Interventions to reduce unplanned admissions from care home settings

Radcliffe Lisk and Keefai Yeong
1 in 3 babies born in the UK in 2013 are expected to celebrate their 100th birthday.

Thought-provoking discussion from the Royal Geographical Society (with IBG)

www.21stcenturychallenges.org

Source: Office for National Statistics, 2013
In the 20th century, the average lifespan of a male in the UK has risen from 45-75 and females from 49-80.

Mortality from hip fractures ASPH vs national
Old age is the new middle age

Exhibit 5: The pace of aging will accelerate.

“Older people living with frailty, dementia and complex multiple co-morbidities are now “core business” for health and social care in all settings”

HSJ Commission
Two-thirds of hospital bed days are for patients over 65 with a quarter for patients over 80.
We can no longer afford to be caring for older people the same way we have been doing for many years.
Background

- 400,000 older people live in care homes, receiving nursing or residential care
- Frequent users of secondary care services
- Cost £6.3m locally
- Ideal for targeted intervention
Initial Audit

- Looked through data of 1954 residents admitted from nursing homes from April 06 – March 09.

- 20,074 bed days

- No. of residents with multiple admissions (4 or more)
  - LOS
  - Diagnosis
  - Nursing Home involved
## Nursing Homes

<table>
<thead>
<tr>
<th></th>
<th>Admissions</th>
<th>Capacity</th>
<th>GP WR</th>
</tr>
</thead>
<tbody>
<tr>
<td>NH A</td>
<td>14</td>
<td>54 + 22R</td>
<td>1</td>
</tr>
<tr>
<td>NH B</td>
<td>7</td>
<td>61</td>
<td>1</td>
</tr>
<tr>
<td>NH D</td>
<td>5</td>
<td>60</td>
<td>2</td>
</tr>
<tr>
<td>NH C</td>
<td>5</td>
<td>28</td>
<td>1</td>
</tr>
<tr>
<td>NH E</td>
<td>4</td>
<td>53</td>
<td>request</td>
</tr>
<tr>
<td>NH F</td>
<td>4</td>
<td>77</td>
<td>1</td>
</tr>
<tr>
<td>NH G</td>
<td>4</td>
<td>28</td>
<td>request</td>
</tr>
</tbody>
</table>

- 82 residents with multiple admissions (≥ 4)
- 3073 bed days
- £798,980 over the 3 year period.
- Only 27% were referred by GPs
- Only 27% (14/51) of those with infection were on antibiotics.
- Better outcomes if NHAP managed in care homes.
PLANNING

NURSING HOME PROJECT
DO - Nursing Home Project

- 3 Nursing Homes chosen: NH A, NH B & NH C

- 4 interventions were carried out for a period of 3 months (June – Aug 2010) to reduce hospital admissions.
  - Monthly Medical Advisory Meetings with GPs by a Geriatrician.
  - Availability of telephone advice (Mon – Fri 9am to 5pm) from a Geriatrician.
  - End of Life Care
  - Medihome – A healthcare company that can provide intravenous antibiotics and fluids in nursing homes.

- 1 intervention to reduce length of stay: IT alert + review
### STUDY 1 - RESULTS – 1st PHASE

- **52%** reduction
- Chi square
- 6.261
- \( P = 0.044 \)
- **SIGNIFICANT** reduction

<table>
<thead>
<tr>
<th>PERIOD</th>
<th>Average No. of admissions from 3 nursing homes</th>
<th>Total Emergency Admissions</th>
<th>Admission rate/1000 admissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>June - Aug 08</td>
<td>25</td>
<td>3846</td>
<td>6.50</td>
</tr>
<tr>
<td>June – Aug 09 observed</td>
<td>24</td>
<td>4167</td>
<td>5.76</td>
</tr>
<tr>
<td>June – Aug 10 ex</td>
<td>11</td>
<td>4251</td>
<td>2.59</td>
</tr>
<tr>
<td>June 10 – Aug 10 ex</td>
<td>23</td>
<td>4251</td>
<td>5.41</td>
</tr>
</tbody>
</table>
## Detailed Cost Analysis

### PHASE 1 (June – Aug 2010)

<table>
<thead>
<tr>
<th>Costs estimated</th>
<th>NH C</th>
<th>NH B</th>
<th>NH A</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultant time/costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(£146/hr)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visiting NHs</td>
<td>5 hr 50 min</td>
<td>2 hrs</td>
<td>8 hr 30 mins</td>
<td>16 hrs 20 mins</td>
</tr>
<tr>
<td>Telephone calls</td>
<td>40 min</td>
<td>15 min</td>
<td>30 min</td>
<td>85 mins</td>
</tr>
<tr>
<td>In patient reviews</td>
<td>60 min</td>
<td>0 min</td>
<td>60 min</td>
<td>120 min</td>
</tr>
<tr>
<td>Costs</td>
<td>£1,095.00</td>
<td>£328.50</td>
<td>£1,460</td>
<td>£2,883.50</td>
</tr>
</tbody>
</table>

