Closing the Quality Gap in Diabetes

Utilizing Value Driven Management Strategies to Improve Care
Agenda

• The Disease: Diabetes
• The Problem
  • Gaps in Care
  • Adherence to Medication
• Solutions
  • Plan Design
  • Disease Management
• On Site Clinics
Diabetes: A Growing Issue

• Diabetes affects 24 million people in the US

• Another 57 million believed to have pre-diabetes

• 25% of seniors have diabetes

• Only 30% are adherent with one medication and 13% for two medications

Type 2 Diabetes in Children

Type 1 diabetes is often diagnosed during the early years of life, but an alarming emerging trend is a rise in Type 2 diabetes among children. As the U.S. population becomes increasingly overweight, researchers expect Type 2 diabetes to appear more frequently in younger pre-pubescent children.

**Children most at risk are:**

- Obese (as many as 80 percent may be overweight at the time of diagnosis).
- Those older than 10 years of age or in the middle of late puberty.
- African-American, Hispanic/Latino and Native American children.

Source: American Diabetes Association
Financial Implications of Diabetes

• 16.9 million hospital days attributed to diabetes

• 80% of costs of diabetes is due to the complications that it causes

• Diabetes consumes one-in-10 healthcare dollars

• $92 billion dollars attributed to diabetes and its complications

Quality of Chronic Care

Diagnosis and treatment for five leading chronic diseases

- Obstructive lung disease: 80% diagnosed + controlled, 10% diagnosed + not controlled, 10% undiagnosed
- Heart failure: 50% diagnosed + controlled, 35% diagnosed + not controlled, 15% undiagnosed
- Hypertension: 50% diagnosed + controlled, 30% diagnosed + not controlled, 24% undiagnosed
- Asthma: 50% diagnosed + controlled, 20% diagnosed + not controlled, 30% undiagnosed
- Diabetes: 35% diagnosed + controlled, 23% diagnosed + not controlled, 42% undiagnosed

Source: American Heart Association, American Diabetes Association, National Heart, Lung, Blood Institute, American Lung Association, National Center for Health Statistics.
## Gaps in Diabetes Care

<table>
<thead>
<tr>
<th>HEDIS MEASURES</th>
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<tbody>
<tr>
<td>HbA1c Test</td>
<td>84.6%</td>
</tr>
<tr>
<td>HbA1c Control</td>
<td>32.4%</td>
</tr>
<tr>
<td>Eye Exam</td>
<td>48.8%</td>
</tr>
<tr>
<td>Lipid Profile</td>
<td>88.4%</td>
</tr>
<tr>
<td>Lipid Control</td>
<td>60.4%</td>
</tr>
<tr>
<td>Monitoring Nephropathy</td>
<td>48.2%</td>
</tr>
<tr>
<td>Blood Pressure Control</td>
<td>62.2%</td>
</tr>
</tbody>
</table>
All-Cause and Disease-Specific Medical Costs at Varying Levels of Medication Adherence

Adherence Levels Key
- Adherence Level (%) 1-19
- Adherence Level (%) 20-39
- Adherence Level (%) 40-59
- Adherence Level (%) 60-79
- Adherence Level (%) 80-100

Cut away bars represent all-cause medical costs; solid color bars represent disease-specific medical costs.
Why is Adherence Important?

“Increasing the effectiveness of adherence interventions may have a far greater impact on the health of the population than any improvement in specific medical treatments.”

World Health Organization 2003
Noncommunicable Diseases and Mental Health
Adherence to long-term therapies project

Higher Adherence is Associated with Lower $ Total Health: Diabetes

THC = Medical Costs + Rx Costs

Source: Caremark Strategic Analytical Services, 2003-2004
How Do We Address the Issue

• Create incentives to prevent and/or diagnose disease

• Manage the Condition

• Manage demand

• Cut benefits
Healthy Work Environment

- Culture and values
- Benefit plans
- Management practices
- Employee resources

Healthy, Engaged, Productive Employees

- Wellness/prevention
- Demand management
- Disease management

Personal Responsibility
A Behavioral Approach

INDIVIDUAL INFLUENCING FACTORS
- Changes in therapy
- Cost of drug
- Disease progression
- Duration of therapy
- Knowledge
- Regimen complexity
- Relationship with doctor
- Severity of symptoms
- Side effects
- Support system
- Treatment failures

