325

<table>
<thead>
<tr>
<th>Category</th>
<th>Final Score</th>
<th>Sample Size n(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managing well</td>
<td>0</td>
<td>216 (16.3)</td>
</tr>
<tr>
<td>Some problems</td>
<td>1</td>
<td>297 (22.4)</td>
</tr>
<tr>
<td>Many problems</td>
<td>2</td>
<td>366 (27.6)</td>
</tr>
<tr>
<td>Overwhelming problems</td>
<td>3</td>
<td>217 (16.4)</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>153 (11.6)</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>55 (4.2)</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>21 (1.6)</td>
</tr>
<tr>
<td><strong>SUM</strong></td>
<td></td>
<td><strong>1,325 (100)</strong></td>
</tr>
</tbody>
</table>
Unadjusted Analysis on Self-reported Health and Managing-Related Outcomes

- Proportion reporting poor health:
  - Doing well: 9.75%
  - Some problems: 19.38%
  - Many problems: 35.56%
  - Overwhelming problems: 66.67%

- Proportion having falls (last 12 months):
  - Doing well: 8.68%
  - Some problems: 15.95%
  - Many problems: 27.88%
  - Overwhelming problems: 33.33%

- Proportion with moderate or worse observed cognitive impairment:
  - Doing well: 7.99%
  - Some problems: 22.13%
  - Many problems: 40.04%
  - Overwhelming problems: 57.14%

P value for trend <0.01 on all outcomes
## Adjusted: Associations With Self-reported Health

### Self-reported general health (logistic)

<table>
<thead>
<tr>
<th>Model</th>
<th>Domain</th>
<th>Level*</th>
<th>OR (95% CI, P-value)</th>
<th>P-value</th>
<th>Linear* trend (95% CI, P-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Biological</td>
<td>No risk</td>
<td>Reference</td>
<td>&lt;0.01</td>
<td>1.99 (1.64 to 2.41, &lt;0.01)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some risk</td>
<td>1.46 (0.99 to 2.15, 0.06)</td>
<td>3.92 (2.68 to 5.72, &lt;0.01)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High risk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Psychological</td>
<td>No risk</td>
<td>Reference</td>
<td>&lt;0.01</td>
<td>1.59 (1.28 to 1.98, &lt;0.01)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some risk</td>
<td>1.62 (1.09 to 2.41, 0.02)</td>
<td>2.50 (1.56 to 4.02, &lt;0.01)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High risk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Social</td>
<td>No risk</td>
<td>Reference</td>
<td>&lt;0.01</td>
<td>1.33 (1.10 to 1.60, &lt;0.01)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some risk</td>
<td>1.69 (1.17 to 2.46, 0.01)</td>
<td>1.82 (1.24 to 2.67, &lt;0.01)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High risk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BioPsychoSocial</td>
<td>Doing well</td>
<td>Reference</td>
<td>&lt;0.01</td>
<td>2.33 (1.92 to 2.83, &lt;0.01)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some problems</td>
<td>2.18 (1.52 to 3.13, &lt;0.01)</td>
<td>4.98 (3.26 to 7.59, &lt;0.01)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Many problems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Overwhelming problems</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*adjusted for age, sex, and education level.
## Adjusted: Associations With Hospitalization

<table>
<thead>
<tr>
<th>Model</th>
<th>Domain</th>
<th>Level*</th>
<th>IRR (95% CI, P-value)</th>
<th>P-value</th>
<th>Linear* trend (95%CI, P-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Biological</td>
<td>No risk</td>
<td>Reference</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some risk</td>
<td>1.59</td>
<td>1.03 to 2.47, 0.04</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High risk</td>
<td>3.45</td>
<td>2.27 to 5.23, &lt;0.01</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Psychological</td>
<td>No risk</td>
<td>Reference</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some risk</td>
<td>1.3</td>
<td>0.87 to 1.96, 0.20</td>
<td>0.351</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High risk</td>
<td>1.29</td>
<td>0.77 to 2.16, 0.33</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Social</td>
<td>No risk</td>
<td>Reference</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some risk</td>
<td>0.81</td>
<td>0.55 to 1.19, 0.28</td>
<td>0.50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High risk</td>
<td>0.97</td>
<td>0.66 to 1.42, 0.88</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BioPsychoSocial</td>
<td>Doing well</td>
<td>Reference</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some problems</td>
<td>1.49</td>
<td>1.01 to 2.2, 0.05</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Many problems</td>
<td>2.47</td>
<td>1.58 to 3.85, &lt;0.01</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Overwhelming</td>
<td>5.67</td>
<td>2.8 to 11.48, &lt;0.01</td>
<td></td>
</tr>
</tbody>
</table>
# Adjusted: Associations With Presenting At ED

