A Comparison of Two Methods to Improve HgbA1c Testing: “Pay for Performance” versus a “Chronic Care Collaborative”

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Informed, Activated Patient
Productive Interactions
Prepared, Proactive Practice Team
Improved Outcomes

Chronic Care Model

Community
Resources and Policies
Self-Management Support

Health System
Health Care Organization
Delivery System Design
Decision Support
Clinical Information Systems

Outcomes

Prepared, Proactive Practice Team
Productive Interactions
Informed, Activated Patient

Improved Outcomes
Chronic Care Collaborative (CCC)

Emphasis is on the “system” and the patient
Pay for Performance (P4P)

Emphasis is on the physician/practice
P4P

- Incentives provided – usually financial
- Based on performance measures or defined outcomes
- Methods for improvement usually not defined
• 2004 - Wisconsin Collaborative for Healthcare Quality (WCHQ) public reporting of Hemoglobin A1c (HgbA1c) testing in diabetics.

• Poor performance led to
  → intense scrutiny of internal processes
  → active engagement in efforts to improve our performance.
Blood Sugar (A1c) Control - Reporting Period: Q3 2003 - Q2 2004

- **Medical College Physicians**
  - N=2423
  - Uncontrolled: 36.15%
  - Good Control: 43.14%
  - Fair to Poor Control: 10.27%
  - Not Tested: 0%

- **Marshfield Clinic**
  - N=14195
  - Uncontrolled: 48.80%
  - Good Control: 36.00%
  - Fair to Poor Control: 6.54%
  - Not Tested: 0%

- **Luther Midelfort**
  - N=150
  - Uncontrolled: 39.33%
  - Good Control: 46.67%
  - Fair to Poor Control: 4.67%
  - Not Tested: 0%

- **Gundersen Clinic**
  - N=4812
  - Uncontrolled: 47.62%
  - Good Control: 36.67%
  - Fair to Poor Control: 6.67%
  - Not Tested: 0%

- **Franciscan Skemp**
  - N=300
  - Uncontrolled: 49.50%
  - Good Control: 30.00%
  - Fair to Poor Control: 15.00%
  - Not Tested: 0%

- **Dean Health System**
  - N=7718
  - Uncontrolled: 47.56%
  - Good Control: 32.00%
  - Fair to Poor Control: 12.00%
  - Not Tested: 0%

- **Columbia St.Mary's**
  - N=378
  - Uncontrolled: 51.73%
  - Good Control: 39.86%
  - Fair to Poor Control: 8.86%
  - Not Tested: 0%

- **Bellin Medical Group**
  - N=3165
  - Uncontrolled: 43.64%
  - Good Control: 33.82%
  - Fair to Poor Control: 12.82%
  - Not Tested: 0%

- **Affinity Medical Group**
  - N=4200
  - Uncontrolled: 45.00%
  - Good Control: 39.00%
  - Fair to Poor Control: 8.00%
  - Not Tested: 0%

- **Advanced Healthcare**
  - N=7834
  - Uncontrolled: 51.07%
  - Good Control: 39.00%
  - Fair to Poor Control: 9.00%
  - Not Tested: 0%

- **UW Health Physicians**
  - N=5298
  - Uncontrolled: 49.25%
  - Good Control: 38.00%
  - Fair to Poor Control: 10.00%
  - Not Tested: 0%

- **ThedaCare Physicians**
  - N=6359
  - Uncontrolled: 47.86%
  - Good Control: 37.00%
  - Fair to Poor Control: 10.00%
  - Not Tested: 0%
Response

• Primary care at MCW is provided in several venues:
  – Hospital-based General Internal Medicine (GIM) teaching clinic
  – 3 off-site clinics.

• These venues pursued different approaches.
Approaches

• **GIM clinic** – Pilot test of AAMC chronic care collaborative applying principles of chronic disease management (CCC).

• **Off-site clinics** - created a financial incentive program for providers (P4P)

→ Opportunity for natural experiment:

  “P4P vs Chronic Care Management”
Methods

3 Groups:

• CCC pilot – panels of 2 physicians in GIM

• P4P – panels from one of offsite clinics

• “Control”– Remaining patients in GIM (8 physicians) - Usual Care
Chronic Care Collaborative (CCC)

- Diabetics were identified and a registry created.
- Group visits
  - opportunity to discuss issues with the group and contact with a dietician, diabetes educator and a foot specialist
- Diabetes specific visit with the physician.
  - Focused on diabetes related care and identification of a personal self-accountability goal.
P4P

• P4P physicians received lists of their diabetics and HgbA1c’s.
• Bonuses were linked to:
  – proportion of patients tested for HgbA1c
  – Mean HgbA1c for the panel. (< 7.3)
Usual Care (Control)

- The remaining providers in GIM maintained their usual care.
- Diabetes educators/dieticians were available by referral.
Patient Registries

• Diabetic registry for the CCC was identified as of August 1, 2005 and followed prospectively through October 31, 2006.

