Comparing the Primary Care Performance of FFS Medicare and Medicare HMOs: A Longitudinal Study, 1998 to 2006

Ira B. Wilson
William H. Rogers
Hong Chang
Dana Gelb Safran
Background

• Dramatic increase in MA enrollment from 2003-2009: 5.3 to 10.2M beneficiaries

• MA costs more than FFS
  – on an enrollment weighted average basis payments will be 114% of those in FFS in 2009
  – $12B

• 1998 data showed that, with the exception of financial access, primary care performance favored FFS c/w HMOs

• Previous data showed declines in primary care performance in Medicare in the late 1990s

1. Safran et al., Arch Intern Med. 2002;162(7):757-765
Study Questions


• What is the relative primary care performance of FFS and HMOs?
• Do declines persist?
• Are trends different for FFS and HMOs?
Study of Choice and Quality in Senior Health Care

• Longitudinal, observational study, started in 1998
• 13 states: AZ, CA, CO, FL, IL, MA, MN, NM, NY, OR, PA, TX, WA
• 121 HMOs
• HMO beneficiaries sampled
  – Community dwelling
  – 65 or older
• FFS sample matched on age, gender, zip code
  – 1:2 FFS: HMO ratio
Data Collection

- Baseline survey in 1998: n=9,499
- Average survey response rate: 75%
Data Sources and Key Variables

• Data sources: CMS and patient surveys

• Dependent variables: PCAS variables
  – Visit Based Continuity
  – Integration
  – Organizational Access
  – Financial Access: visit costs, medication costs
  – Interpersonal Treatment
  – Communication
  – Knowledge of the patient

• Independent variable: system (FFS vs. HMO)

• Covariates: health status, disease count, sociodemographic variables, Medicaid status, state
Analyses

• **Analytic problem:** beneficiaries switch systems and change primary care providers

• **Unit of analysis:** interval between 2 consecutive surveys during which patients were in the same system and had the same physician
  - 5,969 individuals who contributed intervals
  - 20,966 study intervals

• **Sample weights applied**

• **Two periods:** pre and post MMA of 2003
  - 1998 to 2002
  - 2003 to 2006
Results: Baseline Patient Characteristics

N=5,969

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>All</th>
<th>HMO</th>
<th>FFS</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demographic characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age (mean(sd))</td>
<td>74.9 (6.2)</td>
<td>74.2 (6.0)</td>
<td>75.3 (6.3)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Education (years, mean (sd))</td>
<td>12.8 (2.8)</td>
<td>12.5 (2.7)</td>
<td>12.9 (2.8)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Gender (% male)</td>
<td>40.5</td>
<td>40.7</td>
<td>40.5</td>
<td>0.90</td>
</tr>
<tr>
<td>Race (% white)</td>
<td>88.2</td>
<td>85.6</td>
<td>89.6</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Income (% low income)</td>
<td>39.5</td>
<td>46.2</td>
<td>35.7</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Disease count (mean (sd))</td>
<td>2.0</td>
<td>1.8 (1.5)</td>
<td>2.1 (1.7)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Physical component score (mean (sd))</td>
<td>42.0</td>
<td>42.9 (11.6)</td>
<td>41.6 (11.9)</td>
<td>0.005</td>
</tr>
<tr>
<td>Mental component score (mean (sd))</td>
<td>52.8</td>
<td>52.9 (9.2)</td>
<td>52.9 (9.5)</td>
<td>0.94</td>
</tr>
</tbody>
</table>
Organizational Aspects of Care

PCAS Scale Trend

Source: Medicare Study, 1998 - 2006
Organizational Aspects of Care

Change in Scales with P Values


Source: Medicare Study, 1998 - 2006
Trend for Financial Access Scale and Items

Source: Medicare Study, 1998 - 2006
Financial Access

Change in Financial Access with P Values

- FFS: Financial Access
- HMO: MD Visits
- FFS: Prescription
- HMO: Prescription

Source: Medicare Study, 1998 - 2006
Relational Aspects of Care

PCAS Scale Trend

Source: Medicare Study, 1998 - 2006
Relational Aspects of Care

Change in Scales with P Values

Source: Medicare Study, 1998 - 2006
Summary

- No changes in relative performance of FFS and HMO over the 8 years
- Declines from 1998 to 2002 followed by stabilization or improvement
- Patterns were similar in FFS and HMO, except for financial access
Limitations

- HMOs only: currently 54% of MA
- 13 states only: currently with 65% of MA enrollees
Conclusions

- HMOs not delivering extra value commensurate with their excess cost
- Declines in primary care performance suggest that reforms are needed
Funding

• We are grateful to the organizations that helped to fund this research, including
  – AHRQ
  – NIA
  – Commonwealth Fund
Outcomes: Death Model

Adjusted K-M Survival Curve

Analysis Time in Days

Adjusted by age, gender, race, marital status, education, poverty status, disease count, medicaid status, STATE

HMO  FFS
Outcomes: Change in Health Status

Outcome Trend
PCS & MCS

Source: Medicare Study, 1998 - 2006
PCS: Better/Same/Worse Analysis

% of Predicted PCS Better, Same and Worse

Worse: % of worse or dead

Better: 15.3% HMO, 15.3% FFS
Same: 55.3% HMO, 56.8% FFS
Worse: 42.3% HMO, 42.4% FFS

NS = Not Significant
MCS: Better/Same/Worse Analysis

% of Predicted MCS Better, Same and Worse

- Better: HMO 14.4, FFS 14.4
- Same: HMO 66.8, FFS 68.5
- Worse: HMO 18.4, FFS 16.8

NS: p value to compare FFS vs. HMO not significant; *: p value to compare FFS vs. HMO < 0.05
EXHIBIT 1
Medicare Private-Plan Enrollment, By Contract Type, Selected Years 1999–2008

Millions

9

6

3

0

1999 2003 2005 2006 2007 2008

SOURCE: Centers for Medicare and Medicaid Services (CMS) Monthly Summary Report, various years (December), and June 2008.

