Dementia in Acute Hospitals

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Our Hospitals on the edge.

Can our hospitals or even NHS survive without better and more effective dementia care?
We already know …..

- **Older people occupy two third of NHS beds!!**  
  - but 48% for reasons other than the need for acute medical intervention  
  - 30-50% have dementia, delirium or other cognitive impairment.

- **60% of older people admitted to general hospitals will have or acquire a mental disorder during that admission**
  - 500 beds hospital would have 5,000 elderly admissions/annum, of whom 3,000 will have or will develop a mental disorders.

- **National Audit Office; More people with dementia in acute hospital beds than in mental health beds,**
  - Only 41% had received an assessment of mental state of any sort.
  - 70% of older people referrals to liaison services are not under the care of mental health services.

- **Length of Stay in Acute Hospitals 2000-2010,**
  - hospital stay for 60-74 increased by 50%, over 75 by 66%.

- Failure to organize dementia liaison services leads to excess cost of £6m/year
Dementia and Outcome measures

- The majority of mental co-morbidity in acute hospital affecting older people is due to three disorders:
  - Dementia,
  - Depression
  - Delirium.

- But, only 2-3% of older people admissions to acute hospitals are referred for a psychiatric opinion;
  - elderly are less likely to be referred to liaison psychiatry than younger people in relation to the proportion of beds they occupy.  

- Mental disorder in older adults is a predictor of:
  - Increased LOS
  - Increased readmissions
  - Increased Institutionalism (impacting on performance and efficiency)
  - Increased mortality
  - Increased falls
  - Other poorer outcomes
Alzheimer’s society: Counting the cost (2009)

◆ Concerns from Nursing staff:
  ➢ managing patients with challenging or difficult behaviour,
  ➢ communication difficulties,
  ➢ not having enough time to spend with patients and provide care.

◆ Concerns from Families:
  ➢ nurses not recognising or understanding dementia,
  ➢ lack of personal care,
  ➢ patients not being helped to eat and drink,
  ➢ lack of opportunity for social interaction,
  ➢ the person with dementia not being treated with due dignity and respect.
Undiagnosed Dementia in Acute Hospitals

- Dr. A Michael, 2014
- Russell Hall Hospital, Dudley, West Midlands
- 1107 patients admitted to acute hospital
- No known history of dementia on admission.
- 42% screen positive for dementia
- Q Whether there is Delirium?
- Q Where is the link between community care and hospital care?

<table>
<thead>
<tr>
<th>Age Group</th>
<th>AMT&lt;8</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>75-&lt;80</td>
<td>49/192</td>
<td>26</td>
</tr>
<tr>
<td>80-&lt;85</td>
<td>106/288</td>
<td>37</td>
</tr>
<tr>
<td>85-&lt;90</td>
<td>178/369</td>
<td>48</td>
</tr>
<tr>
<td>90-&lt;95</td>
<td>102/207</td>
<td>49</td>
</tr>
<tr>
<td>95-&lt;100</td>
<td>32/48</td>
<td>67</td>
</tr>
<tr>
<td>100+</td>
<td>2/3</td>
<td>67</td>
</tr>
<tr>
<td>Total</td>
<td>469/1107</td>
<td>42%</td>
</tr>
</tbody>
</table>
Failure to recognize dementia in primary care

Lack of crises intervention planning

Lack of alternative safe options

Unplanned presentations at A&E, AMU and CDU

Unnecessary admissions, Increased LOS and readmissions

Lack of expertise, poor communication and risk avert behaviour

Dementia Care Whorl: A Call for a new pathway!!
Rapid Assessment Interface Discharge (RAID)
Top 7 reasons for referral (all age groups; 350 referrals/month)

- Deliberate self harm: 32%
- Depression: 18%
- Alcohol misuse: 13%
- Psychosis: 9%
- Dementia/Confusion: 18%
- Drug misuse: 4%
- Anxiety: 6%
A&E Response

Targets Met; 73%
Targets Not Met; 7%
Not Assessed; 3%
Not Recorded; 17%
Ward Response