### Medihome

| Usage (no patients)     | 1          |
| Number of days          | 3          |
| Total cost (£165/day)   | £495.00    |
| Total (Costs estimated) | £3,378.50  |

### Costs saved

<table>
<thead>
<tr>
<th>Admissions</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Admissions</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>Admissions prevented</td>
<td>4</td>
<td>1</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Cost of admissions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>prevented</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(£523/admission)</td>
<td>£2,092.00</td>
<td>£523.00</td>
<td>£2,092.00</td>
<td>£4,707.00</td>
</tr>
</tbody>
</table>

### Length of stay

| Reduction in LOS         | 8          | 0         | 10        | 18         |
| Costs (£260/day)         | £2,080.00  | £0.00     | £2,600.00 | £4,680.00  |
| Total (Costs saved)      | £4,172.00  | £523.00   | £4,692.00 | £9,387.00  |

**Total**

<table>
<thead>
<tr>
<th>NH C</th>
<th>-£300.50</th>
<th>NH A</th>
<th>£3,232.00</th>
<th>£6,008.50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>£3,077.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ACT - NH Project – 2\textsuperscript{nd} PHASE

- 3 More nursing homes included

- \textbf{1\textsuperscript{st} Oct 2010}: Launch of the 2\textsuperscript{nd} phase of the Nursing Home Project

- Working together with PCT pharmacists.
STUDY 2 - RESULTS – 2nd PHASE

- **43%** reduction
- Chi square
- **12.552**
- **P = 0.002**
- **SIGNIFICANT reduction**

<table>
<thead>
<tr>
<th>PERIOD</th>
<th>Average No. of admissions from 6 nursing homes</th>
<th>Total Emergency Admissions</th>
<th>Admission rate/1000 admissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct 08-Jan09</td>
<td>69</td>
<td>7711</td>
<td>8.95</td>
</tr>
<tr>
<td>Oct 09 – Jan 10</td>
<td>68</td>
<td>8488</td>
<td>7.69</td>
</tr>
<tr>
<td>Oct 10 – Jan11ob</td>
<td>38</td>
<td>8742</td>
<td>4.35</td>
</tr>
<tr>
<td>Oct 10 – Jan11ex</td>
<td>67</td>
<td>8742</td>
<td>7.66</td>
</tr>
</tbody>
</table>
## ONE YEAR DATA

<table>
<thead>
<tr>
<th>Address</th>
<th>2008-09</th>
<th>2009-10</th>
<th>2010-11</th>
</tr>
</thead>
<tbody>
<tr>
<td>NH A</td>
<td>56</td>
<td>41</td>
<td>34</td>
</tr>
<tr>
<td>NH B</td>
<td>33</td>
<td>37</td>
<td>19</td>
</tr>
<tr>
<td>NH C</td>
<td>18</td>
<td>20</td>
<td>9</td>
</tr>
</tbody>
</table>

**Actual Total (1 year data)**

<table>
<thead>
<tr>
<th></th>
<th>2008-09</th>
<th>2009-10</th>
<th>2010-11</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>107</td>
<td>98</td>
<td>62</td>
</tr>
</tbody>
</table>
Geriatrician input into nursing homes reduces emergency hospital admissions

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ABSTRACT

Nursing home residents are often very dependent, very frail and have complex care needs. Effective partnerships between primary and secondary care will be of benefit to these residents. We looked at 1954 admission episodes to our Trust from April 2006 to March 2009 inclusive. 3 nursing homes had the highest number of multiple admissions (≥4). Four strategies to reduce hospital admissions were used at these nursing homes for 3 months. An alert was also sent to the geriatrician if one of the residents was admitted so that their discharge from hospital could be expedited. The project was then extended for another 4 months with 6 nursing homes. The results showed that geriatrician input into nursing homes had a significant impact on admissions from nursing homes ($\chi^2(2) = 6.261, p < 0.05$). The second part of the project also showed significant impact on admissions ($\chi^2(2) = 12.552, p < 0.05$). Furthermore, in both parts of the project the length of stay in hospital for the residents was reduced. Geriatricians working together with co-ordinated multidisciplinary teams are well placed to manage the care needs of frail, elderly care home residents.

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1. Background

A quarter of a million older people live in nursing or residential care homes. The distinction between residential and nursing care is defined by the need for nursing care and that which can be provided by a nurse. Commissioners are now turning to geriatricians to re-engage in planning pathways, promoting health and developing end of life care for the most vulnerable.

