Implementing Quality Improvement to Reduce Disparities: The Case of the Health Disparities Collaboratives

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Goals

• Describe Health Disparities Collaboratives (HDC)
• Review impact on quality of care
• Analyze financial ramifications
• Outline factors important for organizational change
Health Disparities Collaboratives: A Quality Improvement Collaborative

• National effort in about 1000 health centers beginning in 1998

3 Components
• CQI: Rapid Plan-Do-Study-Act cycles
• Chronic Care Model
• Learning sessions
Plan-Do-Study-Act Cycles (PDSA)

<table>
<thead>
<tr>
<th>Model for Improvement</th>
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</thead>
<tbody>
<tr>
<td>What are we trying to accomplish?</td>
</tr>
<tr>
<td>How will we know that a change is an improvement?</td>
</tr>
<tr>
<td>What change can we make that will result in improvement?</td>
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</tbody>
</table>

Act | Plan |
--- | --- |
Study | Do |

Associates in Learning / Institute for Healthcare Improvement
MacColl Institute Chronic Care Model

Community
- Resources and Policies
- Self-Management Support

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

Informed, Activated Patient

Prepared, Proactive Practice Team

Functional and Clinical Outcomes

Productive Interactions
Breakthrough Series

- Commitment of CEO
- HDC QI team in each of health center
- 4 regional learning sessions
- Cluster coordinator support
- Monthly telephone conference calls
- Monthly written progress reports
- Computer listserver
Organizational Schema of Intervention

Collaborative
  15-20 HCs / Trainers

Team
  HDC QI Team

Center
  Providers & Patients at HC
Methods

• Systematic review of literature

• Focus on key studies in this presentation
Results: Participants’ Perceptions of Outcomes

• HDC is a success and worth effort > 80%
• Improved patient outcomes 88%
• Improved processes of care 83%
• Improved patient satisfaction 71%
• Qualitative interviews Similar

Short-Term Clinical (1-2 years): Diabetes

- Random chart review
- Pre-post improvement in 7 diabetes processes of care
- No improvement in intermediary outcomes

Short-term Clinical: Asthma, Diabetes, Hypertension

- Pre-post controlled (1 yr pre and 1 yr post)
- Improvements in processes of care for asthma and diabetes
  - Asthma – Rx anti-inflam med 14%
  - Diabetes – HbA1c measurement 16%
- No improvement in intermediary outcomes

Long-term Clinical (2-4 years): Processes of Care (%)

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<thead>
<tr>
<th></th>
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</tr>
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<tbody>
<tr>
<td>At least 1 A1c</td>
<td>71</td>
<td>88</td>
<td>92</td>
</tr>
<tr>
<td>Lipid assessment</td>
<td>52</td>
<td>65</td>
<td>70</td>
</tr>
<tr>
<td>Aspirin</td>
<td>22</td>
<td>37</td>
<td>41</td>
</tr>
<tr>
<td>ACE inhibitor</td>
<td>33</td>
<td>42</td>
<td>50</td>
</tr>
</tbody>
</table>

Chin et al.  Medical Care 2007.
Long-term Clinical: Outcomes

<table>
<thead>
<tr>
<th>Outcome</th>
<th>1998</th>
<th>2000</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>HbA1c (%)</td>
<td>8.6</td>
<td>8.5</td>
<td>7.9</td>
</tr>
<tr>
<td>LDL (mg/dl)</td>
<td>127</td>
<td>116</td>
<td>108</td>
</tr>
<tr>
<td>Systolic BP (mm Hg)</td>
<td>133</td>
<td>135</td>
<td>133</td>
</tr>
<tr>
<td>Diastolic BP (mm Hg)</td>
<td>79</td>
<td>80</td>
<td>78</td>
</tr>
</tbody>
</table>

Chin et al. Medical Care 2007.
Societal Cost-Effectiveness Analysis: Diabetes

• Incorporate clinical results into a NIH simulation model of diabetes complications

• Simulation model needed to translate changes in processes and risk factor levels into complications

Huang et al. HSR 2007.
# Base Case Results

<table>
<thead>
<tr>
<th></th>
<th>Program 1: Without HDC</th>
<th>Program 2: With HDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blindness, %</td>
<td>17</td>
<td>15</td>
</tr>
<tr>
<td>ESRD, %</td>
<td>18</td>
<td>15</td>
</tr>
<tr>
<td>Amputation, %</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>CHD, %</td>
<td>28</td>
<td>24</td>
</tr>
<tr>
<td>Quality-adjusted life years, mean</td>
<td>10.58</td>
<td>10.93</td>
</tr>
<tr>
<td>Lifetime costs, mean</td>
<td>$90,085</td>
<td>$101,770</td>
</tr>
</tbody>
</table>

\[ \text{ICER} = \frac{$33,386}{\text{QALY}} \]
Business Case: Case Study of 5 Health Centers with Diabetes


