The Maryland Assisted Living Study: Progress and Plans

Adam Rosenblatt, M.D.
Goals of AL

- Provide a stable residence to older individuals
  - assistance is provided for activities of daily living
- Maximize the quality of life of these individuals
  - activity, community, independence
- Support their ability to “age in place,”
  - ability of a resident to continue to live in the same AL
  - not discharged to a nursing home or chronic hospital
Why Does Dementia Matter?

- Dementia in the elderly is
  - Common
  - Progressive
  - Frequently undiagnosed

- Could interfere with the goals of AL

- Could be the “elephant in the room”
  - Prior studies used surveys or single test
  - Would tend to underestimate
Facility Characteristics

- 22 AL facilities from Central Maryland stratified by size
  - 10 Large (>15 beds)
  - 12 Small (15 or less beds)
- 10 urban, 10 suburban, 2 rural
- Mean of 10.9 years since open, range 1.9 - 36.9, (8.1)
- 6 locked or dementia-specific unit
- 16 were For-Profit
- Day staff per resident ranged 1:20 (.05) to 2:3 (.67)
The Evaluation

- Team of experienced professionals
  - Geriatric/neuropsychiatrist
  - Nurse
  - Psychometrician/research assistant

- Comprehensive history obtained from:
  - Resident
  - Family
  - Staff

- Chart review
  - Diagnoses
  - Medications and treatments
  - Laboratory Studies

- Examination
  - Mental Status Exam
  - Neurologic Exam
  - Vital signs

- Series of mostly validated instruments
  - Including a full neuropsychological battery

- Telephone follow-up every 6 months
The Consensus Panel

- Adjudication conference held at periodic intervals
- Participation from all the main investigators
  - including psychiatry, neuropsychology, geriatric medicine, and nursing
- All participants’ cases reviewed in detail
  - narrative history
  - scales
  - neuropsychological battery
  - medication list
  - laboratory data
- Panel was blind to the opinion of the assessing psychiatrist
- Panel formed a consensus opinion as to
  - diagnosis
    - using DSM-IV criteria
    - Alzheimer’s disease, Vascular Dementia, Lewy body dementia, and fronto-temporal dementia
  - whether dementia was fully evaluated
  - whether dementia or psychiatric disorder was fully treated
    - did not necessarily imply pharmacologic or “medical” treatment
    - did not have to be successful
    - standard was the panel’s consensus expectation of community-based primary care treatment
Characteristics of AL Residents

- 198 participants from 22 facilities
- Mean age 85.6, 75% over age 80
- 78% female, 22% male
- 83% Caucasian, 16% African American, 2% Other Ethnicity
- 70% Widowed, 13% Never Married, 9% Divorced, 7% Married (3% Cohabitating)
- Mean # of children 1.5

Mean length of residence 25.1 months
Median monthly facility cost $2900
Primary reason for move to AL:
- 62% decline in independent function
- 24% medical conditions
- 7% behavioral problem
- 4% loss of caregiver

(Rosenblatt et al., 2004)
Prevalence of Dementia & Psychiatric Disorders

- 67.7% (134/198) had dementia
  - Excluding other cognitive disorders

- 26.3% (52/198) had active psychiatric dx
  - Excluding v-codes, TD, or any cognitive diagnoses except delirium

- 70% with dementia had clinically significant neuropsychiatric sx’s

(Rosenblatt et al., 2004)
Subtypes of Dementia

(Rosenblatt et al., 2004)
Subtypes of Psychiatric Diagnosis

(Rosenblatt et al., 2004)
## Recognition, Work-Up, & Treatment of Dementia

<table>
<thead>
<tr>
<th>% dementia recognized</th>
<th>Overall n=134</th>
</tr>
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<tbody>
<tr>
<td>by family</td>
<td>80</td>
</tr>
<tr>
<td>by caregiver</td>
<td>78</td>
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</table>