NOTES: Totals exclude “pilots.” Health maintenance organization (HMO) counts for 2003 and 2005 include a few enrollees in preferred provider organizations (PPOs) or provider-sponsored organizations (PSOs). “Other” includes Medicare 1876 Cost Plans, 1833 Cost Plans (HCPPs), Program of All-Inclusive Care for the Elderly (PACE), and demonstrations. HMO enrollment increased in 2008 as the CMS reclassified several demonstrations as HMO-SNPs (Special Needs Plans). PFFS is private fee-for-service.
## Baseline PCAS Scores

<table>
<thead>
<tr>
<th>PCAS Scale</th>
<th>All</th>
<th>HMO</th>
<th>FFS*</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Organizational aspects of care</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visit based continuity</td>
<td>91.0 (0.3)</td>
<td>88.3 (0.4)</td>
<td>93.1 (0.5)</td>
<td>-4.80 (p&lt;0.001)</td>
</tr>
<tr>
<td>Integration</td>
<td>74.9 (0.4)</td>
<td>72.7 (0.4)</td>
<td>76.5 (0.6)</td>
<td>-3.80 (p&lt;0.001)</td>
</tr>
<tr>
<td>Organizational access</td>
<td>63.7 (0.4)</td>
<td>61.6 (0.4)</td>
<td>65.3 (0.6)</td>
<td>-3.70 (p&lt;0.001)</td>
</tr>
<tr>
<td><strong>Financial access</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full financial assess scale</td>
<td>40.6 (0.5)</td>
<td>46.2 (0.3)</td>
<td>37.0 (0.7)</td>
<td>9.20 (p&lt;0.001)</td>
</tr>
<tr>
<td>Doctor visit item</td>
<td>47.3 (0.4)</td>
<td>52.0 (0.3)</td>
<td>44.2 (0.7)</td>
<td>7.80 (p&lt;0.001)</td>
</tr>
<tr>
<td>Medication item</td>
<td>35.9 (0.5)</td>
<td>41.3 (0.4)</td>
<td>32.4 (0.8)</td>
<td>8.90 (p&lt;0.001)</td>
</tr>
<tr>
<td><strong>Relational aspects of care</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td>79.2 (0.3)</td>
<td>77.2 (0.3)</td>
<td>80.5 (0.4)</td>
<td>-3.30 (p&lt;0.001)</td>
</tr>
<tr>
<td>Interpersonal treatment</td>
<td>74.4 (0.4)</td>
<td>72.1 (0.4)</td>
<td>76.2 (0.5)</td>
<td>-4.10 (p&lt;0.001)</td>
</tr>
<tr>
<td>Knowledge of Patient</td>
<td>66.7 (0.4)</td>
<td>63.5 (0.4)</td>
<td>68.9 (0.6)</td>
<td>-5.40 (p&lt;0.001)</td>
</tr>
</tbody>
</table>
## PCAS Scores: 2006

<table>
<thead>
<tr>
<th>PCAS Scale</th>
<th>All</th>
<th>HMO</th>
<th>FFS*</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Organizational aspects of care</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visit based continuity</td>
<td>84.5 (0.7)</td>
<td>82.1 (0.9)</td>
<td>86.2 (0.9)</td>
<td>-4.10 (p=0.001)</td>
</tr>
<tr>
<td>Integration</td>
<td>73.4 (0.6)</td>
<td>71.3 (0.7)</td>
<td>74.6 (0.8)</td>
<td>-3.30 (p=0.002)</td>
</tr>
<tr>
<td>Organizational access</td>
<td>65.2 (0.6)</td>
<td>63.1 (0.7)</td>
<td>66.7 (0.8)</td>
<td>-3.60 (p&lt;0.001)</td>
</tr>
<tr>
<td><strong>Financial access</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full financial assess scale</td>
<td>39.0 (0.6)</td>
<td>41.5 (0.6)</td>
<td>37.4 (0.8)</td>
<td>4.10 (p&lt;0.001)</td>
</tr>
<tr>
<td>Doctor visit item</td>
<td>45.0 (0.6)</td>
<td>46.7 (0.7)</td>
<td>44.0 (0.8)</td>
<td>2.70 (p=0.011)</td>
</tr>
<tr>
<td>Medication item</td>
<td>32.9 (0.8)</td>
<td>35.9 (0.9)</td>
<td>31.2 (1.1)</td>
<td>4.70 (p&lt;0.001)</td>
</tr>
<tr>
<td><strong>Relational aspects of care</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td>75.8 (0.6)</td>
<td>74.9 (0.6)</td>
<td>76.4 (0.8)</td>
<td>-1.50 (p=0.13)</td>
</tr>
<tr>
<td>Interpersonal treatment</td>
<td>72.6 (0.6)</td>
<td>70.7 (0.7)</td>
<td>74.0 (0.8)</td>
<td>-3.30 (p=0.002)</td>
</tr>
<tr>
<td>Knowledge of Patient</td>
<td>68.7 (0.6)</td>
<td>67.1 (0.7)</td>
<td>69.9 (0.8)</td>
<td>-2.80 (p=0.008)</td>
</tr>
</tbody>
</table>