• Parallel registries were retrospectively constructed for the P4P and usual care groups from patients registered prior to August 1, 2005.
Analysis

• Baseline proportions computed August 1, 2005
  – % HgbA1c testing completed
  – Median hemoglobin A1c values
• Re-analyzed as of October 31, 2006.
• Difference between the last available HgbA1c and the first HgbA1c was calculated for each patient.
• Median difference ($\Delta$ HgbA1c), median final HgbA1c and 95% confidence intervals were then calculated for each group.*

*Mood’s median
Results

Median reduction in glycohemoglobin:

- CCC participants = 0.4%
- Usual Care and P4P = No change

P < 0.001
## Results

<table>
<thead>
<tr>
<th>Clinic</th>
<th>Number of patients</th>
<th>HgbA1c before*</th>
<th>HgbA1c after*</th>
<th>Δ HgbA1c *</th>
<th>% Tested Before</th>
<th>% Tested After</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCC</td>
<td>142</td>
<td>7.4</td>
<td>7.0</td>
<td>- 0.4†</td>
<td>86.6</td>
<td>100</td>
</tr>
<tr>
<td>Usual care</td>
<td>529</td>
<td>7.3</td>
<td>7.3</td>
<td>0.0</td>
<td>84.1</td>
<td>99.1</td>
</tr>
<tr>
<td>P4P</td>
<td>493</td>
<td>7.0</td>
<td>7.1</td>
<td>0.1</td>
<td>86.6</td>
<td>99.8</td>
</tr>
</tbody>
</table>

*Moos’s median  
† p < 0.001
% A1c < 7.0

% A1C Less than 7

Data Source: EPIC, IDX
## Demographics

<table>
<thead>
<tr>
<th>Clinic</th>
<th>Median Age</th>
<th>Gender (% Female)</th>
<th>Median income</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCC</td>
<td>60.1</td>
<td>62 %</td>
<td>$17177</td>
</tr>
<tr>
<td>Usual Care</td>
<td>60.8</td>
<td>63.6 %</td>
<td>$17177</td>
</tr>
<tr>
<td>P4P</td>
<td>62.3</td>
<td>51.1 %</td>
<td>$18086</td>
</tr>
</tbody>
</table>

- Population NOT randomized
- P4P group:
  - Older,
  - Wealthier,
  - More evenly divided between male and female
Impact of demographics

• Small impact on HgbA1c.
• “Trend” to lower HgbA1c with higher per capita income
  – accounts for only 1.3% of the total variation.
• Increasing age associated with lower HgbA1c (p= 0.039)
  – accounts for 7-8% of the variation seen.
• Dominant influence was the individual provider, accounting for the majority of the variation.
Limitations

- Not randomized
  - But, age and income trends should have favored the P4P group.
- One incentive for the P4P was increasing % tested.
  - Noncompliant patients encouraged to come in for testing increasing the median HgbA1c for the group.
- CCC group belonged to only 2 providers
Conclusion

Implementation of a multidisciplinary chronic care collaborative model led to a substantially greater impact on reducing HgbA1c over a 14 month period than usual care or P4P using targeted incentives.
But ...  

That does not mean that pay for performance was not successful.
Providers achieving Mean HgbA1c goal (P4P)
% of Providers Meeting Press-Ganey Metric
Providers achieving testing goal
P4P

% Of Providers with > 97% A1C Tested

- 2004-05: 21
- 2005-06: 37
- 2006-07: 24
Observations

• Only a handful of providers received full incentive.
  – Motivated by extra bonus
  – Motivated by external evaluation: the “report card”

• Increase in number of patients discharged from the practice for “noncompliance”.
Case example

2 physicians who “made incentive goals”
- Empowered MA to contact patients
- Those without HgbA1c encouraged to come in
- Patients tested routinely on presentation
Implications

- P4P did lead to improved outcomes but over longer time frame
- Some providers responded – others did not
- Those that achieved goal did it by improving the system in their “micro-environment”
- The CCC model may have worked more quickly because system put in place immediately
- P4P required practices to develop their own solutions over time
Conclusions

• If a process for improvement well defined, e.g. chronic care model, invest in this approach.
• If solution not clear or established approach not suitable, “Pay for Performance” is a reasonable alternative but process will take longer and there will be less consistency.