- Target Met: 83%
- Target Not Met: 10%
- Not Assessed: 1%
- Not Recorded: 6%

Diagram:
- Blue: Target Met (83%)
- Red: Target Not Met (10%)
- Green: Not Assessed (1%)
- Purple: Not Recorded (6%)
Teaching and evaluation

- 4Ds (Dementia, Depression, Delirium and Dignity).
- 2 days training with a month gap for theory application.
- Day 1: theory and scales for measuring.
- Day 2: Management including BPSD

- Feedback and evaluation.
Savings and wider financial Benefits

Outcomes Considered in this Study

1. Inpatient LoS
2. Readmission rates
3. Admission avoidance

Potential Benefits of RAID

- Social care £
- Complaints
- Staff satisfaction
- Patient satisfaction
- Staff sickness
- A&E savings
- Demand for community MH services
- Discharge destination
- MH outcomes
- SUIs
- Quality
- Referring / Signposting to community MH services
- Security
- Acute staff confidence in dealing with MH conditions
- Acute staff training
RAID combined total savings: beds/day

- **On reduced LOS**
  - saved bed days/12 months = 13,935 bed days
  - \( \div 365 = 38 \text{ days/day} \) (35 beds/day for the elderly)

- **Saved bed days through avoiding admissions at MAU**
  - Saved bed days = 6 beds / day
  - Elderly = 6 beds

- **Increasing survival before another readmission**
  - Admissions saved over 12 months = 1800 admissions
  - Average LOS 4.5 days
  - = 8100 saved bed days
  - \( \div 365 = 22 \text{ beds/day} \)
  - 20 for the elderly

- **Total Saved beds every day**
  - = 38 + 22 + 6 = 66 bed/day (Maximum) {Elderly: 59 beds/day}
  - = 21 + 22 + 6 = 49 bed days (minimum) {Elderly: 42 beds/day}

✓ **2010: City Hospital has already closed 60 beds.**
30% of elderly patients who come to acute hospitals from their own homes are discharged to care homes (national figures).

<table>
<thead>
<tr>
<th>Percentage of patients returning to their own homes</th>
<th>Pre-RAID</th>
<th>Partial RAID</th>
<th>RAID</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>34%</td>
<td>44%</td>
<td>67%</td>
</tr>
<tr>
<td>(1350 of 2873)</td>
<td>(1247 of 2654)</td>
<td>(708 of 884)</td>
<td></td>
</tr>
</tbody>
</table>

LSE estimated savings to our wider economy of £60,000/week (Social care cost).
• Very thorough, detailed and vigorous review but conservative estimation

• Total savings:
  • £3.55 million to NHS
  • At least 44 beds/day
  • £60,000/week to social care cost

• Money value
  • Cost : return = £1 : £4

• RAID expanded in Birmingham to 5 acute hospitals across three acute Trust, 3600 beds

• Now RAID is being implemented in over 20 trusts across the country.
Independent RAID Financial Evaluation by Central Midlands CSU
Steven Wyatt, 2013

Rapid Assessment Interface And Discharge Liaison Economic Evaluation of the Birmingham and Solihull Roll-Out
Data Sources and Data Flows

BSMHFT

Collate data on RAID contacts*;
- NHS Number
- Date
- Setting

CM CSU

Match to SUS A&E and IP tables and collate identifiers (not PI) of relevant attendances and admissions

Locate these attendances and admissions in local SUS and national HES tables
## A&E Activity Outcomes – Concurrent Controls

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Cases</th>
<th>Controls</th>
<th>Difference (95% CI)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admission from A&amp;E</td>
<td>13.7%</td>
<td>22.4%</td>
<td>8.7% (6.8% - 10.6%)</td>
<td>Sig. at 99%</td>
</tr>
<tr>
<td>Average Duration in A&amp;E</td>
<td>4h 20m</td>
<td>2h 43m</td>
<td>97m (83m – 111m)</td>
<td>Sig. at 99%</td>
</tr>
<tr>
<td>Average Number of Re-attendances within 28 days*</td>
<td>1.14</td>
<td>0.64</td>
<td>0.50 (0.40 to 0.61)</td>
<td>Sig. at 99%</td>
</tr>
<tr>
<td>Average Number of Re-attendances within 90 days*</td>
<td>2.20</td>
<td>1.53</td>
<td>0.67 (0.57 to 0.78)</td>
<td>Sig. at 99%</td>
</tr>
</tbody>
</table>