## Presenting at Emergency Department (Poisson)

<table>
<thead>
<tr>
<th>Model</th>
<th>Domain</th>
<th>Level*</th>
<th>IRR (95% CI, P-value)</th>
<th>P-value</th>
<th>Linear* trend (95% CI, P-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Biological</td>
<td>No risk</td>
<td>Reference</td>
<td>1.89</td>
<td>(1.29 to 2.75, 0.001)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some risk</td>
<td></td>
<td>3.58</td>
<td>(2.41 to 5.3, &lt;0.001)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High risk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Psychological</td>
<td>No risk</td>
<td>Reference</td>
<td>1.08</td>
<td>(0.7 to 1.66, 0.743)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some risk</td>
<td></td>
<td>1.2</td>
<td>(0.69 to 2.06, 0.522)</td>
</tr>
<tr>
<td>Model with individual domain managing counts</td>
<td></td>
<td>High risk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social</td>
<td>No risk</td>
<td>Reference</td>
<td>1.7</td>
<td>(1.17 to 2.47, 0.005)</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Some risk</td>
<td></td>
<td>2.08</td>
<td>(1.41 to 3.06, &lt;0.001)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>High risk</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BioPsychoSocial</td>
<td>Doing well</td>
<td>Reference</td>
<td>2.3</td>
<td>(1.61 to 3.29, &lt;0.001)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some problems</td>
<td></td>
<td>4.22</td>
<td>(2.7 to 6.61, &lt;0.001)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Many problems</td>
<td></td>
<td>4.08</td>
<td>(2.7 to 6.61, &lt;0.001)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Overwhelming problems</td>
<td></td>
<td>1.37</td>
<td>(1.37 to 12.17, 0.012)</td>
</tr>
</tbody>
</table>
### Adjusted: Associations on All Managing-related Outcomes

<table>
<thead>
<tr>
<th>Overall linear trend associations for individual domain</th>
<th>Dose response across all levels of managing score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological</td>
<td>Psychological</td>
</tr>
<tr>
<td>a) Self-reported general health</td>
<td>✓</td>
</tr>
<tr>
<td>b) Falls in the last 12 months</td>
<td>✓</td>
</tr>
<tr>
<td>c) Observed cognitive function</td>
<td>✓</td>
</tr>
<tr>
<td>d) Self-reported hospitalization</td>
<td>✓</td>
</tr>
<tr>
<td>e) Number of diseases</td>
<td>✓</td>
</tr>
<tr>
<td>f) Hospitalization*</td>
<td>✓</td>
</tr>
<tr>
<td>g) Presenting at Emergency Department*</td>
<td>✓</td>
</tr>
<tr>
<td>h) Length of stay*</td>
<td>✓</td>
</tr>
</tbody>
</table>

- ✓ = BPS overall associations significant at conventional levels, or ✗, not, p<0.05,
- ≈ = Dose response significant at higher levels, many compared to overwhelming levels, p<0.05
- ^ = Dose response significant from lower to higher risk, p<0.05
- * = Administrative service usage data
From BPS-RS I to BPS-RS II

CFAA community survey using EASYCare + LSNS + CPS

Risk Screener V1 (‘BPS-RS I’) (35 items)

Semi-structured interviews N=40

BPS Framework analysis

Emergent themes converted into questions (26 in total)

Questions embedded into EASYCARE-Standard 10

Tested on Singapore sample

Factor Analysis

Risk Screener V1+ (same 35 items + extra 35 cultural items)

Development of questions

Risk Screener V2 (‘BPS-RS II’) new! (37 items)

Construct Validity of questions

Risk Screener V2 (‘BPS-RS II’) new!

Slide adapted from Dr Farah Shiraz, Senior Research Fellow, SSHSPH
BPS-RS II

METHODOLOGY

BPS RS II, 37 items (B -19 items, P items – 12, S-6 items) was enhanced

• by developing items based on actual lived experiences of older adults with their perceptions and conceptualizations of their BPS health,

• forming the BPS Health Functioning Scale (HFS) which is still under review as an novel health measurement tool.
40 interviews
One to one
In homes
Purposive sampling
One semi-structured interview
Qualitative Results: Themes

**Biological [B]**
1. Health Barriers to social activities due to physical health

**Psychological [P]**
1. Family conflict
2. Forgetfullness
3. Perceptions of burden
4. Social anxiety
5. Suicidal thoughts (thoughts of ending life)
6. Sleep difficulties due to worries
7. Emotional abuse from family (e.g. partner / family insult you)

**Social [S]**
1. Eating together as family
2. Social Barriers to social activities
3. Close confiding relationships
4. Trust in social relationships
5. Financial independence
6. Financial dependency
# Themes Converted into Twenty-six New Questions

<table>
<thead>
<tr>
<th>Table 2: i) Participant extracts, ii) Themes and iii) New item questions derived from 40 in-depth interviews.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Extracts/Quotes</strong></td>
</tr>
<tr>
<td>Difficulty sleeping, which he attributes to his lack of food intake, therefore resulted in lack of energy and thus sleeps in the day and awake all night</td>
</tr>
<tr>
<td>“I sometimes will dose off- if I am sick I will nap”.</td>
</tr>
<tr>
<td>“tak tau mana money taruh..” (forgot where I put my money)</td>
</tr>
<tr>
<td>“I take more time to learn”.</td>
</tr>
<tr>
<td>N/A</td>
</tr>
<tr>
<td>“I have difficulty sleeping, I check on my mother, see if she is ok, it takes me time to sleep” worrying about mother (caregiving responsibilities)</td>
</tr>
<tr>
<td>“I just pity him, my heart has no love for him- I told my son, I pity him”</td>
</tr>
<tr>
<td>Discussed about maid restricting her social life, “she is my shadow” when asked about the relationship with maid, Madam K revealed that she the maid ‘controlled her every move”</td>
</tr>
<tr>
<td>Sad about one of the children not wanting to talk to her.</td>
</tr>
</tbody>
</table>
**Factor Analysis**

We performed a factor analysis (FA) to explore which of the 55 items (less Lubben items) were most strongly correlated to the three specific domains.

Each item of weakest contribution was iteratively removed until all items had a minimum factor loading of 0.5.

From the original 55 items a total of 37 **clustered** above the stipulated value greater than 0.5.

