Promising Results from the Medicare Chronic Care Practice Research Network Analysis

March 30, 2009

Presentation to the Medicare Chronic Care Practice Research Network, Washington, DC

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Care coordination is not a panacea, but *some* care coordination programs reduce hospitalizations and costs for *certain* subgroups.
Presentation Road Map

- Background and questions addressed
- Study description
- Findings
- Possible policy implications and challenges
Randomized controlled trial with 15 programs

Third report to Congress found limited effects:
- Two viable programs reduced hospitalizations
- No cost savings
- Limited improvements in quality of care
Objective: Estimate Program Impacts

- On hospitalizations and costs for subgroups defined by:
  - Dx (Alzheimers, CAD, Diabetes, CHF, CHF+Diabetes)
  - Prior hospitalizations (1+ in prior year, 1+ in prior 2 years, 2+ in prior 2 years)
  - Combinations of Dx + hospitalizations
  - # of chronic conditions
  - Prior costs

- On mortality through 2007

- On rehospitalizations within 30/60/90 days

- By length of time enrolled
About the Study

- Sample: Enrollees entering 2002 through 2006
- Follow-up: Through 2007 (potential range of nearly 6 years, mean = 3.1 years)
- Extends third report to Congress sample and follow-up by 1.5 years
Among the 15 sites:

- Only Mercy reduced hospitalizations (0.106 per year, p = 0.07)
- None definitively reduced A+B expenditures
- HQP may be cost neutral
- None generated net savings
But 4 Sites Had Differences in Hospitalizations Suggesting Possible Masked Effects for Subgroups

**This difference is for beneficiaries in HQP’s high-risk group. The differences for all enrollees is -0.037 (p=0.215).**
Results Are Driven by High-Risk Patients

- No pattern of effects by diagnosis or prior use alone

- Most promising subgroup combines diagnosis and severity:
  - CHF, CAD, or COPD and 1 or more prior-year hospitalizations
  - OR
  - 2+ hospitalizations in the prior 2 years, any condition
  - This is a subgroup defined on top of each site’s existing implicit and explicit targeting criteria

- Targeting this subgroup does not guarantee success—other programs had no effects for it
The Subgroup Had Statistically Significant Reductions in Hospitalizations (p<0.054 for each)

![T-C Differences in Annualized Hospitalizations](image)

- **Hospice**: -0.177
- **HQP**: -0.218
- **Mercy**: -0.135
- **Wash.**: -0.144

* = p<.1
** = p<.05
Only HQP Reduced Regular Medicare Expenditures for the Subgroup (p = 0.006)

T-C Differences in Monthly A and B Expenditures, Without Program Fees

- Hospice: -$40 (p = 0.75)
- Mercy: -$110 (p = 0.19)
- Wash.: -$110 (p = 0.31)
- HQP**: -$349 (p = 0.006)

* = p<.1
** = p<.05
Only HQP Generated Net Savings for the Subgroup (p = 0.06)

T-C Differences in Monthly A and B Expenditures, With Program Fees

- Hospice: $140 (p = 0.27)
- HQP*: -$235 (p = 0.06)
- Mercy: $131 (p = 0.12)
- Wash.: $53 (p = 0.63)

* = p < .1
** = p < .05
The four sites combined reduced costs by $121 (p=0.07)

With program fees, total costs increased by $94 pmpm (p=0.08)

Results not sensitive to outliers

The sites need to reduce fees to be cost neutral or generate savings.
Subgroup Contains a Majority of Enrollees, Except in HQP

- 66-76% for Hospice, Mercy, Washington U.
- 57% overall among the 15 programs
- Only 15% of HQP enrollees
Subgroup Accounts for Large Share of Medicare Costs

- 18.4% of all Medicare FFS beneficiaries
- 38% of all Medicare FFS expenditures during the year *after* identification
  - Average of 0.92 hospitalizations per year vs. 0.36 for all FFS beneficiaries
- 33% of Medicare FFS expenditures during 3 years *after* identification
  - Average of 0.86 hospitalizations per year vs. 0.37 for all FFS beneficiaries
Beneficiaries in the Subgroup Are Sicker than Average

- Dementia: 19% Subgroup, 8% All FFS
- Depression: 23% Subgroup, 11% All FFS
- Cancer: 29% Subgroup, 10% All FFS
- COPD: 35% Subgroup, 10% All FFS
- Diabetes: 45% Subgroup, 21% All FFS
- CHF: 45% Subgroup, 15% All FFS
- CAD: 72% Subgroup, 32% All FFS
Overall, reduced by 3 percentage points (p=0.04)

Effect concentrated among high-severity group:
- Comprises 29% of all HQP enrollees
- 20% of the control group vs. 15% of the treatment group died (p=0.03)

Have not yet analyzed mortality among our smaller high-risk subgroup
Minor Isolated Effects on 30/60/90 Day Rehospitalizations

- 4 programs had effects, 2 favorable and 2 unfavorable (at p<.1 level)

- Favorable effects for Hospice and HQP relatively small: 2-3 percentage points

- Transitional care programs had much larger effects:
  - Coleman: 5.8 percentage points on 90-day rate
  - Naylor: 16.8 percentage points at 24 weeks

- Adding transitional care could increase impacts
Effects Over Time

- No clear pattern by length of beneficiary enrollment:
  - Mercy strongest in year 1
  - Hospice strongest in year 2
  - Wash U. strongest in year 4 (but may be due to major program change in Jan. 2006)

- Mercy and Wash U. improved over time:
  - Those joining after program year 1 had stronger effects on hospitalizations: Mercy (-.218 vs. -.044); Wash U. (-.174 vs. -.027)
  - Estimates are conservative for future savings—attenuated by ineffective early experience
Potential Policy Implications

- Care coordination programs can work, if targeted appropriately
- Worked in 4 very different environments (rural IDS, AMC, home health agency, QI provider)
- But targeting alone doesn’t ensure success
- Successful programs had several common features, but hard to distinguish from others
- Crude calculations suggest there could be net savings for Medicare
### Subgroup Effects on PMPM Medicare Costs, 2002-2007

<table>
<thead>
<tr>
<th></th>
<th>Hospice</th>
<th>HQP</th>
<th>Mercy</th>
<th>Wash.</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Impacts on hospitalizations</strong> (per person per year)</td>
<td>-.177</td>
<td>-.218</td>
<td>-.135</td>
<td>-.144</td>
<td>-.169</td>
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<td><strong>Implied effects on A + B costs</strong></td>
<td>-$162</td>
<td>-$200</td>
<td>-$124</td>
<td>-$132</td>
<td>-$154(^a)</td>
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<tr>
<td><strong>Direct effects on A + B costs</strong></td>
<td>-$40</td>
<td>-$349</td>
<td>-$110</td>
<td>-$110</td>
<td>-$152</td>
</tr>
</tbody>
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\(^a\)$198 in 2010 dollars

**Assumes:**
- No improvement from learning (same effect as first 5 years)
- No increase from adding transitional care
Figure 1: Targeting Criteria for Maximizing Net Savings to Medicare—Illustrative

A savings of $100 pmpm is consistent with a .11 reduction in number of hospitalizations per person year (assumes cost of $11,000 per hospitalization, including Part A and Part B costs associated with the stay, plus post-discharge SNF and home health care, with no other cost effects).
Challenges

- Developing an operational protocol for "optimal" intervention
- Adding a transitional care component
- Replicating success in other settings
- Doing intervention efficiently
- Enrolling enough beneficiaries in each site to cover fixed costs