This study describes a health improvement cycle in nursing homes. The study started in 2006 initiated by the geriatricians.
NH Project

- March 2011: project extended to 12 Nursing Homes

- During the intervention (April 2011-March 2012), admissions reduced from 432 to 282 (35% reduction)

- Care homes with a single GP had the most reduction

- NW Surrey CCG – Care Homes Steering Group 2012

- From Oct 2012- March 2013, the GPs took the lead role in carrying out the above interventions with telephone advice as necessary from geriatricians.
Results

12 nursing homes

Admissions from 12 nursing homes

- April 2009 - March 2010: 432
- April 2011 - March 2012: 282
- April 2012 - March 2013 (Intervention): 303

All nursing homes (~50)

Emergency Admissions from all nursing homes

- 2008-09: 1247
- 2009-10: 1262
- 2010-11: 1360
- 2011-12: 1209

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Care Home Journey

2014
- care home managers/ GP reverted to usual practice
- relationship with geriatricians & education diminished
- new care homes
- rising care home admissions

2015
- seconded to CCG as MD to develop locality hubs
- Need for a commissioned care home programme
- pilot care home community matron service + care home pharmacist
Pilot community matron service

- To empower and enable specified care homes to effectively and proactively manage their residents care in order to reduce their need for urgent interventions
- 4 elements
  - Proactive personalised care planning & ACP
  - Education
  - Establish good working relationships with managers
  - Increase skills and competencies of care home staff
- Report monthly to the NWS Care Home Project Coordination Group
- 2 matrons covering 12 care homes
Education of care home staff

Patients name: 
Dob: 
NHS no: 

Recognition of signs/symptoms of possible urine infection:

- Smelly urine
- Feeling hot/cold
- Temperature
- Confusion/Severe confusion
- Pain on passing urine
- Passing urine more often than usual
- Urine darker in colour
- Lower abdominal or back pain

Action to be taken:

- Telephone GP with information: results of urinalysis, temperature, and any reports of confusion/pain etc.
- If GP agreeable start reserve antibiotics:
- Take MSU prior to starting antibiotics
- Put MSU into red bottle with form to go to Health Centre
- Encourage fluids
- Record temperature and urine colour, volume, frequency, twice a day and inform GP of any deterioration.
- Change urinary catheter if insert

Any special instructions:

Advance Care Plan

A non-legally binding document to represent your future hopes and wishes.

Advance Care Planning is a way to record your plans, wishes, preferences and priorities for your care in the future. This form is to be held by you and is for you to record your thoughts in a way that can be shown to health care professionals who you meet when you become ill and have need of care and treatment. A copy of this form will also be kept in your health care records.

Information on Advance Care Planning is available. There is a booklet, "Planning For Your Future Care", produced by the Department of Health and the National Council for Palliative Care. You may be shown a copy of this booklet by one of your health care professionals, or you can download a copy of the booklet from the site www.nhs.uk/Planning-and-life-care/Documents/Planning-for-your-future-care.pdf and can always the secrets with your health care team before completing this form.

Further Information Sources
- Advance Decisions to refuse treatment www.adictrix.co.uk
- NHS Organ Donor Line: http://www.organdonation.nhs.uk/ Tel: 0000 123 23 23

Looking after this record: This form should be kept in a prominent place in your house. If you use the 'Message In A Bottle' system to alert potential emergency services to your particular health care needs, please write a note on the form in the bottle as to the location of your Advance Care Plan.

Completing this document: If required in a different format please inform your health care professional. If there is not enough space, please use an additional sheet of paper to record extra information.

Making changes: If you decide to change anything on this record you should sign and date the alterations and inform your health care professionals.

Please take this document with you to your health care appointments. Please inform them if you have made any changes to the plan. This document will be shared with relevant health care professionals only who are involved in your care.

Advance Care Plan for Adults Final June 2013 Virgin Care ( Surrey)
Results

Apr-Aug Admissions - 40% reduction

<table>
<thead>
<tr>
<th>Year</th>
<th>Admissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>325</td>
</tr>
<tr>
<td>2015</td>
<td>197</td>
</tr>
</tbody>
</table>

Patients first  •  Personal responsibility  •  Passion for excellence  •  Pride in our team
Care home support team (CHST)

Aim:

To improve the quality and experience of care for nursing and residential home residents across NWS.
Specific service objectives:
- Care home support plan
- Identify residents at high risk of hospital admissions and develop preventative strategies
- To identify and address CH training needs
- To provide access to high quality, responsive clinical care to CH residents
- To support staff in caring for their residents
- Enhance relationships between GP, care homes and secondary care
- Improve advanced care planning
Service Composition

- 0.5 WTE Consultant geriatrician
- 3 WTE community matron
- 1 WTE Physiotherapist
- 1 WTE Falls specialist
- 1 WTE Dietitian
- 1 WTE SLT
- 1 WTE Community nurse specialist EOL care
- 1 WTE community pharmacist
- 1 WTE support worker
- 0.5 WTE Administrator
Current team

