Improving the (health) care of older people in residential care

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Where we began
Some headline figures....

- Around 450,000 registered care home beds.
- Average number of diagnoses – 6.2
- Median number of medications – 8
- 2/3 have some form of behavioural symptom
- 30% malnourished
- 56% at risk of malnutrition
- Average life expectancy
  - 1 year for nursing homes
  - 2 years for residential homes

New care models

The framework for enhanced health in care homes
<table>
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<tr>
<th>Care element</th>
<th>Sub-element</th>
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<tr>
<td><strong>1. Enhanced primary care support</strong></td>
<td>Access to consistent, named GP and wider primary care service</td>
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<td>Medicine reviews</td>
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<td>Hydration and nutrition support</td>
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<td>Access to out-of-hours/urgent care when needed</td>
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<td><strong>2. Multi-disciplinary team (MDT) support including coordinated health and social care</strong></td>
<td>Expert advice and care for those with the most complex needs</td>
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<td>Helping professionals, carers and individuals with needs navigate the health and care system</td>
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<td><strong>3. Reablement and rehabilitation</strong></td>
<td>Rehabilitation/reablement services</td>
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<td>Developing community assets to support resilience and independence</td>
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<td><strong>4. High quality end-of-life care and dementia care</strong></td>
<td>End-of-life care</td>
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<td>Dementia care</td>
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<td><strong>5. Joined-up commissioning and collaboration between health and social care</strong></td>
<td>Co-production with providers and networked care homes</td>
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<td>Shared contractual mechanisms to promote integration (including Continuing Healthcare)</td>
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<td>Access to appropriate housing options</td>
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<td><strong>6. Workforce development</strong></td>
<td>Training and development for social care provider staff</td>
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<td>Joint workforce planning across all sectors</td>
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<td><strong>7. Data, IT and technology</strong></td>
<td>Linked health and social care data sets</td>
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<td>Access to the care record and secure email</td>
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<td>Better use of technology in care homes</td>
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Specific objectives

• To develop a more detailed understanding of whether and how CGA works in care home settings

• To run a Quality Improvement Collaborative to implement CGA in Care Homes and learn how to do it

• To develop an electronic dashboard to support quality improvement collaboratives in care homes.
Towards a dashboard
Continuous monitoring of emergency admissions of older care home residents to hospital

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Abstract

Background: evidence from inspection programmes suggest that the quality of care provided by individual care homes for older people is very variable. Aside from periodic inspection, there is limited information that is routinely collected and can be used to monitor quality.

Objectives: to describe a method for using routine hospital data on admissions of older people as means for monitoring quality of care within a care home. To explore how this might be applied and used.

Methods: we linked hospital admissions to care homes using postcode matching and analysed hospital admission data as a time series, using the Cumulative Sum (CUSUM) technique to detect unusually high rates of admission.

Results: if we develop the CUSUM so that the number of times it falsely signals a high rate of admissions is limited to a rate of 0.1% per year, the chances of successfully detecting a doubling of the admission rate within 2 years will range from 48% for the smaller homes to 96% for the larger homes.

Conclusion: monitoring tools using data on admissions to hospital are both possible and feasible, particularly for the larger homes. However, due to data limitations, users need to be careful about how they interpret triggers and thus ensure follow-up
Accurate identification of hospital admissions from care homes; development and validation of an automated algorithm

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What we did

Developed an algorithm:
• Keyword searching
• Postcode searching
• Fuzzy string matching against CQC database

Validated the algorithm:
• Non-derivation dataset from the hospital where it was developed
• New dataset from a second hospital
Findings

• 4000 patients aged 85 years and over – 2000 from each trust

For our algorithm:
• 86-91% sensitivity
• 99-100% specificity

For the Nuffield method:
• 97% specificity
• 98% specificity
Latest CCG Registered beds counts (as at 01/03/2018)

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<tr>
<th>CCG A Beds</th>
<th>CCG B Beds</th>
<th>CCG C Beds</th>
<th>CCG D Beds</th>
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<tbody>
<tr>
<td>1,800</td>
<td>1,600</td>
<td>2,000</td>
<td>1,000</td>
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COC registered beds by CCG and snapshot period

<table>
<thead>
<tr>
<th>Financial Year</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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<tr>
<td>2015/16</td>
<td>1000</td>
<td>1000</td>
<td>1097</td>
<td>1000</td>
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<tr>
<td>2016/17</td>
<td>1000</td>
<td>1000</td>
<td>2000</td>
<td>1000</td>
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<td>2017/18</td>
<td>1000</td>
<td>1000</td>
<td>1990</td>
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Care home attendances to NHU by age & gender

- 65-69
- 70-74
- 75-79
- 80-84
- 85-89
- 90-94
- 95-99
- 100-104

- 0
- 1k
- 2k
- 3k
- 4k
- 5k
- 6k
- 7k
How often are care home residents using services? - N.B THIS APP CONTAINS DUMMY DATA FOR DEMO PURPOSES

<table>
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<tr>
<th>Financial Year</th>
<th>Values</th>
<th>REG_CCG</th>
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<td>REG_CCG</td>
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Care home resident activity (aged over 65 years)

