Can Care Coordination (CC) Help Control Medicare Costs?

Briefing to the Congressional Budget Office

June 22, 2007

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Roadmap

I. Background
II. The Interventions
III. Whom Did the Programs Serve
IV. Impacts over the First 25 Months of Operations
V. Why Doesn’t CC Work Better
VI. Conclusions
I. Background

Theory Behind CC for Medicare FFS

- **Problem:** Rapidly increasing Medicare costs

- **Chronically ill account for 75% of expenditures:**
  - Half of beneficiaries have 1+ (of 8) conditions
  - 12% have 3+ and account for 1/3 of all costs

- **High rates of inpatient admissions (1+ per year):**
  - Many seem preventable
  - Studies show CHF admissions preceded by non-adherence, failure to recognize warning signs

- **Patients see 12+ providers per year**
Causes of “Preventable” Costs

- Difficulty adhering to drugs/diets/self-care advice
- Care not always evidence-based
- Some patients lack transportation, social services
- Patients and providers communicate poorly:
  - Patients don’t call soon enough or divulge fully
  - Providers don’t ensure patient understands
  - Providers don’t talk to each other (no incentives)
  - Typical advice if no appointments: “Go to the ER”
# The Promise of Coordinated Care

| A knowledgeable, accessible nurse coordinator | → Increase adherence and access to services |
| Evidence-based guidelines | → Improve quality of care |
| Coordination of information | → Fill information gaps |
| In-home monitoring | → Avoid conflicting advice and errors |
| Good post-hospital care | → Early detection/prevention |
| | → Reduce complications and readmissions |
Why Medicare Investigated CC

- Claims of huge effects in other markets
- Intuitive appeal
- HMOs and employers are buying it:
  - 1997: $78 million
  - 2000: $1.2 billion (2008: est. $1.8 billion)
- Large, identifiable target populations
- Potential to improve lives and reduce costs
Goals of the Demonstration

- CMS hopes to learn:
  - Do the programs improve quality?
  - Do the programs reduce gross cost?
  - Are the programs cost-neutral?
  - What program types/features work best?
  - What types of patients do they work for?
Evaluation Design

- **Process analysis**
  - Detailed description of interventions, enrollments
  - Site visits, phone calls, program MIS data

- **Impact analysis (randomized, intent-to-treat design)**
  - Effects on patients’ well-being, adherence
  - Physicians’ rating of program
  - Effects on quality of care (process of care, preventable hospitalizations)
  - Effects on Medicare service use and cost

- **Synthesis**—what works and for whom?
The Demonstration Programs

- 15 were selected in January 2002
- Varied types of sponsors:
  - 5 commercial DM programs
  - 3 hospitals
  - 3 academic medical centers
  - Others: integrated delivery system, hospice, LTC facility, retirement community
- 4 in rural areas
- Wide variation in fees: $80 to $444 per member per month (average = $196)
- Voluntary enrollment model
II. The Interventions

- Programs differ on many dimensions
  - Target population
  - Intervention
  - Type of host, setting

- Interventions have different emphases
  - Patient education
  - Evidence-based practice guidelines
  - Service arrangement
  - Improved communications among physicians

- Have different intensity and quality
Program Features

- 13 required care coordinators to be registered nurses
- Most caseloads were 40-70
- All 15 conducted patient assessments, developed care plans, and monitored patient health and progress toward care plan goals
- 12 conducted some assessments in person
- 6 programs used home telemonitoring
Most sought to improve care coordination by training patients to communicate better with physicians and/or by sending physicians regular patient-specific reports.

Only 4 programs had improved provider practice as goal.
Care Coordinator Activities

- 14 provided education to improve adherence
- Most education: nurses provided factual information and prodding
- Little effort to improve access to services
- Half had links with hospitals to get timely notification of patient admissions
Number of Patient Contacts

- Average of 1.9 per month (one every 2 weeks)
  - 11 had 1-3 per month
  - 3 had 4-8
- 6 had more than .75 contacts per month in person; others had far less
Intervention Classification Methodology

10 Domains

- Program staffing
- Initial assessment
- Problem identification and care planning
- Patient education
- Communication and coordination
- Improving provider care
- Service arranging
- Information technology and electronic records
- Ongoing monitoring
- Quality management/outcome measurement
III. Whom Did the Programs Serve?

- Enrollment began April-September 2002, ongoing for 11 of the 15

- Programs recruited patients
  - 6 target a single diagnosis (CHF, cancer, HD)
  - Other 9 target several (cardiac, respiratory, diabetes)
  - Minimum target enrollment = 686 in year 1 (343 treatments)

- Applicants randomly assigned to T or C group
Actual Enrollment

- 25,184 enrollees as of June 16, 2007
- Research sample in treatment group through month 25 of each program’s operations:
  - 7,512 overall
    - 3 programs had 65-100
    - 9 had 300-600
    - 3 had 900-1,200
The Programs Enrolled Sick Beneficiaries

Source: Medicare National Claims History File, Standard Analytic File, and Enrollment Database
Most Programs Enrolled
High-Cost Beneficiaries

Average monthly Medicare expenditures during the 2 years prior to enrollment:

- Ranged from $400-$3,300 per month
  - 3 programs: $400-$600
  - 6 programs: $1,000-$1,700
  - 6 programs: $2,000+
- National average=$514
- Biggest driver is hospitalizations
IV. Impacts over the First 25 Months of Operations
The Good News: Patients Really Liked the Programs

Patients rated care coordinators highly on:

- Support and monitoring
- Knowledge and ability to get answers
- Ability to explain adherence to recommended self-care
- Caring attitude

(Survey conducted 7-12 months after randomization)
Physicians Liked the Programs

- 75% said made it easier to care for patients
- 67% said program improved quality of care
- 60% would definitely recommend it (+20% probably would)
- 42% found feedback on patients very useful
- Substantial variation across programs
Now for the Bad News . . .
No Effects on Knowledge or Behavior

- Despite heavy focus on patient education, no or sporadic effects on:
  - Diet
  - Exercise
  - Medication adherence
  - Going to physician with list of questions
  - Trying to quit smoking
  - Trying to cut down on drinking
Sporadic Effects on Quality of Care

Among first year enrollees, over the year after randomization:

- 2 of 15 programs improved quality of preventive care
  - Flu and pneumonia vaccinations
  - Screening mammography for women
  - Recommended blood and urine tests for people with diabetes, coronary disease

- 2 other programs reduced preventable hospitalizations
Sporadic Effects on Well-being

- No effects on functioning
- 2 programs improved patient well-being
- No effect on mortality
Small Effects on Hospitalizations over 25 Program Months

- Large and statistically significant reduction in 1 program: 27%

- No other statistically significant differences
  - 7 programs had favorable differences:
    - 4 had differences of 10-18%
    - 3 had differences of 4-5%
  - 4 had unfavorable differences of 4 to 14%
  - 3 had differences between –1 and 1%
Only 1 Program Significantly Reduced Part A and B Expenditures

Not including program fees

- The program that reduced hospitalizations reduced costs by 13% ($154; p=0.105)
- Overall, five had sizeable negative but not significant differences
  - 2 were $200-$300
  - 3 were $100-150
- Treatment-control differences for 9 between +$70 and -$70
- One program definitely increased expenditures, by 21% ($212)
Including Program Fees, Cost Neutrality is Possible for Some

- Six programs increased total costs
  - By over 10%
- Four more probably increased total costs
  - By 4 to 10%
- Five may be cost neutral (or may just reflect small samples)
  - But none generated savings
- Overall, total costs increased by 11%
Summarizing the Findings

- Patients love the programs
- Physicians like the programs
- No effects on adherence or self-care
- Scattered modest effects on quality indicators
- Only 1 program reduced hospitalizations
- The same one reduced *gross* costs
- A total of 5 programs may have been cost neutral
- None of the programs generated net savings
V. Why Doesn’t CC Work Better?

- Changing patient behavior is HARD
  - Limited use of behavior change models
  - Little incentive for physicians to communicate

- Some patients too ill, others not at short-run risk
  - But targeting wasn’t the major problem

- Programs don’t collect timely hospitalization and Rx info

- Usual care providers are minimally engaged
An Illustration of the Funnel Effect

- For voluntary (opt-in) model:
  
  Average of 1 hospitalization per year
  × 50% theoretically preventable
  × 30% actually prevented
  = 15% of hospitalizations avoided

- This exercise is rarely performed
**Cost Neutrality Illustration for 1,000 Enrollees**

(Assumes 1 hosp/person yr)

<table>
<thead>
<tr>
<th></th>
<th>Best Case</th>
<th>Actual Overall</th>
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</thead>
<tbody>
<tr>
<td>Decrease in hosp</td>
<td>15%</td>
<td>5%</td>
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<tr>
<td>Gross savings ($@11,000/hosp)</td>
<td>$1.65M</td>
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<tr>
<td>Fees:$155 pmpm</td>
<td>$1.86M</td>
<td>$1.86M</td>
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<tr>
<td>Net savings</td>
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<td>-$1.31M</td>
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<tr>
<td><em>Cost neutral fee</em></td>
<td>$138</td>
<td>$46</td>
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Cost Neutrality Issues

- Consistent with results from other CMS demonstrations

- Much harder for population-based program; only 25% engage. Cost-neutral fees:
  - if decrease in admits is 15%: $35 pmpm
  - if decrease in admits is 5%: $12 pmpm

- Cost-neutral fee is twice the average monthly Medicare payment to MDs for regular office visits ($70)
Results Not Related to Most Program Features

- Bigger isn’t better
- More expensive isn’t better
- Greater severity isn’t better
- Single disease focus isn’t better
- Sophisticated HIT isn’t better
- More contacts aren’t sufficient
- CHF is not “low-hanging fruit”
  – Diabetes would be even harder
Program Features That May Matter

- Domains weakly related to better performance:
  - Staffing
  - Initial assessment
  - Improving communication/coordination
  - Problem identification/care planning
  - Patient education

- But one strong program focuses only on improving provider practice
VI. Conclusions

- DM/care coordination isn’t a panacea
- No single necessary or best approach
- More in-person contacts → better outcomes
- Don’t need to target highest risk people
Where to Go from Here

- BBA ’97 requirement: Extend programs
  - That generate net savings, or
  - Are cost neutral and increase quality

- Option 1: Declare care coordination program failures and abandon

- Option 2: Test replicability of few successful programs identified, if any
  - Too early to tell
Where to Go from Here (continued)

- Interview staff from most successful programs
- Collect more detailed information on:
  - Continuity of nurse-patient relationship
  - Nature of nurse-patient interactions
  - Nurse interactions with providers
  - Evidence basis for assessments, care planning
- Estimate effects on key beneficiary subgroups
- Define specific and structured interventions
- Test replicability of models (randomized design)
For More Information


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