ATTITUDES & BELIEFS
- Burden of disease
- Confidence in medication
- Emotional well-being
- Self-efficacy

STAGE OF CHANGE
- Precontemplation
- Contemplation
- Preparation
- Action
- Maintenance

LEARNING STYLE

HEALTH LITERACY
Action Pyramid

Plan Design

Programs
- Disease Mgmt
- eHealth Portal

Wellness
Health Care University

MCO/PBM
- Contracting
- eValue8
- Disease Management
- Case Management

Action

Engage/incent employees

Target employees

Educate employees

Negotiate employee services
Value-Based Design Definition

- Value-Based Insurance Design (VBID) explicitly acknowledges and responds to patient heterogeneity. It encourages the use of services when the clinical benefits exceed the cost and likewise discourages the use of services when the benefits do not justify the cost.

  - Mark Fendrick et al
Improvement Through Plan Design

• Fortune 500 company

• $4.1 billion global provider of integrated mail and document management solutions

• Global team of more than 35,000 employees

• Presence in more than 130 countries worldwide

• More than 2 million customers

• Provide extensive healthy worker programs including disease management, wellness programs and health-friendly work environments.
Solution: Rx Access Benefit Design

**Traditional Benefit**

<table>
<thead>
<tr>
<th>Tier 1</th>
<th>Most generic drugs</th>
<th>10% Coinsurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier 2</td>
<td>Most preferred brand name drugs, including those for:</td>
<td>30% Coinsurance</td>
</tr>
<tr>
<td></td>
<td>• Asthma</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Diabetes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Hypertension</td>
<td></td>
</tr>
<tr>
<td>Tier 3</td>
<td>Non-preferred brand name drugs, including those for:</td>
<td>50% Coinsurance</td>
</tr>
<tr>
<td></td>
<td>• Asthma</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Diabetes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Hypertension</td>
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</tbody>
</table>

**New Rx Benefit Design**

<table>
<thead>
<tr>
<th>Tier 1</th>
<th>Most generic drugs and all brand name drugs for:</th>
<th>10% Coinsurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier 2</td>
<td>Most preferred brand name drugs</td>
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</tr>
<tr>
<td>Tier 3</td>
<td>Non-preferred brand name drugs</td>
<td>50% Coinsurance</td>
</tr>
</tbody>
</table>
Five Year Change in Medication Adherence

*Caremark proprietary scoring system

- **Asthma**: Adherence Score - 33 (2001) vs. 53 (2007)
- **Diabetes**: Adherence Score - 75 (2001) vs. 81 (2007)
- **Hypertension**: Adherence Score - 76 (2001) vs. 84 (2007)
- **Hyperlipidemia**: Adherence Score - 76 (2001) vs. 81 (2007)
Disease Management as a Solution

Integrated Disease Management Model

- Utilize data to stratify population and identify high cost and high risk members
- Engage and enroll members and providers
- Promote accountability for care
- Align incentives
- Ensure interventions are continuously evaluated to realize benefits
- Establish meaningful interventions that focus on cases with the greatest opportunity for impact
Increasing rates year over year are desired when monitoring changes in clinical indicators.

*Source: Self-Reported results
**Source: Pharmacy claims
***Source: Medical claims
+Matched results not available for flu/px
*Source: Self-Reported results
**Source: Pharmacy claims
***Source: Medical claims
+Matched results not available for flu/px
On Site Clinic

• Goal: Improve health and quality of care of diabetes
• Partnership with self insured county government client
• Program Details
  • Approximately 9% of the Plan population enrolled
  • Program would engage enrollees as active participants in managing their health
  • Program requires patients be accountable for behavioral components of care
    • Contract for Care
  • Targeted the two most costly disease states (Diabetes and HTN) among County employees, dependents and retirees:
    • $0 co-pays applied to medications and supplies for targeted disease states
    • Disenrollment from program: opt out or if noncompliant with Contract for Care
  • Personal intervention provided by appointment with a clinical pharmacist
    • Profile review for compliance, formulary management and generic substitution
    • Not limited to program disease states
    • Include co-morbidities
Program Design