<table>
<thead>
<tr>
<th>Financial Year</th>
<th>Care home admissions</th>
<th>Care home ED attends</th>
<th>Care home EMSG contacts</th>
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<tbody>
<tr>
<td></td>
<td>Total</td>
<td>A</td>
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<tr>
<td>2015/16</td>
<td>2880</td>
<td>728</td>
<td>676</td>
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<tr>
<td>2016/17</td>
<td>2664</td>
<td>716</td>
<td>762</td>
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<tr>
<td>2017/18</td>
<td>2888</td>
<td>687</td>
<td>726</td>
</tr>
</tbody>
</table>

Care home resident activity (aged over 65 years) - please see SPC sheet to look at variation overtime

NUH Emergency Admissions (aged over 65 years)

NUH ED Attendances (aged over 65 years)

Ambulance contacts (aged over 65 years) by type

GP out of hours activity coming soon
Marker priority is "Trend (C)" to "Aberration (A)", see end of the x-axis label for list of special cause(s). Where: (A) a single point beyond a control limit; (B) nine consecutive points on one side of the mean; (C) six consecutive points trending up or down; (D) fourteen consecutive points alt. up and down; (E) two of three consecutive points beyond a warning limit; (F) four of five consecutive points beyond a first sigma; (G) fifteen consecutive points within one sigma; (H) eight consecutive points beyond one sigma. Any step change shown is created at load time (a step change requires confirmation of an actual process change). N.B. Points with an "*" at the end of their x-axis label have been excluded from any mean/limit calculation.
Concrete implementation

• Nottingham University Hospitals – monthly reports of care home admissions

• Local GPs – care home metrics embedded in eHealthscope

• West Midlands Academic Health Sciences Network, Yorkshire and Humber CLAHRC
How does CGA work in care homes?
Role of comprehensive geriatric assessment in healthcare of older people in UK care homes: realist review

Neil H Chadborn, Claire Goodman, Maria Zubair, Lídia Sousa, John R F Gladman, Tom Dening, Adam, L Gordon
Schematic of flow of articles within review.

- Systematic database search: ASSIA, CINAHL, EMBASE, Medline, PsycInfo, Scopus: 694 deduplicated articles
- Included following screening: 110 articles
  - Articles used to develop theory: 21
  - Articles focused on single domain: 35
  - Articles with epidemiologic or psychometric focus: 74
- Articles excluded due to:
  - Not English language: 8
  - Intermediate care: 5
  - Not care homes: 424
  - Not multi-domain assessment: 147
- Snowball search: 20

Improved outcomes

• Resident satisfaction
• Healthcare resource use
• Reduction of polypharmacy
• Quality of care measures
Nested arrangement of context-mechanism-outcome (CMO) configurations.
Future research

• Best way to collate and share findings of asynchronous CGA

• Best way to involve residents and family carers in the CGA process

• More work needed to understand how CGA is sustained and implemented over time. How it iterates.
How to do Quality Improvement Collaboratives in Care Homes
What does the PEACH Quality Improvement Collaborative involve? Large collaborative events

- Training in CGA and QI methodology
- Coaching in developing and planning QI
- Providing a space for groups to plan for QI
- Learning from and sharing between groups
- Active involvement of care home workers
- Providing payment to GPs/care home staff
How the collaboratives operationalised CGA
What we learned about how collaboratives work in this space

• Power-brokers and boundary spanners….the importance of General Practitioners.
• “Innovation saturation”
• “Improvement inertia”
• The importance of projects aligning with existing goals.
• The importance of existing relationships with care homes.
• The importance of care homes as equal partners.
• Focussing on what existing staff can influence is important.
• Starting simple is best – and CGA may not be the most useful narrative here.
• Data and “measurement for change” are not taken as givens by clinical staff.
What’s next....
What does PEACH still need to do?

• Complete programme theory on improvement collaboratives in care homes.

• Dissemination video explaining how to do CGA in care homes.

• And then there’s ”the stepped wedge”......
EMRAN: SAP for PEACH study
www.nottingham.ac.uk/emran

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Statistical Analysis Plan for the Proactive Healthcare of Older People in Care Homes (PEACH) study

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Measuring health-related quality of life of care home residents: comparison of self-report with staff proxy responses

Adeela Usman1, Sarah Lewis2, Kathryn Hinsliff-Smith1, Annabelle Long1, Gemma Housley3, Jake Jordan4, Heather Gage4, Tom Dening5, John R F Gladman6,7,8, Adam L Gordon1,7,8,9

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Problems with the stepped wedge....

• Getting clinical services to follow randomization sequence was impossible.

• For non-routine data, recruitment is labour intensive and sample will ALWAYS be incomplete.

• For routine data, event counts in care homes are very small, making statistical significance difficult.
Take home messages
• Randomised controlled trials of CGA in this space are unlikely to work.

• Parts of CGA are already embedded in routine practice – there is no clear blue water between intervention and control.

• Cluster randomized trials in this setting are difficult.....and stepped wedges night on impossible.

• Outcome measures that could support a trial have not yet been established
• Accurate real-time data on care home admissions is now a reality.

• We can describe how to do CGA in care homes – there’s even a diagram!

• Quality improvement collaboratives can work in this space but they need to focus on things that are more straightforward than CGA.