Telephone Follow-up for Older Adults Discharged to Home from the Emergency Department: A Randomized Controlled Trial

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Presented by:
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Background

• Adverse events after ED discharge for older adults$^{1-6}$
  » Rapid return to ED
  » Hospitalization
  » Declined ability to perform ADLs
  » Death
Background

- ED use by older adults outpaces population growth\textsuperscript{7,8}
  - From 2001-2009, ED use by adults $\geq$65 years increased by 25% (15.9 million to 19.8 million), while the population size increased by about 20% (41 million to 50 million)
- Decreasing number of EDs\textsuperscript{9}
  - (1990-2009) non-rural hospital EDs declined by 27%
  - (1998-2008) total hospital EDs declined by 3.3%
Commercial call back centers exist, but do they do any good?\textsuperscript{11} 

33 studies involving 5110 patients show statistical heterogeneity and large variation in methodology and outcomes.
Objectives

• To determine if a scripted telephone intervention by RNs decreases 30-day rates of return to the ED/hospital or death.
• Primary outcome: days from ED discharge to return to the ED, hospitalization, or death
• Secondary outcomes: difficulties acquiring ED-prescribed medications; 30-day follow-up appointment attendance
Methods

• Randomized, controlled trial
• UNC School of Medicine IRB approval
• Clinicaltrials.gov identifier: NCT01893931z
• Power calculation was based on primary outcome and assumed a 20% rate of return for the control group
  » Recruit 1,998 patients to detect 5% absolute decrease in composite 30 day outcome in the intervention group (assuming 10% attrition rate)
  » 80% power based on the log-rank test
Methods – Telephone Script

- Telephone call performed by a registered nurse trained in telecare, from a UNC Hospitals call center
- Patient performed 6-item cognitive screener; if patient failed, a caregiver was asked to perform the same screener and complete the remainder of the call.\(^{12}\)
- **Intervention** – RN identified potential problems for successful care transition and offered related advice:
  1. Medication reconciliation and procurement
  2. Review of instructions and procurement of supplies for non-medicinal treatments
  3. Review and re-emphasis of post-discharge instructions
  4. Reinforcement of follow-up appointments and assistance in making appointments
  5. Current state of health
- **Control** – RN completed satisfaction survey
Methods

ED Discharge

Control

Call 1
- Satisfaction survey

Intervention

Call 1
- Interventional interview

Call 2: Assess Outcomes
- Healthcare utilization
- Impediments to medication acquisition

1-3 days post-discharge

30 days post-discharge
Results

- **5,359 Excluded**

<table>
<thead>
<tr>
<th>Reason for Exclusion</th>
<th>N</th>
<th>%</th>
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<tbody>
<tr>
<td>Previously enrolled or declined</td>
<td>2,262</td>
<td>42.21</td>
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<tr>
<td>Discharge to nursing home or hospice</td>
<td>1,378</td>
<td>25.71</td>
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<tr>
<td>Language barrier</td>
<td>477</td>
<td>8.90</td>
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<tr>
<td>Admitted within 24 hours</td>
<td>196</td>
<td>3.66</td>
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<tr>
<td>Seen for psychological issue</td>
<td>194</td>
<td>3.62</td>
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<tr>
<td>Left against medical advice</td>
<td>162</td>
<td>3.02</td>
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<td>Other reasons</td>
<td>690</td>
<td>12.88</td>
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</table>

- **2,749 Not reached by telephone after 3 attempts**
- **1,683 Declined**
- **31 Patient/caregiver failed memory test**

11,822 patients discharged from ED, ≥65 years old (August 2013-March 2016)

- 2,000 patients randomized
- 999 intervention
- 1,001 control
- 19 declined at follow-up
- 20 declined at follow-up
- 6 lost to follow-up
- 6 lost to follow-up
- 974 included in analysis
- 975 included in analysis
Results

Figure 1. Estimated probability of no ED visit, no hospital admission, or no death within 30 days of ED discharge (p=0.86).

30 day composite rate of return or death
Intervention: 15.5% (95% CI 13.2-17.8%)
Control: 15.2% (95% CI 12.9-17.5%)
Results

Figure 2. Estimated probability of not seeing a physician within 30 days of ED discharge.
Results

- 41.4% (intervention) and 40.6% (control) prescribed medication by ED provider.
- 15.5% (intervention) and 15.6% (control) had difficulty obtaining prescription.
# Results

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Sample Size</th>
<th>Outcome</th>
<th>Self-reported</th>
<th>EHR</th>
<th>Kappa</th>
<th>Agreement Rate (%)</th>
<th>Sensitivity (%)</th>
<th>Specificity (%)</th>
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<tbody>
<tr>
<td>Full Sample</td>
<td>336</td>
<td>ED visit</td>
<td>44 (13.1)</td>
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Limitations

- Single academic medical center
- Self-reporting, though we found high concordance between self-reporting and EMR
- 53% enrollment
Conclusions

- There was no effect of this phone call follow-up intervention on return to ED, hospital admission, or death within 30 days.
- Additionally, there was no effect of this phone call on overcoming barriers in acquiring medications or on seeing a physician within 30 days post-discharge.
- Further studies are needed to determine if specific patient groups and specific types of phone follow-up interventions can improve outcomes for older adults after an ED visit.
11. Mistiaen P, Poot E. Telephone follow-up, initiated by a hospital-based health professional, for postdischarge problems in patients discharged from hospital to home. Cochrane Database of Systematic Reviews. 2006; Issue 4.
Questions?