Keefai
Consultant Geriatrician

Maria
Community Matron

Sam
Community Pharmacist

Alison
Community Dietitian

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Processes

- **Care home selection**:  
  - A&E attendances  
  - CQC concerns

- **Engagement process**:  
  - Care home manager and GP approached  
  - Information provided  
  - Verbal agreement to engage with team  
  - Baseline data collected

- **Weekly MDT**
| **How was the home identified?** | • From CQC report which found that residents were not always protected from the risk of abuse and avoidable harm, incidents and accidents were not always well analysed, recruitment checks were not fully completed, risk management plans were not detailed enough, medicines were not always managed safely, people with dementia did not have their needs fully met and not everybody had their care plans regularly updated |
| **What was the care home response?** | • Home Manager, Mrs A, was very supportive and engaged with the team along with the senior nurse |
| **GP surgeries involved** | • Residents registered with multiple surgeries; Goldsworth, Heathcot, Hillview, Southview |
| **Pharmacy involved** | • Lloyds Pharmacy |
| **Any Incidents?** | • Monthly medication not supplied one month and only delivered when manager went down to the pharmacy and helped with the dispensing overnight |
## Training Needs Identified

<table>
<thead>
<tr>
<th>Administration of Bisphosphonates</th>
<th>Administration of ‘when required’ medication</th>
<th>Appropriate use of Oral Nutritional Supplements</th>
<th>The importance of keeping care plans up to date</th>
<th>Appropriate inhaler techniques</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic assessments to provide information to GP</td>
<td>EWE scores</td>
<td>Covert Administration</td>
<td>How to complete patient centered care notes that have meaning</td>
<td>Homely Remedies</td>
</tr>
<tr>
<td>Food First and Food Fortification</td>
<td>DNAR forms and Advanced Care Planning</td>
<td>Accurate completion of MAR sheets</td>
<td>Time sensitive medications</td>
<td>Complete and accurate reporting of incidents</td>
</tr>
</tbody>
</table>

- Dementia coding
- Managing waste

---

**Patients first**  •  **Personal responsibility**  •  **Passion for excellence**  •  **Pride in our team**
### Progress to date Pharmacy

<table>
<thead>
<tr>
<th>Service</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Care homes visited</td>
<td>6 nursing homes, 3 residential homes</td>
</tr>
<tr>
<td>Vital signs reviewed</td>
<td>210 residents</td>
</tr>
<tr>
<td>DNARs, Advanced Care Plans discussed</td>
<td></td>
</tr>
<tr>
<td>Interventions Made</td>
<td>910</td>
</tr>
<tr>
<td>Referrals to SaLT, Falls and Mental Health teams completed</td>
<td></td>
</tr>
<tr>
<td>Total cost savings</td>
<td>£311,880.05</td>
</tr>
</tbody>
</table>

On average, each resident was prescribed 8.5 medicines. Vital signs were reviewed and documented for all residents, and basic observations were reported to GPs for residents with concerns. DNARs and Advanced Care Plans were discussed, and teaching sessions were run on identified topics. Care Plans and Patient Notes were reviewed. Interventions were made, and referrals were completed to SaLT, Falls and Mental Health teams. DOLs applications, covert administration, and PRN paperwork were verified or completed.

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Progress to date Dietician

- 6 care homes visited
- 3 nursing homes, 3 residential homes
- 77 residents reviewed
- Over 80% referrals Weight Loss related
- Review of documents for all residents
- MUST, Waterlow Scores reviewed
- On Average 2hrs training to Kitchen staff, Carers, Senior Carers, Registered Nurses, Deputy Managers
- Teaching sessions run on identified topics
- Care Plans and Patient Notes reviewed
- Intervention 87% Food Fortification

Cost Saving £11290 from discontinuing inappropriate supplements alone
A&E Attendances

No of A&E Attendances

![Bar graph showing A&E attendances from 2014-15 to 2016-17, with a significant decrease in April to July 2016.](image)

- Patients first
- Personal responsibility
- Passion for excellence
- Pride in our team
Building Relations

• Newsletter

• nhs.net

• Forums
Going Forward:

- New Community Provider – Team Expansion
- Collaborative work with D2A
- Surrey & Borders: Intensive Support Team MH; Test Beds
- Social Care & District Councils
- Ambulance
Conclusion

- Multidisciplinary input into care homes
  - Reduce admissions to ED
  - Reduces cost
  - Improve outcomes
Acknowledgements

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  Sam Cudby
  Alison Williamson
  Frances Bayton-Clark
  Maria Doran

Our CCG colleagues:
  Anita Nowak
  Neil Selby
  Jack Wagstaff