<table>
<thead>
<tr>
<th>% dementia worked-up</th>
<th>Overall n=134</th>
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</thead>
<tbody>
<tr>
<td>complete</td>
<td>73</td>
</tr>
<tr>
<td>partial</td>
<td>13</td>
</tr>
<tr>
<td>none</td>
<td>14</td>
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</table>

<table>
<thead>
<tr>
<th>% dementia treated</th>
<th>Overall n=134</th>
</tr>
</thead>
<tbody>
<tr>
<td>complete</td>
<td>52</td>
</tr>
<tr>
<td>partial</td>
<td>33</td>
</tr>
<tr>
<td>none</td>
<td>15</td>
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</table>

(Rosenblatt et al., 2004)
# Recognition and Treatment of Psychiatric Disorders

<table>
<thead>
<tr>
<th>Overall</th>
<th>n=52</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>% psych disorders recognized</strong></td>
<td>by family</td>
</tr>
<tr>
<td></td>
<td>by caregiver</td>
</tr>
<tr>
<td><strong>% psych disorders treated</strong></td>
<td>Complete</td>
</tr>
<tr>
<td></td>
<td>Partial</td>
</tr>
<tr>
<td></td>
<td>None</td>
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(Rosenblatt et al., 2004, amended)
Effect of Diagnoses on Caregiver Time

![Bar chart showing the effect of different diagnostic categories on caregiver time per day. The categories are: Neither, Dementia only, Psych DO only, and Dem + Psych DO. The chart indicates that caregivers spend more time with individuals diagnosed with both dementia and a psychiatric disorder compared to those with only one diagnosis.]
Effect of MMSE on Caregiver Time

P < .001
Mortality by Dementia Severity

Kaplan-Meier survival estimates, by dementia_severity

(Lee et al., poster, 2004)
Effect of Neuropsychiatric Symptoms on Quality of Life

P < .001
Phase II (ongoing)

- A 5-year longitudinal study
  - Return to same facilities
  - Follow original Cohort
  - Second 200-member recently admitted cohort

- Describe longitudinal course, detection, treatment

- Longitudinal effects on quality of life

- Effects on time to death or discharge
Dementia is Progressive

- 44 had consensus in phases 1 and 2
- 14 no dementia at either intervals
  - average MMSE 24.93, 24.77
- 27 demented at both intervals
  - average MMSE 15.00, 11.04
- 3 converted to a diagnosis of dementia
  - average MMSE 17.67, 15.67
# Treatment Matters

<table>
<thead>
<tr>
<th>Subgroup</th>
<th># in Phase 2</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Non-demented</td>
<td>20/66</td>
<td>30%</td>
</tr>
<tr>
<td>Demented</td>
<td>26/136</td>
<td>19%</td>
</tr>
<tr>
<td>No active psych</td>
<td>37/146</td>
<td>25%</td>
</tr>
<tr>
<td>Active psych</td>
<td>9/56</td>
<td>16%</td>
</tr>
<tr>
<td>Neither</td>
<td>15/40</td>
<td>38%</td>
</tr>
<tr>
<td>Both</td>
<td>4/30</td>
<td>13%</td>
</tr>
<tr>
<td>DemTreat C</td>
<td>18/78</td>
<td>24%</td>
</tr>
<tr>
<td>DemTreat P</td>
<td>11/45</td>
<td>24%</td>
</tr>
<tr>
<td>DemTreat N</td>
<td>2/25</td>
<td>8%</td>
</tr>
<tr>
<td>DemWork C</td>
<td>25/105</td>
<td>24%</td>
</tr>
<tr>
<td>DemWork P</td>
<td>3/17</td>
<td>18%</td>
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<td>17%</td>
</tr>
<tr>
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Some Proposed Interventions

- Behavior management
- Exercise/restorative nursing
- Dementia medication optimization
- Incontinence training
- Wandering management

- To be carried out at multiple sites by a group of collaborators