<table>
<thead>
<tr>
<th>Items</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulty in making yourself understood..</td>
<td>0.646</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use the telephone..</td>
<td>0.739</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lose or forget things..</td>
<td></td>
<td>0.539</td>
<td></td>
</tr>
<tr>
<td>Keep up personal appearance..</td>
<td>0.903</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dress yourself..</td>
<td>0.919</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wash your hands and face</td>
<td>0.883</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use the bath or shower..</td>
<td>0.923</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do your housework..</td>
<td>0.846</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepare own meals..</td>
<td>0.816</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feed yourself..</td>
<td>0.803</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Take your own medicine..</td>
<td>0.864</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accidents with your bowls..</td>
<td>0.676</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use the toilet..</td>
<td>0.913</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Move from bed to chair..</td>
<td>0.894</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Get around indoors..</td>
<td>0.918</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manage stairs..</td>
<td>0.761</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walk outside..</td>
<td>0.896</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Go shopping..</td>
<td>0.87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Getting to public services..</td>
<td>0.811</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feel discriminated against..</td>
<td></td>
<td></td>
<td>0.547</td>
</tr>
<tr>
<td>Feel Lonely..</td>
<td></td>
<td></td>
<td>0.636</td>
</tr>
<tr>
<td>Bothered by feeling down, depressed, hopeless</td>
<td></td>
<td></td>
<td>0.751</td>
</tr>
<tr>
<td>Ending life..</td>
<td></td>
<td></td>
<td>0.724</td>
</tr>
<tr>
<td>Bothered by having little interest or pleasure</td>
<td></td>
<td></td>
<td>0.636</td>
</tr>
<tr>
<td>Dissatisfied with accommodation..</td>
<td></td>
<td></td>
<td>0.633</td>
</tr>
<tr>
<td>Trouble sleeping due to worries..</td>
<td></td>
<td></td>
<td>0.669</td>
</tr>
<tr>
<td>Arguments in family that upset you..</td>
<td></td>
<td></td>
<td>0.69</td>
</tr>
</tbody>
</table>
## ComSA BPS Risk Screener
### Final 37 Items

<table>
<thead>
<tr>
<th>Domains</th>
<th>Facets incorporated within domains</th>
</tr>
</thead>
</table>
| Biological | Activities of daily living  
              Mobility |
| Psychological | Thinking, memory and concentration (forgetfulness)  
                Discrimination  
                Loneliness  
                Negative feelings (feeling down, depressed, hopeless)  
                Sleep difficulties due to emotional worries  
                Family conflict affecting emotional wellbeing  
                Emotional abuse  
                Feeling a burden  
                Social anxiety  
                Suicidal thoughts |
| Social | Quality of personal relationships  
           Frequency of social interactions (telephone or digital)  
           Close confiding relationships  
           Trusting relationships  
           Financial security  
           Financial worry |

**Biological [B]**
- 19 Questions

**Psychological [P]**
- 12 questions

**Social [S]**
- 6 questions
**ComSA BPS Risk Screener (BPS-RS II)**

**Biological Health**

<table>
<thead>
<tr>
<th>Psychological Health</th>
<th>Participant Name ____________</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social Health</strong></td>
<td>Participant Name ____________</td>
</tr>
<tr>
<td><strong>Your Relationship</strong></td>
<td></td>
</tr>
<tr>
<td>1. Do you think of your partner’s thoughts?</td>
<td>O (0)</td>
</tr>
<tr>
<td>2. Do you often feel lonely or isolated?</td>
<td>O (0)</td>
</tr>
<tr>
<td>3. Do you have a record of your own sexual history?</td>
<td>O (0)</td>
</tr>
<tr>
<td>4. Do you believe in your own ability to control your own life?</td>
<td>O (0)</td>
</tr>
<tr>
<td>5. Do you believe in your own ability to control your own life?</td>
<td>O (0)</td>
</tr>
<tr>
<td>6. Do you believe in your own ability to control your own life?</td>
<td>O (0)</td>
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<tr>
<td>7. Do you believe in your own ability to control your own life?</td>
<td>O (0)</td>
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<tr>
<td>8. Do you believe in your own ability to control your own life?</td>
<td>O (0)</td>
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<tr>
<td>9. Do you believe in your own ability to control your own life?</td>
<td>O (0)</td>
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<tr>
<td>10. Do you believe in your own ability to control your own life?</td>
<td>O (0)</td>
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<tr>
<td>11. Do you believe in your own ability to control your own life?</td>
<td>O (0)</td>
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<tr>
<td>12. Do you believe in your own ability to control your own life?</td>
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<td>13. Do you believe in your own ability to control your own life?</td>
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<td>14. Do you believe in your own ability to control your own life?</td>
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<td>15. Do you believe in your own ability to control your own life?</td>
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<td>16. Do you believe in your own ability to control your own life?</td>
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<td>17. Do you believe in your own ability to control your own life?</td>
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<td>18. Do you believe in your own ability to control your own life?</td>
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<td>19. Do you believe in your own ability to control your own life?</td>
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<td>20. Do you believe in your own ability to control your own life?</td>
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<td>21. Do you believe in your own ability to control your own life?</td>
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<td>22. Do you believe in your own ability to control your own life?</td>
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<td>23. Do you believe in your own ability to control your own life?</td>
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<td>24. Do you believe in your own ability to control your own life?</td>
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<td>25. Do you believe in your own ability to control your own life?</td>
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<td>27. Do you believe in your own ability to control your own life?</td>
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<td>28. Do you believe in your own ability to control your own life?</td>
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<td>29. Do you believe in your own ability to control your own life?</td>
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<td>30. Do you believe in your own ability to control your own life?</td>
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<td>31. Do you believe in your own ability to control your own life?</td>
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<td>32. Do you believe in your own ability to control your own life?</td>
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<tr>
<td>33. Do you believe in your own ability to control your own life?</td>
<td>O (0)</td>
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<tr>
<td>34. Do you believe in your own ability to control your own life?</td>
<td>O (0)</td>
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<tr>
<td>35. Do you believe in your own ability to control your own life?</td>
<td>O (0)</td>
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<tr>
<td>36. Do you believe in your own ability to control your own life?</td>
<td>O (0)</td>
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<tr>
<td>37. Do you believe in your own ability to control your own life?</td>
<td>O (0)</td>
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<tr>
<td>38. Do you believe in your own ability to control your own life?</td>
<td>O (0)</td>
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<tr>
<td>39. Do you believe in your own ability to control your own life?</td>
<td>O (0)</td>
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<td>40. Do you believe in your own ability to control your own life?</td>
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<tr>
<td>41. Do you believe in your own ability to control your own life?</td>
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<td>42. Do you believe in your own ability to control your own life?</td>
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<td>43. Do you believe in your own ability to control your own life?</td>
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<td>44. Do you believe in your own ability to control your own life?</td>
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<td>45. Do you believe in your own ability to control your own life?</td>
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<td>46. Do you believe in your own ability to control your own life?</td>
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<td>47. Do you believe in your own ability to control your own life?</td>
<td>O (0)</td>
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<tr>
<td>48. Do you believe in your own ability to control your own life?</td>
<td>O (0)</td>
</tr>
<tr>
<td>49. Do you believe in your own ability to control your own life?</td>
<td>O (0)</td>
</tr>
<tr>
<td>50. Do you believe in your own ability to control your own life?</td>
<td>O (0)</td>
</tr>
</tbody>
</table>

