Triumphing the first battle - Integrated Care and Discharge Support (ICDS) for Elderly Patients in Hong Kong West Cluster

HA Convention 2014

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Hong Kong West Cluster Hospitals

- QMH
- FYKH
- TWH
- GH
- HA Convention

HKWC
Patient Journey in HKWC

- Elderly living at home
- AED
- QMH General Medical Ward
- Convalescence Hospitals: FYKH, GH, TWH
- Home
- Inadequate community support

Revolving door syndrome
Algorithm of ICDS program in Hong Kong West Cluster (Commenced Jan 2012)

Home dwelling older patient age $\geq 60$ attended QMH AED

Risk Stratification
High readmission risk detected by HARRPE score $\geq 0.2$, Link Nurse screening or clinical referrals

CCPE beds (12 beds) in paired wards of QMH
Under usual medical team with proactive geriatrician-led ICDS Discharge Planning Team (DPT) input

Comprehensive Geriatric Assessment and Discharge Planning
Geriatrician-led ICDS DPT

ICM Case Management
Home visits and telephone support
By Case Managers (PT, OT, MSW, Nurse)

Medical wards in acute hospital (QMH) and convalescence hospitals (FYKH, TWH & GH)

Home Support Team (HST) rapid intensive multidisciplinary social support
Link nurse performing assessment and discharge planning

ICM Case Manager home visit
Objectives and study period

Objectives

• To investigate whether the ICDS can reduce AED attendance, acute hospital admissions and hospital bed days (acute and convalescence)
  – Pre and post 6 months data analysis

• To identify independent factors that predict the efficacy of the program

Study period

• April 2012 to March 2013
### Results - Social and demographic characteristics

Total N = 1090
Age = 80.4 ± 7.6 (range 60 – 104)
Female 51%

<table>
<thead>
<tr>
<th>Caring situation</th>
<th>N</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Live alone</td>
<td>154</td>
<td>14.1</td>
</tr>
<tr>
<td>Live with maid only</td>
<td>24</td>
<td>2.2</td>
</tr>
<tr>
<td>Live with 1st degree relative(s)</td>
<td>698</td>
<td>64</td>
</tr>
<tr>
<td>Live with 1st degree relative(s) and maid</td>
<td>205</td>
<td>18.8</td>
</tr>
<tr>
<td>Live with friend</td>
<td>9</td>
<td>0.8</td>
</tr>
<tr>
<td>Daytime alone even with carer</td>
<td>322</td>
<td>29.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Finance</th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>DA</td>
<td>69</td>
<td>6.3</td>
</tr>
<tr>
<td>HDA</td>
<td>7</td>
<td>0.6</td>
</tr>
<tr>
<td>CSSA</td>
<td>114</td>
<td>10.5</td>
</tr>
<tr>
<td>Depends on family/self/OA</td>
<td>900</td>
<td>82.6</td>
</tr>
</tbody>
</table>
Recruitment and service received

Method of recruitment

- ICM Case Management
  Home visits and telephone support
  N=475 (43.6%)

- Home Support Team (HST) rapid intensive multidisciplinary social support
  N=615 (56.4%)

- Referral or screening
  N=339 (31.2%)

N=751 (68.8%)

- HARPPE
Mortality and institutionalization

**Mortality**
- 85 (7.8%) died within 6 months after ICDS recruitment

**Institutionalization other than HST respite**
- 26 (2.6%) moved to RCHE within 6 months after ICDS recruitment

(Our previous study – 21.7% needed to go to RCHE after recovery from medical illnesses—Luk JKH et al. Arch Geront and Geriatr 49 (2009), pp. e110-e114)
AED attendance 6 months before and after ICDS

P < 0.001

40% reduction
Acute hospital admission 6 months before and after ICDS

47% reduction

P<0.001

Pre-6 m: 1.7
Post-6 m: 0.9

No per person per 6 months
Hospital bed days (acute & convalescence) 6 months before and after ICDS

31% reduction
P<0.001

Pre-6 m: 16 bed days
Post-6 m: 11 bed days
Change of BI(20), MFAC and AMT

<table>
<thead>
<tr>
<th></th>
<th>At start of ICDS</th>
<th>At DC from ICDS</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BI</td>
<td>16.5 ± 4.1</td>
<td>17.6 ± 4.1</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>MFAC</td>
<td>5.7 ± 1.6</td>
<td>6.3 ± 2.2</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>AMT</td>
<td>8.4 ± 2.1</td>
<td>8.4 ± 1.7</td>
<td>0.15</td>
</tr>
</tbody>
</table>

p<0.001
Multivariate analysis for factors at recruitment predicting *AED attendance ≥1* in the 6 months after ICDS commencement

599 (55%) had AED attendance ≥1 in the 6 months after ICDS
(Logistic regression)

<table>
<thead>
<tr>
<th>Factors (at the time of recruitment)</th>
<th>Odds</th>
<th>95% CI</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>1.02</td>
<td>1.0 to 1.036</td>
<td>0.025</td>
</tr>
<tr>
<td>Charlson Comobidity Index (CCI)</td>
<td>1.18</td>
<td>1.11 to 1.25</td>
<td>0.001</td>
</tr>
<tr>
<td>Albumin</td>
<td>0.96</td>
<td>0.94 to 0.98</td>
<td>0.001</td>
</tr>
<tr>
<td><em>Living alone</em></td>
<td>0.68</td>
<td>0.47 to 0.97</td>
<td>0.033</td>
</tr>
</tbody>
</table>
Multivariate analysis for factors at recruitment predicting no reduction in hospital bed days in the 6 months after ICDS

310 (28.4%) had no reduction in bed days (Logistic regression)

<table>
<thead>
<tr>
<th>Factors (at the time of recruitment)</th>
<th>Odds</th>
<th>95% CI</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>1.02</td>
<td>1.0 to 1.036</td>
<td>0.025</td>
</tr>
<tr>
<td>Hb</td>
<td>0.93</td>
<td>0.87 to 0.99</td>
<td>0.034</td>
</tr>
<tr>
<td>No. of medications</td>
<td>1.06</td>
<td>1.02 to 1.1</td>
<td>0.003</td>
</tr>
</tbody>
</table>
Conclusion and implication

• ICDS reduces:
  a) AED attendance (40%)
  b) acute hospital admission (47%)
  c) hospital bed days (31%)

• Keep elderly in the community, avoiding institutionalization

• Improve functional and mobility states

• Independent predictors identified - fine tuning to further improve efficacy

• Open ground for further studies e.g. cost analysis
Thank You!