* Applies to subset of cases seen between July 2012 and November 2012
## A&E Financial Outcomes – Concurrent Controls

<table>
<thead>
<tr>
<th></th>
<th>Commissioner Cost</th>
<th>Provider Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cases</td>
<td>Controls</td>
</tr>
<tr>
<td><strong>All</strong></td>
<td>2626</td>
<td>2626</td>
</tr>
<tr>
<td></td>
<td>14%</td>
<td>22%</td>
</tr>
<tr>
<td><strong>Admitted</strong></td>
<td>359</td>
<td>588</td>
</tr>
<tr>
<td></td>
<td>90%</td>
<td>91%</td>
</tr>
<tr>
<td><strong>Located &amp; Costed</strong></td>
<td>322</td>
<td>537</td>
</tr>
<tr>
<td></td>
<td>@£890</td>
<td>@£1,391</td>
</tr>
<tr>
<td><strong>Cost</strong></td>
<td>286,573</td>
<td>746,998</td>
</tr>
<tr>
<td></td>
<td>÷ 0.90</td>
<td>÷ 0.91</td>
</tr>
<tr>
<td><strong>Grossed-Up Cost</strong></td>
<td>319,502</td>
<td>817,942</td>
</tr>
<tr>
<td><strong>Difference</strong></td>
<td>-498,440</td>
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</table>
## Inpatient Activity Outcomes – Concurrent Controls

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Cases</th>
<th>Controls</th>
<th>Difference (95% CI)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Length of Stay Days</td>
<td>5.7</td>
<td>6.3</td>
<td>0.6 (0.5 to 0.7)</td>
<td>Sig. at 99%</td>
</tr>
<tr>
<td>Average Number of Readmissions within 28 days*</td>
<td>0.28</td>
<td>0.31</td>
<td>-0.03 (-0.01 to -0.05)</td>
<td>Sig. at 99%</td>
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<tr>
<td>Average Number of Readmissions within 90 days*</td>
<td>0.80</td>
<td>0.72</td>
<td>0.08 (0.04 to 0.13)</td>
<td>Sig. at 99%</td>
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</tbody>
</table>

* Applies to subset of cases seen between July 2012 and November 2012.
## Inpatient Financial Outcomes – Concurrent Controls

<table>
<thead>
<tr>
<th></th>
<th>Commissioner Cost</th>
<th>Provider Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cases</td>
<td>Controls</td>
</tr>
<tr>
<td><strong>All</strong>*</td>
<td>33,750</td>
<td>33,750</td>
</tr>
<tr>
<td></td>
<td>93.1%</td>
<td>93.1%</td>
</tr>
<tr>
<td><strong>Matched</strong></td>
<td>31,414</td>
<td>31,414</td>
</tr>
<tr>
<td></td>
<td>99.0%</td>
<td>99.0%</td>
</tr>
<tr>
<td><strong>Located &amp; Costed</strong></td>
<td>31,093</td>
<td>31,093</td>
</tr>
<tr>
<td></td>
<td>@£1,629</td>
<td>@£1,678</td>
</tr>
<tr>
<td><strong>Cost</strong></td>
<td>50,656,320</td>
<td>52,162,644</td>
</tr>
<tr>
<td><strong>Difference</strong></td>
<td>1,506,323</td>
<td></td>
</tr>
<tr>
<td></td>
<td>÷ 0.990 ÷ 0.931</td>
<td></td>
</tr>
<tr>
<td><strong>Grossed-Up Difference</strong></td>
<td>1,635,107</td>
<td></td>
</tr>
</tbody>
</table>

*To avoid double counting, this number excludes cases seen by RAID in AE and then admitted.*
Financial Outcomes Summary – Concurrent Controls