• Patients were assessed and categorized by severity of disease state

• Individualized care plans developed

• Initial encounter to assess patients’ overall knowledge of their disease state

• Follow-up visits to educate, promote behavior changes and set healthcare goals

  • *Allotted time per patient based on severity of disease state*

  • *Opportunity to counsel on other issues related to overall health*

• Patients had to actively participate in the program to remain enrolled and retain their $0 copays
Enrollment Incentives

• Positive
  ▪ Zero co-pays upon enrollment for diabetes and/or hypertension medications and supplies
  ▪ Based on co-pay structure, this could be > $100 per month per patient (sometimes > 2 pts/family!)
  ▪ Based on a wage of $8/hour, gross pay is only $1440 per month for some Polk County workers
  • After taxes, this could be up to 10-20% of patient monthly net income for medication co-pays!

• Negative
  ▪ Disenrollment from program if noncompliant with Contract for Care
The annualized trend in per claimant cost for the low, moderate, chronic, and acute risk populations were 5.1%, -2.9%, -5.5% and -4.2% respectively.
Improvement in Non-Preferred Health Status of Patients since Enrollment in the Program

<table>
<thead>
<tr>
<th>Improvement of Non-Preferred Health Status Patients</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Conversion of Diabetic Red to Yellow Status</td>
<td>50%</td>
</tr>
<tr>
<td>Any HgbA1c* Reduction in Diabetic Red Patients</td>
<td>75%</td>
</tr>
<tr>
<td>Any HgbA1c Reduction in Red or Yellow Diabetes Patients</td>
<td>82%</td>
</tr>
<tr>
<td>Average Reduction in BP in HTN Red Patients</td>
<td>26/12 mmHg</td>
</tr>
</tbody>
</table>

*Note on the clinical significance of HgbA1c*: decreases of 1 mg/dl or more have been shown in clinical trials to reduce morbidity and mortality in diabetics and significantly decrease medical costs.
Blood Pressure Data

- Analyzed data from inception of BP program (08/05) to current date
- Excluded pts with good control on entering program (green pts)

<table>
<thead>
<tr>
<th>Average Reduction in BP for PCPCP</th>
<th>Reduction in Systolic BP (mmHg)</th>
<th>Reduction in Diastolic BP (mm Hg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average (Red &amp; Yellow Participants N=173)</td>
<td>4.4**</td>
<td>2.6*</td>
</tr>
<tr>
<td>Average (Red Participants N=43)</td>
<td>3.8</td>
<td>3.3</td>
</tr>
<tr>
<td>Average (Red &amp; Yellow Participants N=159) – Hypertension Only</td>
<td>5.7**</td>
<td>3.8**</td>
</tr>
<tr>
<td>Average (Red Participants N=38) – Hypertension Only</td>
<td>6.3</td>
<td>4.0</td>
</tr>
</tbody>
</table>

* Significant at p<.05
** Significant at p<.01
ACE/ARB adherence increased significantly in both the Hypertension and Diabetes pool from baseline to one-year after enrollment for medium/high severity participants (11% Diabetes, 13% Hypertension).

- Statin adherence for Diabetes increased 4%
- Beta-blocker and Calcium Channel Blockers saw increased MPR* of 8% and 9% respectively in the hypertensive population

* MPR (Medication Possession Ratio) is calculated as % of days of medication possession during the period
Utilization Summary

- First year Hospitalizations showed decrease from baseline
  - Diabetes: -30%
  - Hypertension: -20%
- ER also showed a decrease
  - Diabetes: -24%
  - Hypertension: -18%
- This equates to a total savings of $272,237 (About 1.2% of total annual spend)
- Total reductions: 28 hospitalizations and 22 ER visits
- $9,008.22 for average hospitalization and $909.38 for ER*

*Accordant Book of Business for similar demographics
In Summary

• Diabetes has a significant impact on the patient, their family, the healthcare payer and society

• There are a variety of tools available to improve the care of a diabetic

• There is no single easy answer

• Improvements in care translate into clinical improvement and decrease in costs associated with the condition and its comorbidities