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**Fig. 3: Distribution of Managing Score using BPS-RS II**

Managing Score 4 and above = 24% of population
‘Scores’ in BPS-RS II

- ComSA
- BPS Risk screener
- BPS Domain Score (0-2)
- Managing Score (0-6)
- BPS Health functioning score (0-53)
BPS Health Functioning Score

Add all raw scores (0-53)
Does Higher BPS Managing Score Show Worse Health Outcomes?

Yes!

Older adults categorised as having ‘overwhelming problems’ (i.e. managing score of 6) spent 16 days (median value) in hospital in last 12 months compared to 3 days in older adults categorised as ‘managing well’.

Increased falls | Impaired Cognitive Function | Increased ED visits
Greater number of hospitalizations | Greater number of diseases
Poorer QoL | Poorer self reported health
SCORE 4+
Summary of ComSA BPS RS Research Findings

• The ComSA BioPsychoSocial Health Risk Screener I (BPS-RS I) has been validated in a mixed method study\textsuperscript{1}.

• An enhanced 37-item BPS-RS II based on items derived from actual descriptions of lived experience of BPS health of Singaporean seniors has also been developed and validated\textsuperscript{2}.

• Statistically tested and Validated as case finding tool to identify seniors at risk of ‘not-managing’ in Singapore.

• Strong association with health outcomes
How Can The BPS-RS Be Used?

• The BPS-RS is designed to be a case-finding tool and not a replacement of a comprehensive needs assessment.

• As the risk of adverse outcomes is linearly correlated with the Managing Score, the cut-off score depends on the objective and capacity of the community care management and services.

• For example, a cut-off at 3/4 would yield 24% of all community-dwelling seniors above age 60 who has “Many Problems” (4 and 5) or “Overwhelming Problems” (6).

• If a more preventative care management approach is preferred, a lower cut off, such as at 2/3 or 1/2 could be used.

• The use of BPS-RS is best supported by a care management ecosystem, staffed with well-trained and compassionate workers and attuned in managing the full range of all biopsychosocial determinants of health.
Strengths

• Validated by a mixed method study and a widely accepted and current theoretical model
• Preventative in nature, identifying ‘at-risk’ seniors before the occurrence of adverse outcomes, such as ‘number of hospitalizations’
• Holistic by considering all biopsychosocial aspects of frailty and resilience
• Does not require special equipment and tools
• Can be performed by lay persons
• Highly scalable with the use of IT platforms such as a website or a smartphone application.
• Accompanied by a Health Functioning Scale\(^2\) (HFS, under review), a summation of all the positive responses to the instrument which correlates with health-related quality of life\(^2\).
Weaknesses

• The administration of the instrument requires more conscientious effort and time than just a casual encounter
• Instructions on the use of the BPS-RS are required before it can be used correctly
• Privacy and professional trust is necessary for accurate screening
• While the BPS RS is sensitive in picking up persons with cognitive impairment, respondents need to have sufficient cognitive and communication ability for the BPS-RS to be fully administered
References:

2. Shiraz F et al, unpublished
THANK YOU
[Tea Break]
Submit Your Questions LIVE!

Share with us your thoughts!

1. Open the web browser on your phone and go to www.slido.com

2. Enter ‘5806’ as the event code and click ‘Join’

3. Type your question (160 characters) and click ‘Send’! Feel free to add your name, organisation if you like

4. If you see a question someone else has already posed, click the ‘thumbs up’ icon to indicate your similar interest

5. Questions will be addressed during the Q&A Panel Session
MS SUSANA HARDING

SENIOR DIRECTOR,
INTERNATIONAL LONGEVITY CENTRE, SINGAPORE
Enabling Whampoa to Age Well

Results and Findings of the Evaluation of the Community Development Component of ComSA

Susana Concordo Harding

Senior Director, International Longevity Centre Singapore
Tsao Foundation
Aims Of ComSA CD

VISION OF ComSA
1. A community where older people are actively defining and performing their civic roles with people of all ages
2. Where older people are coping well—physically, emotionally, psychologically, and socially—and have an optimistic outlook in life
3. A positive image of ageing and of older people, as holders of community history and active contributors to society’s productivity