<table>
<thead>
<tr>
<th></th>
<th>Full Tariff / Average Cost (£’000s)</th>
<th></th>
<th>Savings Share</th>
<th>Marginal (£’000s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A&amp;E</td>
<td>Inpatient</td>
<td>Grossed-Up Total*</td>
<td></td>
</tr>
<tr>
<td>Commissioner</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saving</td>
<td>498</td>
<td>1,635</td>
<td>2,133</td>
<td>36%</td>
</tr>
<tr>
<td>Spend</td>
<td>-573</td>
<td>-5,319</td>
<td>-5,892</td>
<td></td>
</tr>
<tr>
<td>Provider</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td>-498</td>
<td>-1,635</td>
<td>-2,133</td>
<td></td>
</tr>
<tr>
<td>Saving</td>
<td>74</td>
<td>3,684</td>
<td>3,758</td>
<td>64%</td>
</tr>
<tr>
<td>Total Saving</td>
<td></td>
<td></td>
<td>5,892</td>
<td>1,768</td>
</tr>
<tr>
<td>Full Costs</td>
<td></td>
<td></td>
<td>3,295</td>
<td></td>
</tr>
<tr>
<td>Incremental Cost</td>
<td></td>
<td></td>
<td>1,976</td>
<td></td>
</tr>
<tr>
<td>Saving / Incremental Cost</td>
<td></td>
<td></td>
<td>2.98</td>
<td>0.89</td>
</tr>
</tbody>
</table>
## Activity Outcomes by Site

<table>
<thead>
<tr>
<th>Site</th>
<th>Admission via A&amp;E</th>
<th>Length of Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>cases</td>
<td>controls</td>
</tr>
<tr>
<td>Heartlands</td>
<td>14.3%</td>
<td>28.7%</td>
</tr>
<tr>
<td>Good Hope</td>
<td>19.4%</td>
<td>29.2%</td>
</tr>
<tr>
<td>Solihull</td>
<td>20.2%</td>
<td>11.2%</td>
</tr>
<tr>
<td>City</td>
<td>11.4%</td>
<td>17.3%</td>
</tr>
<tr>
<td>UHB</td>
<td>10.9%</td>
<td>19.1%</td>
</tr>
<tr>
<td>All</td>
<td>13.7%</td>
<td>22.4%</td>
</tr>
</tbody>
</table>
### Financial Outcomes by Site (£’000s)

<table>
<thead>
<tr>
<th></th>
<th>All</th>
<th>HoEFT</th>
<th>City</th>
<th>UHB</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Full Cost</strong></td>
<td>3,295</td>
<td>1,748</td>
<td>748</td>
<td>798</td>
</tr>
<tr>
<td><strong>Incremental Cost</strong></td>
<td>1,976</td>
<td>997</td>
<td>465</td>
<td>513</td>
</tr>
<tr>
<td><strong>Commissioner Savings AE</strong></td>
<td>-498</td>
<td>-322</td>
<td>-109</td>
<td>-69</td>
</tr>
<tr>
<td><strong>Provider Savings AE</strong></td>
<td>-74</td>
<td>-31</td>
<td>26</td>
<td>-80</td>
</tr>
<tr>
<td><strong>Commissioner Savings IP</strong></td>
<td>-1,635</td>
<td>-1,494</td>
<td>-293</td>
<td>162</td>
</tr>
<tr>
<td><strong>Provider Savings IP</strong></td>
<td>-3,684</td>
<td>-3,161</td>
<td>-1,028</td>
<td>535</td>
</tr>
<tr>
<td><strong>Total Savings</strong></td>
<td>-5,892</td>
<td>-5,008</td>
<td>-1,404</td>
<td>549</td>
</tr>
<tr>
<td><strong>Net Savings (@ full cost)</strong></td>
<td>-2,597</td>
<td>-3,261</td>
<td>-656</td>
<td>1,347</td>
</tr>
<tr>
<td><strong>Net Savings (@ incremental cost)</strong></td>
<td>-3,916</td>
<td>-4,011</td>
<td>-939</td>
<td>1,062</td>
</tr>
<tr>
<td><strong>Savings / Full Cost</strong></td>
<td>1.79</td>
<td>2.87</td>
<td>1.88</td>
<td>-0.69</td>
</tr>
<tr>
<td><strong>Savings / Incremental Cost</strong></td>
<td>2.98</td>
<td>5.02</td>
<td>3.02</td>
<td>-1.07</td>
</tr>
</tbody>
</table>
RAID+ Vs RAID
A New RAID Model at MAU