Conceptual Model of the Short-Term Financial Impact of Quality Improvement for Outpatient Facilities

External Environment
- Local Economy

Internal Environment
- Administrative
  - Revenues: Grants, Donations
  - Costs: Daily QI activities, Personnel, Equipment
  - Administrative Balance

- Clinical
  - Patient care revenues
  - Patient care costs
  - Clinical Care Balance

- Overall
  - Overall center revenues
  - Overall Center Costs
  - Direct Overall Balance

Indirect
- Benefits: Improved clinical care, Morale
- Costs: Focus of leadership on other priorities
- Indirect Balance

Payor Mix
- Accreditation Bodies
- Patient Demographics and numbers
- Insurance reimbursement and incentives

Overall center revenues = Overall Center Costs

Administrative Revenues + Administrative Costs = Administrative Balance

Clinical Care Revenues + Clinical Care Costs = Clinical Care Balance

Direct Overall Revenues + Direct Overall Costs = Direct Overall Balance

Indirect Benefits - Indirect Costs = Indirect Balance
Business Case Study Results

- Additional admin cost = $6-$22 per patient (Year 1)
- No regular source of revenue for these costs
- Balance of diabetes clinical costs/revenues did not clearly improve
- Diabetes Collaborative 2-8% of health center budget
- QI programs represent a new cost
Organizational Change and Implementation

• Common barriers
  – Lack of resources
  – Lack of time
  – Staff burnout

Chin et al.
## Wish List from Bureau of Primary Health Care

<table>
<thead>
<tr>
<th>Service</th>
<th>Percentage Ranked #1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct patient care services</td>
<td>44</td>
</tr>
<tr>
<td>Data entry activities</td>
<td>34</td>
</tr>
<tr>
<td>Staff time spent on quality improvement</td>
<td>26</td>
</tr>
<tr>
<td>Training in quality improvement techniques</td>
<td>20</td>
</tr>
<tr>
<td>Information system technical support</td>
<td>18</td>
</tr>
</tbody>
</table>
Additional Support

- Help patients with self-management 73%
- Information systems 77%
- Get providers to follow guidelines 64%
Predictors of Staff Morale and Burnout

• **Low cost**
  – Personal recognition
  – Career promotion
  – Skills development
  – Fair distribution of work

• **More expensive – Funding, personnel**

Graber et al. HSR 2008.
Unintended Consequences

• Quality of care of chronic conditions not emphasized by HDC increased 45%

• HDC has drawn time, energy, resources away from other health center activities 61%

Chien et al.
Summary Conclusions

- HDC improve clinical processes of care over short-term 1-2 year time periods and improve both processes of care and outcomes over longer 2-4 year periods.
Conclusions 2

• Diabetes Collaborative is societally cost-effective, but there are no consistent financial streams for individual centers, raising concerns about the whether there is a business case for CEOs to adopt and sustain the HDC over the longterm.
Conclusions 3

• Some methods to enhance implementation of the HDC are low-cost and reasonably feasible.

• Some methods to enhance implementation of the HDC will require more resources and work.
RWJF Finding Answers: Systematic Review of Interventions to Reduce Racial and Ethnic Disparities

- Medical Care Research and Review 10/07 supplem

- Intro, Cardiovascular, Depression, Diabetes, Breast cancer, Culture, Pay-for-Performance

RWJF Finding Answers: Disparities Research for Change Lessons from Systematic Reviews

• Multifactorial interventions that target multiple levers of change

• Culturally tailored quality improvement

• Nurse-led interventions in context of wider systems change
Key Research Questions

• How to tailor implementation of the HDC to different HCs that may be at different stages of organizational readiness to change and that may have different strengths, weaknesses, organizational contexts, and patient populations?
Research Questions 2

• How to create a viable long-term business case for the HDC to complement the analysis demonstrating that the Diabetes Collaborative is societally cost-effective?
Research Questions 3

• How to successfully spread the HDC across multiple diseases, conditions, and processes?

• How to sustain the HDC over time?

• How to integrate the general QI process of the HDC with menus of specific model programs?
Funding

• AHRQ R01 HS 10479
• AHRQ/HRSA U01 HS13635
• NIA 1K23 AG021963
• NIH/NIDDK P60 DK20595 Diabetes Research & Training Center
• NIDDK K24 DK071933
• RWJF Generalist Physician Faculty Scholar