Community-wide intervention approach
Promoting quality of life, biopsychosocial (BPS) health and ageing in place among elders in Whampoa
Participant Transition

Outreach efforts
e.g. Events/Activities

→ SCOPE / GAB

→ SWING

ComSA Champions

← BIG SWING

Community Events:
IDOP, Volunteer Carnival, Self Care Segment
Objectives of Community Development Component of ComSA

- Self care-exercising, better adherence to medication, better nutrition and diet
- Elders with optimistic outlook in life
- Participation, volunteering
- Reduce social isolation
- Positive image of ageing and elders

Healthy Lifestyle (biological health)
Social Capital (social health)
Positive Ageing (psychological health)
Research Team
SAW SWEE HOCK SCHOOL OF PUBLIC HEALTH

PRINCIPAL INVESTIGATOR:
1. Dr Zoe Hildon
2. A/P Gerald Koh Chuan Huat
3. Asst. Prof Tan Chuen Seng

RESEARCH ASSISTANT:
1. Ms Su Aw, PhD student

- Baseline and post 1-year survey with participants non-exposed + exposed to ComSA CD
- Interviewed participants, Tsao staff, trainers, partners (n=98)

8 focus groups, Track SCOPE, GAB, beginning of SWING
6 focus groups, 4 interviews Track ComSA Champion, sustainability

Baseline survey

Feb ‘16
1st SCOPE/GAB
23 classes recruited for research (2016-2017)

Post 1-year survey

Feb’17
Mar’17
Sept’17
Feb’18
ComSA Champion
What Survey Measures Was Used?

**Biological health**
- Frequency of **self-care** (healthy diet, health monitoring/medication adherence, communication with doctor, exercise).

**Bio-psychological**
- Perceived control, consequences, identity, emotional representations about **ageing** (Sexton et al. 2014)

**Psychological health**
- Condensed version of **Life satisfaction Index** (Neugarten et al. 1961)

**Psycho-social health**
- Frequency of **engaging their social networks** to discuss issues, rather than used avoidance-based coping

**Social health**
- No of **neighborhood friends** they could ‘see/hear at least once a month’, ‘feel at ease to talk about private matters/call for help (Hildon et al. 2018)

**Socio-communal health**
- **Civic engagement**: volunteering, raising + solving community issues, attending community meetings, interacting with neighbours, helping neighbours
Who Completed The Evaluation Survey?

• 75% of participants recruited into ComSA CD completed baseline survey (n=321)
• 74% of participants who completed baseline survey did post 1-year survey (n=237)
• Completed BOTH (n=237):
  – Not exposed/rejected intervention (n=55)
  – Exposed to SCOPE only (n=62)
  – Exposed to SCOPE SWING (n=79)
  – Exposed to GAB only (n=5) >> dropped from analysis
  – Exposed to GAB SWING (n=36)
What Were The Baseline Characteristics Of Survey Participants? (Reach)

**Received intervention** (n=182)

- Mean age of 70.8 (52-90)
- 81% Chinese, 79% Female
- 88% own housing, 28% no formal education
- 71% longstanding illness, 37% functional problems
- 75% participate in community activities at least once a month
- 23% volunteer at least once a month

**Not exposed/rejected** (n=55)

- Younger (Mean=66), more educated
- Functional problems: SCOPE to SWING group less than non-exposed
- Less active, but no different in frequency of volunteering
- No difference in other variables
Quantitative Survey Findings (N=232)

Table 5.2 Effect of the Intervention on (i) B Self-Care, (ii) BP Ageing Perceptions, (iii) P Life Satisfaction, (iv) PS Interpersonal Communication, (v) S Social Networks and (vi) Civic Engagement at Post 1-Year Intervention (N=232)

<table>
<thead>
<tr>
<th>Intervention Group</th>
<th>B Self-Care</th>
<th>BP Ageing Perceptions</th>
<th>P Life Satisfaction</th>
<th>PS Interpersonal Communication</th>
<th>S Social Networks</th>
<th>Civic Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Exposed (n=55)</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>SCOPE a only (n=62)</td>
<td>1.43 (1.21-1.68)</td>
<td>1.00 (0.95-1.06)</td>
<td>1.03 (0.97-1.09)</td>
<td>1.04 (0.97-1.12)</td>
<td>1.14 (0.94-1.39)</td>
<td>1.17 (0.89-1.55)</td>
</tr>
<tr>
<td>SCOPE + SWING b (n=79)</td>
<td>1.31 (1.12-1.54)</td>
<td>0.98 (0.92-1.05)</td>
<td>1.03 (0.98-1.09)</td>
<td>1.03 (0.96-1.11)</td>
<td>1.10 (0.91-1.32)</td>
<td>1.53 (1.19-1.95)</td>
</tr>
<tr>
<td>GAB c + SWING (n=36)</td>
<td>1.03 (0.83-1.27)</td>
<td>0.98 (0.91-1.06)</td>
<td>1.04 (0.97-1.11)</td>
<td>1.02 (0.93-1.11)</td>
<td>1.36 (1.11-1.68)</td>
<td>1.92 (1.46-2.51)</td>
</tr>
</tbody>
</table>
Qualitative Findings - Explaining Effect Of SCOPE On Self-care

- When I first come here, I don’t know a lot of things [...] now I have learnt a lot, I am very happy.’ (FGD, participant).