1. What if we move RAID to the hospital front doors to focus on dementia, depression and delirium in the elderly?

2. Does early screening improve patients’ outcomes?

3. Is RAID early intervention (RAID+) more cost effective than RAID?
   - MAU Discharge effect
     - Comparing current RAID with RAID+ MAU screening
   - LOS, RA rates, Discharge destination
Number of patients with a Mental Health Diagnosis – Dementia Delirium and Depression (Retrospective case notes and Screened patients)

- **Retrospective Data**:
  - Total Number of Patients: 1000
  - RAID Screen diagnosis: 0
  - Case notes Diagnosis: 104
  - Percentage: 10.4%

- **Prospective Data**:
  - Total Number of Patients: 750
  - RAID Screen diagnosis: 450
  - Case notes Diagnosis: 75
  - Percentage: 58.8% and 14.6%
Length of Stay

Bar chart showing the length of stay difference for different categories:
- RAID This year
- RAID Sc.
- Ref. Seen
- Sc. Seen Later

The chart indicates a significant difference with RAID Sc. and Ref. Seen showing positive values, while RAID This year and Sc. Seen Later show negative values.
RAID Rapid Access Clinic: Reasons for referrals

- Anxiety/Panic Attacks: 11
- Low Mood/Depression: 22
- Memory Problems/Dementia: 39
- Visual Hallucinations: 4
- Other: 5
- Unknown: 1
RAID Rapid Access Clinic: Admission Avoidance

Figure 4. Average number of admissions

- 6 months previous to RAPC appointment: 0.89
- Up to 6 months after RAPC appointment: 0.59
RAID Rapid Access Clinic: Reduction in LOS

Figure 6. Average length of stay (days)

- 6 months previous to RAPC appointment: 11.4 days
- Up to 6 months after RAPC appointment: 6.21 days
Rapid Access Clinic Savings

- Qualitative analysis of staff satisfaction
- Economic analyses
  - Number of bed days went down by 46%
    - Savings for 6 months = £87,900 (after excluding all cost)
  - Re-admission went down by 34%
    - Savings for 6 months = £75,000
  - Reduction in A&E
  - Total saving is more than £162,900/6 months (£325k/year).
How do we do the Dementia CQUIN?

Dementia Diagnostic Assessment
screening all emergency admissions aged 75 and over

Is the patient known to have dementia?  
- Yes
- No
- Don't know

Follow dementia pathway

Is there a clinical diagnosis of delirium?  
- Yes
- No

Care as usual

Has the person been more forgetful in the last 12 months to the extent that it has significantly affected their daily life?  
- Yes
- No

Save assessment
Dementia CQUIN: Our Performance

% Completion - Last 7 Days

- Mon 08/09/14: 89%
- Tue 09/09/14: 90%
- Wed 10/09/14: 89%
- Thu 11/09/14: 90%
- Fri 12/09/14: 91%
- Sat 13/09/14: 91%

- Total Completed
- Completed within 72 Hours
Third sector partnership

- Alzheimer’s Society
- Free support to a weekly memory clinic.
- Free access information and carers support weekly.
- Alz café
- Carers and patients voice.
- Volunteers' service
- A good numbers of volunteers
- Properly governed
- Very useful
  - Charities
- Research
- Training
- Support
Dementia Care in Acute Hospitals: An E-learning training package

E-learning Development

- Funding provided by the Academic Health Science Network (AHSN).
- E-learning module aimed at acute hospital staff who are caring for people with dementia.
- The module content was provided by experts in the field and produced by the company GuyKat, a Birmingham based e-learning developer.
- On going pilot
- The finished module will be accredited by the University of Chester.

Brought to you by

Birmingham and Solihull Mental Health NHS Foundation Trust

RAID