Discharge planning and home follow up by advanced practice nurses reduced hospital readmissions of elderly patients


Question
In elderly people admitted to hospital, does a discharge planning and home follow up protocol implemented by advanced practice nurses (APNs) improve patient outcomes and reduce healthcare costs?

Design
Randomised (concealed), single blind (outcome assessor) controlled trial with follow up at 24 weeks.

Setting
2 university affiliated hospitals in Philadelphia, Pennsylvania, USA.

Patients
363 patients ≥65 years of age (mean age 75 y, 50% men, 55% white) who were admitted from home with 1 of congestive heart failure, angina, myocardial infarction, respiratory tract infection, coronary artery bypass graft, cardiac valve replacement, major small and large bowel procedure, or lower extremity orthopaedic procedure. All patients had ≥1 risk factor for poor discharge outcomes (≥80 years of age; inadequate support system; multiple chronic health problems; history of depression; moderate to severe functional impairment or depression) is unknown. Therefore the effectiveness of similar interventions delivered to other high risk groups (eg, older adults with cognitive impairment or depression) is unknown. Also, generalisability may be limited because the sample consisted of primarily white, urban dwelling elderly people. The intervention did not affect functional status in the home, a finding that is concerning, but not surprising, and is consistent with the evolving geriatric literature on functional status in high risk elders after discharge from a specialised unit for acute elder care.1 Despite lack of improvement, but not surprising, and is consistent with the evolving geriatric literature on functional status in high risk elders after discharge from a specialised unit for acute elder care.

Conclusion
Among elderly inpatients at risk for hospital readmission, discharge planning and home follow up by an advanced practice gerontological nurse reduced hospital readmissions, increased length of time from discharge to readmission, and reduced healthcare costs compared with usual care.

Main outcome measures
Outcomes included readmissions (cumulative hospital days, mean length of stay), time to first readmission, estimated cost of health services after discharge (based on standardised Medicare reimbursements), patient functional status, depression, and satisfaction.

Main results
Readmission results were based on all allocated patients. At 24 weeks, patients in the APN group were less likely to be readmitted at least once (table) and they had a longer time to first readmission (p < 0.001); readmitted patients in the APN group had shorter stays (mean length of stay 7.5 ± 11.0 d, p < 0.001). They had fewer days in hospital (mean 1.53 ± 4.09 d, p < 0.001) and lower costs (US$3630 ± US$6661/patient, p < 0.001). The groups did not differ for functional status, depression, or patient satisfaction.

Advance practice nurse (APN) discharge and follow up protocol v usual care at 24 weeks*

<table>
<thead>
<tr>
<th>Outcome</th>
<th>APN protocol</th>
<th>Control</th>
<th>RRR (95% CI)</th>
<th>NNT (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥1 readmission</td>
<td>20.3%</td>
<td>37.1%</td>
<td>45.2%</td>
<td>6 (4 to 14)</td>
</tr>
</tbody>
</table>

*Abbreviations defined in glossary; RRR, NNT, and CI calculated from data in article.

Commentary
This study by Naylor et al adds to the growing body of research showing the positive effects of care delivered by APNs. The results show the human and financial value of individualised discharge planning based on a biopsychosocial model of care as well as attending to the transition between hospital and home, continuity of care, and interdisciplinary collaboration. The elderly patients in the study had one of several diagnoses, demonstrating that this intervention need not be disease specific.

Because the study was done in the US, the results cannot be generalised to other countries that may have different sociodemographic characteristics and reimbursement policies. The entire sample had high mental status examination scores and low depression scores, and therefore the effectiveness of similar interventions delivered to other high risk groups (eg, older adults with cognitive impairment or depression) is unknown. Also, generalisability may be limited because the sample consisted of primarily white, urban dwelling elderly people. The intervention did not affect functional status in the home, a finding that is concerning, but not surprising, and is consistent with the evolving geriatric literature on functional status in high risk elders after discharge from a specialised unit for acute elder care.

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