- Before, I did not monitor my body daily. Now using the SCOPE diary, I will realize, I need to be aware of my sleep problem [...] I will observe, in a week, how many times I have gone to the toilet.’ (FGD, participant)

- ‘We want to make friends and be happy. If there is too much stress or the course is too complicated, we will fall asleep.’ (FGD, participant)

- ‘It takes time to condition them. We have to establish the healthy length to condition them to create a habit.’ (FGD, trainer)

- ‘after SCOPE, I started climbing stairs. I used to say, 'oh my knee'. But once (name of facilitator) said about how good it was to climb stairs’ (FGD, participant)
Why Is There A Greater Effect On Civic Engagement In GAB + SWING Group?

1. Meaningful Bonding in GAB
   - Feeling of being heard
   - Group cohesion
   - Sense of Intimacy

2. Enhanced Interpersonal Communication
   - Emotional Safety to share
   - Respecting and non-judgmental
   - Learning to affirm others

3. Positive Group Dynamics
   - Voicing issues freely
   - Countering pessimistic members
   - Eliciting discussion
   - Ability to cooperate

Readiness for Civic Engagement

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1. Meaningful Bonding In GAB

• ‘To have a few people who can listen to us, our hearts’ sorrow and grievances, this is something that is rare. Thanks to this program (GAB).’ (FGD, participant)

• ‘She shared her life, then when she hears positive comments from her friends, that how she fosters a sense of belonging to this group, and deeper relationship.’ (FGD, trainer)

• ‘Now when we talk, our feelings towards one another are different. We feel more comfortable, we know one another’s thinking, mentality, stages of life, happiness, ups and down.’ (FGD, participant)

• ‘Towards those in BIG SWING, there is a barrier – it’s just saying hello.’ (FGD, participant)
2. Enhanced Interpersonal Communication

• ‘These 8 lessons I spoke the most, but if you ask me to talk at the coffee shop, I wouldn’t talk at all, people gossip and spread on what you say.’ (FGD, participant)

• ‘we implemented rules set by everyone, that whatever we shared should be kept within the class to instill confidence.’ (FGD, trainer)

• When we first started off, the more vocal ones will tend to drown those that don’t talk with positive psychology. Halfway through the lesson you can see, they learn to listen, to be patient.’ (FGD, trainer)

• ‘When others share, they will exclaim, “you have done a great job!” They learnt to give others encouragement and admiration.’ (FGD, trainer)

• ‘after he witnesses others share, and receive affirmation, he will be influenced and grow in confidence.’ (FGD, trainer)
3. Positive Group Dynamics For SWING

- ‘if they are so quiet, so deadly, there are only a few possibilities - there's mistrust between the group, so they don't feel safe to share their own thoughts, or they are not bonded enough.’ (FGD, trainer)

- ‘now what we say, right or wrong, we won’t take note [...] when we talk, we don’t have this ‘STOP’ towards one another.’ (FGD, participant)

- ‘I discover, not everyone has this ‘caring for community mindset’, they say “I’m at this age already. I got grandchildren. I got my physical handicap. I got family communication problem with my children.” (FGD, trainer)

- ‘Of course, we have pessimistic members that don’t want to do anything. But somehow this group is still strong, because the enthusiastic one will scold her for being so pessimistic.’ (FGD, trainer)

- ‘GAB a lot more sharing. So, after sharing, when they go on to SWING, they tell one another “I know you can do, come on!” (FGD, trainer)
Summary Of Research Findings

• ComSA CD: effective in improving self-care, social support and civic engagement of seniors
• SWING: to increase civic engagement, important to facilitate positive dynamics and meaningful bonding within group.
• GAB: ability to enhance trust, emotional safety and peer encouragement as part of the group process.
• SCOPE: customize to participant learning needs, two-way communication, behavior prompting to break old habits
• Overall: observational learning, peer reinforcement useful for behaviour change
THANK YOU
PROFESSOR HUBERTUS VRIJHOEF
CEO, PANAXEA
A Realist Evaluation of the development and implementation of ComSA

Prof Dr Hubertus JM Vrijhoef
8 May 2019, Singapore
Content

- ComSA
- Scientific relevance
- Study aim
- Realist Evaluation
- Study objectives and methods
- Results
- Conclusion and discussion
Community for Successful Ageing: ComSA

- ComSA aims to create ‘a sustainable integrated health and social care system that promotes health over the life continuum and enables ageing in place’

- Key pieces include:
  - the development and implementation of a community risk screening tool which enables high risk elders to be identified for early intervention;
  - a stratified care management service capable of supporting elders and their families with simple complex needs;
  - the person-centred medical home working in integration with care management to provide primary health and social care to elders with the most complex needs, as well as to their families;
  - a para care manager system led by trained volunteers to support the work of care managers;
  - a coalition of service providers contributing to a seamless interface of service delivery across multi-sectoral interventions;
  - support for capacity building in eldercare skills and knowledge in Whampoa.
Scientific relevance

• Integrated care is recognised as an important enabler to healthy ageing, yet few countries have managed to sustainably deliver integrated care for older people [Briggs et al. 2018]

• Most reviews have not explained how program strategies that may support the success of integrated care for older adults work (or not work) [Kirst et al. 2017]

• Researchers in integrated care should be more aware of the underlying principles of integrated care [Looman et al. 2019]
Study aim

• This study aims:
  
  • to examine the processes and experiences of stakeholders involved in the development and implementation of ComSA and
  
  • to build an initial programme theory for the development of integrated care for elders
Realist Evaluation of ComSA

- A realist evaluation design of processes of and experiences with ComSA was used, employing three streams of qualitative and quantitative data.

- Realist evaluation is a theory-driven approach to evaluation.

- Realist evaluation involves exploration of complex interactions observed between the contexts (i.e. range of conditions that affect the outcomes of a programme), mechanisms (i.e. causal forces, powers, processes or interactions that generate change within an intervention, including the choices, reasoning, and decisions people make as a result of the resources provided by the programme), and outcomes (i.e. intended and unintended effects) involved in the programme.
Realist Evaluation of ComSA

My theory is that all swans are white.

False! Look at that one.

But why is that one black?

Realist Evaluator
Realist Evaluation of ComSA

Oh look, the leaves are changing color!

Ah, the first day of autumn.

Empirical

Actual

Real

Earth’s Tilt — Sun

Fgrav — Chlorophyll

RAMESESPROJECT.ORG
Study objectives

The study objectives are:

1. To identify the contexts, mechanisms and outcomes as identified by individual stakeholders;
2. To examine the relevance of the identified contexts, mechanisms and outcomes among internal and external stakeholders;
3. To distil an initial programme theory for ComSA to enable informed decision making regarding further development and implementation.
Realist Evaluation of ComSA: objective 1

• To identify the contexts, mechanisms and outcomes of ComSA use was made of a semi-structured interview protocol

• 11 individuals all playing a major role in the development and/or implementation of ComSA were interviewed

• Main themes covered during the interview are:
  • interviewees’ role in ComSA; information about piece(s) of ComSA the interviewee is engaged in (e.g. objectives, target population, outputs and/or outcomes); assessment of implementation fidelity; barriers and/or facilitators; actors and factors essential for broad scale implementation of ComSA (outside of Whampoa)
Realist Evaluation of ComSA: objective 2

• To examine the relevance of the identified contexts, mechanisms and outcomes 18 internal stakeholders (i.e. employed by the Tsao Foundation) and 6 external stakeholders (i.e. collaborators of the Tsao Foundation) took part.

• The findings from the interviews were translated into a survey to assess the relevance.

• Relevance was measured with a 9-point Likert scale. Open space was provided for interviewees to add items or make suggestions.
Realist Evaluation of ComSA: objective 3

- To distil the initial programme theory for ComSA (objective 3) the preliminary findings of objective 1 and 2 were presented to the senior management team of the Tsao Foundation for their inputs.

- The session with senior management was shaped as a two-hour webinar. An illustration of the initial program theory of ComSA was shared prior to the session.

- Written feedback from senior management was collected by asking senior management to share their notes prior to the meeting; oral feedback was collected during the meeting by inviting senior management to comment on the completeness and face validity of the initial programme theory.
Results: identification of CMO (1/3)

• Interviewees indicated 27 conditions or contexts for ComSA to be effective, 17 mechanisms that play a role in making ComSA work, and 19 outcomes (63 items in total):

  • **Contexts** are either more generic, reflect the multi-faceted nature of ComSA, reflect conditions for the Tsao Foundation in developing new programmes, or reflect the Singaporean way of programme management

  • **Mechanisms** deal with the development of ComSA or reflect the dynamics of implementation

  • **‘Outcomes’** can be distinguished in outputs and outcomes
Results: identification of CMO (2/3)

Table 1
Context, mechanism and outcome related items derived from interviews with stakeholders

<table>
<thead>
<tr>
<th>Context</th>
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<tbody>
<tr>
<td>Continuous evolvement and development of programme</td>
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<tr>
<td>Level of clarity of trajectory of development of programme</td>
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<tr>
<td>Level of clarity of programme and services</td>
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<tr>
<td>Level of clarity of role(s) of care providers</td>
</tr>
<tr>
<td>Level of clarity of target population (inclusion and exclusion criteria)</td>
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<tr>
<td>Level of clarity of key performance indicators</td>
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<tr>
<td>Level of collaboration between care providers/ stakeholders</td>
</tr>
<tr>
<td>Level of standardisation in application/execution of programme and services</td>
</tr>
<tr>
<td>Level of completeness of programme and services</td>
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<tr>
<td>Level of personalization of programme and services</td>
</tr>
<tr>
<td>Level of connectedness between services within programme</td>
</tr>
<tr>
<td>Manpower (number and competencies)</td>
</tr>
<tr>
<td>Turn-over rate of staff</td>
</tr>
<tr>
<td>Level of competition between providers</td>
</tr>
<tr>
<td>Skills for marketing of the programme</td>
</tr>
<tr>
<td>Pressure to meet key performance indicators</td>
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<tr>
<td>Feasibility of key performance indicators</td>
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<tr>
<td>Financial accessibility of services and programme for target population</td>
</tr>
<tr>
<td>Geographical accessibility (travel time)</td>
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<tr>
<td>Understanding of (needs of) target population</td>
</tr>
<tr>
<td>Time for quality improvement</td>
</tr>
<tr>
<td>Financial resources to execute programme</td>
</tr>
<tr>
<td>Involvement of network of stakeholders</td>
</tr>
<tr>
<td>Evidence base for programme and services</td>
</tr>
<tr>
<td>Fit between processes in programme (pro-active) and routine of target population (passive)</td>
</tr>
<tr>
<td>Mentorship and training of new staff</td>
</tr>
<tr>
<td>Operational standardization and efficiency</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mechanism</th>
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</thead>
<tbody>
<tr>
<td>Programme could work really well if structured</td>
</tr>
<tr>
<td>Sharing of individual care plan with the individual (co-creation)</td>
</tr>
<tr>
<td>Establishing a role and identity as part of relationship with patients</td>
</tr>
</tbody>
</table>

panaxea
Results: identification of CMO (3/3)

Establishing a role and identity as part of relationship with partner/stakeholder
Building trust and confidence as part of relationship with patients
Building trust and confidence as part of relationship with partner/stakeholder
Building trust and confidence between all involved stakeholders
Involvement of community leaders as partners (co-creation)
Involvement of care providers in evaluation of programme
Room for bottom-up initiatives to further improve programme
Consistency in strategic direction
Two-way communication between management and others
To be sustainable the programme needs to be community owned
Transition from ‘believe in us’ to ‘trust in us’
Moving slow not to lose respect from others (speed of moving)
Balancing comprehensiveness of programme and operations of Tsao Foundation
To show respect to others

Outcome
Number of people that joins the programme
To direct the right care to the individual
To deliver the right care to the individual
To involve the individual in the care process
Individual patient feels better
To equip people with skills and knowledge towards path of successful ageing
To create an environment where older people can thrive
Completion rate/attrition rate
Participation of caregivers or partners (incl. lay people)
Sustainability of the programme
Reducing the number of hospital admissions of those enrolled
Reducing the number of days in hospital of those enrolled
To support appropriate hospital admissions
Improved quality of life of those enrolled
Improved bio-psycho-social health of those enrolled
Improved level of independence of those enrolled
High level of satisfaction with services and programme
Strengthened readiness to action of those enrolled
The programme should be perceived as a continuum of care (seamless)
Results: relevance of CMO

- Of 27 contexts, 22 were scored relevant by internal stakeholders, 19 by external stakeholders, and 18 contexts by both groups. The remaining contexts were rated equivocal.

- All but one mechanism (‘moving slow not to lose respect from others’ - equivocal) were scored relevant by internal stakeholders. External stakeholders scored 10 mechanisms relevant and 7 equivocal.

- All outcomes were rated relevant by internal stakeholders, where external stakeholders rated all but one outcome as relevant (‘the programme should be perceived as a continuum’ - equivocal).
Results: initial programme theory (1/3)

- Five context-mechanism-outcome frameworks were identified:
  1. clarity about aspects of ComSA;
  2. resources to develop and implement ComSA;
  3. accessibility to ComSA;
  4. continuous evolution of ComSA;
  5. performance of ComSA.
Figure 1
CMO Frameworks for ComSA

- Levels of clarity of trajectory of development of ComSA:
  - Level of clarity of ComSA and services;
  - Level of clarity of role(s) of care providers;
  - Level of clarity of target population;
  - Level of clarity of key performance indicators;
  - Understanding of (needs of) target population

- Manpower (number and competencies);
  - Mentorship and training of new staff;
  - Financial resources to execute ComSA
  - Involvement of network of stakeholders

- Financial accessibility;
  - Geographical accessibility;

- Continuous evolution of ComSA
  - Operational standardization and efficiency
  - Level of completeness of ComSA
  - Level of connectedness between services
  - Level of collaboration between care providers

- Feasibility of KPIs

- Establishing a role and identity as part of relationship with patients;
- Establishing a role and identity as part of relationship with partner/stakeholder;
- Involvement of community leaders as partners;
- Involvement of care providers in evaluation of programme

- Number of people that joins ComSA; participation of partners

- Building trust and confidence as part of relationship with patients;
- Building trust and confidence as part of relationship with partner/stakeholder;
- Building trust and confidence between all involved stakeholders

- To direct the right care to the individual; to deliver the right care to the individual; to create an environment where older people can thrive

- Sharing of individual care plan with the individual

- To involve the individual in the care process; to equip people with skills and knowledge towards path of successful ageing; completion/attrition

- To show respect to others

- Strengthened readiness to action of those enrolled; individual patient feels better; improved quality of life of those enrolled; improved bio-psycho-social health of those enrolled; improved level of independence of those enrolled; high level of satisfaction with services and ComSA

- To be sustainable the programme needs to be community owned

- To support appropriate hospital admissions; reducing the number of hospital admissions of those enrolled; reducing the number of days in hospital of those enrolled; sustainability of ComSA
Results: initial programme theory (3/3)

- In addition to the frameworks a rough description was provided to senior management, being: *ComSA is overall recognised for its strong conceptual model for successful ageing, comes without a clearly defined and/or understood target population and set of Key Performance Indicators (KPIs), has not yet reached its full potential mainly because of a sub-optimal level of communication, collaboration, and integration of services, and hence may benefit from a more consistent programme management including the monitoring of outputs and outcomes.*

- To a great extent senior-management expressed to find:
  - the frameworks meaningful **to deepen their understanding of how ComSA works** (“It’s revealing to see what comes into play during the progression of ComSA.”),
  - **where there is room for further improvement** (“Now we can understand the performance of ComSA much better.”),
  - as well as **to establish what is important in ComSA’s journey towards maturity** (“I recognize the issues around clarity and believe we do much better now in explaining the why and how of ComSA with and to our stakeholders.”).
Conclusion and discussion (1/2)

- By collection original data using a realist approach the complex nature of the development of an integrated care initiative for elders in Singapore was exposed.

- Five CMO frameworks were identified that are interrelated and together shape an initial programme theory for the development and implementation of integrated care for elders (i.e. clarity, resources, accessibility, evolvement, performance).
Conclusion and discussion (2/2)

• To establish change in outcomes all five CMO frameworks play a role (this expresses the complexity of developing integrated care for elders in the community)

• Having an overview of the identified frameworks could be supportive in decision making about the (further) development and implementation of integrated care initiatives for elders in Singapore and elsewhere
This study was financially supported by the Tsao Foundation.

Findings are reported in a scientific paper to be submitted to a peer-reviewed journal in May 2019. No information on these slides is allowed to be distributed in any format without prior agreement by the authors.

Further information:

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References

- Vrijhoef HJM, Lim Z. A realist evaluation of the development and implementation of ComSA (*submitted for publication*).
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