Measuring the Real Life Impact of Diabetes/Assuring Patient Centered Care if Focused on the Patient

Presented by:
Lana Vukovljak
Chief Executive Officer
AADE
September 27, 2010
Objectives

• Introduce AADE
• Healthcare Reform: AADE Efforts
• Real life impact of diabetes and AADE’s patient centered approach
  – Value of DE and economic impact
  – Emerging delivery modes
  – Patient centered diabetes self-management education
AADE

- Founded in 1973, AADE is a multidisciplinary association of healthcare professionals dedicated to integrating self-management as a key outcome in the care of people with diabetes and related chronic conditions.

- Mission - Driving practice to promote healthy living through self-management of diabetes and related chronic conditions.
In order to advance the mission and vision of the association and meet the strategic goals, AADE devotes resources to initiatives that ensure:

- Inclusion of diabetes educators in any team-based care provided for people with diabetes.
- Fair reimbursement for self-management education.
- Integration of Practice Guidelines.
- Increased access to diabetes education through increased number of DSME programs.
- Increased research specific to the art and science of diabetes.
- Expanded utilization of diabetes education registry.
Healthcare Reform

• Top priorities for improving effectiveness of healthcare system:
  – Prevention
  – Chronic care management
  – Reduction of racial and ethnic disparities
  – Health IT to support patient and physician decision making, transition of care and care coordination
  – Patient-centered care and improved access to primary care
Prevention

• 57 million Americans are estimated to have pre-diabetes

• Pre-diabetes and diabetes are on a continuum: if left untreated pre-diabetes will become type 2 diabetes in a few years

• Studies show that it is possible to stop or reverse progression of diabetes or substantially delay its onset

• Specific strategies to achieve normal blood glucose levels most commonly involve educating an individual with pre-diabetes how to make healthy lifestyle changes, such as those embodied in DSME/T programs
Prevention

• The diabetes educator is in a unique position to incorporate prevention into self-management skills and education to patients

• Each person with pre-diabetes needs a personalized education plan, which may incorporate risk reduction and other prevention-related elements of the AADE 7 Self-Care Behaviors

• Diabetes educators use evidence-based approaches and are critical to diabetes-related preventive efforts
Chronic Care Management

• Most prevalent and threatening chronic disease America faces, costing more than $218 billion annually (Health Affairs, 2010; 29:297-303)

• Contributes to more than 230,000 deaths each year *

• Nearly 24 million have diabetes (90-95 % - type 2*)

• An estimated 57 million have pre-diabetes (only 7 % are aware they have pre-diabetes)*

* CDC Diabetes Fact Sheet 2007
Chronic Care Management

• Multiple projects and efforts to reduce re-admissions
• Meaningful Use
• HHS-funding for Measure Development and Endorsement Agenda which includes
  – Patient and provider communication
  – Medication management (appropriateness and adherence)
  – Transitions (Accountability, success/failure rates)
  – Having a medical home
  – Appropriate and timely follow up
  – Effective Care Plans
  – Care Coordination
Chronic Care Management

- AADE Diabetes Education Guidelines define roles of different providers involved in delivery of DSME/T from community health workers to advanced healthcare providers
- Performance measures that link diabetes educator interventions to improved outcomes
Reduction of Disparities

- AADE emphasizes community outreach for DSME/T and coordination of care that includes community efforts
- AADE position statement on Cultural Sensitivity and Diabetes Education recommends a model of care that focuses on patient’s cultural, ethnic, and socioeconomic variations and matching interventions with individual patients or target populations
Technology

- The ultimate goal of meaningful use of an Electronic Health Record is to:
  - improve quality, safety, efficiency and reduce health disparities
  - engage patients and their families (through electronic communication)
  - improve care coordination
  - ensure adequate privacy and security protection for personal health information
  - improve population and public health — that’s (through) data collection and looking at quality data over time.
Technology

- Standardize data collection by utilizing AADE 7 System – diabetes education electronic medical record, track outcomes
- Utilize technology to share information with all involved in care of people with diabetes
- Provide population management data to healthcare providers in PCMH and ACOs
Technology

- Site & Patient Registration
- Assessments
- D-SMART®
- D-ET®
- Interventions
- Clinical Information & Medication Management
- Outcomes
- Outcomes Reports
- Report Engine

Patient Centered Diabetes Education
Technology

Behavior Score Tools

<table>
<thead>
<tr>
<th>Self-Care Behaviors</th>
<th>Questions</th>
<th>Responses</th>
<th>Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>being active</td>
<td>During the past week, or last 7 days, how many days were you able to be active?</td>
<td>0-2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3-4</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5-7</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>How important is it to you to be active, where 0 is not important at all and 10 is very important?</td>
<td>0-3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4-6</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7-10</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>How sure are you that you can be active, where 0 is not sure at all and 10 is very sure?</td>
<td>0-3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4-6</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7-10</td>
<td>3</td>
</tr>
</tbody>
</table>
Economic Impact

- Study of Federal Spending on Diabetes done by Mathematica in 2007
  - $79.7 billion more for diabetes care and its complications ($1 of every $8 dollars in federal health spending)

<table>
<thead>
<tr>
<th>Type of Spending</th>
<th>All Departments</th>
<th>HHS</th>
<th>Other Agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FEDERAL PROGRAM COSTS OF TREATING DIABETES AND</strong></td>
<td>$79,704</td>
<td>$66,056</td>
<td>$13,648</td>
</tr>
<tr>
<td><strong>DEALING WITH COMPLICATIONS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct Health Care Benefits/Treatment Costs</td>
<td>$77,244</td>
<td>$66,056</td>
<td>$11,188</td>
</tr>
<tr>
<td>Medicare</td>
<td>$61,097</td>
<td>$61,097</td>
<td>$0,000</td>
</tr>
<tr>
<td>Medicaid (federal share)</td>
<td>$4,669</td>
<td>$4,669</td>
<td>$0,000</td>
</tr>
<tr>
<td>Federal Employees Health Benefits (actives, annuitants, and dependents)</td>
<td>$2,432</td>
<td>$0,000</td>
<td>$2,432</td>
</tr>
<tr>
<td>DOD (TRICARE)</td>
<td>$3,033</td>
<td>$0,000</td>
<td>$3,033</td>
</tr>
<tr>
<td>Veteran Affairs Health System</td>
<td>$5,723</td>
<td>$0,000</td>
<td>$5,723</td>
</tr>
<tr>
<td>Other (SCHIP, Indian Health Service, PHS Corps Retirees)</td>
<td>$0,290</td>
<td>$0,290</td>
<td>$0,000</td>
</tr>
<tr>
<td><strong>SSDI/SSI Spending for Diabetes-Related Disabilities</strong></td>
<td>$2,460</td>
<td>$0,000</td>
<td>$2,460</td>
</tr>
</tbody>
</table>
Economic Impact

• According to ADA Study from 2007:
  – Indirect costs include increased absenteeism ($2.6 billion) and reduced productivity while at work ($20.0 billion) for the employed population
  – reduced productivity for those not in the labor force ($0.8 billion)
  – unemployment from disease-related disability ($7.9 billion)
  – lost productive capacity due to early mortality ($26.9 billion).
Value of Diabetes Education

• In partnership with an actuarial firm, AADE investigated the value of diabetes education in three domains:
  • Behavior change;
  • Clinical outcomes; and
  • Economic (resources) and financial (dollars).

• Data source is Solucia’s substantial national claims database (20 million lives; several years; Medicare and Commercial insured members) and BCBS KS.
Value of Diabetes Education

• Using our commercial payer health plan claims data, the Solucia team:
  – Identified the prevalence of diabetes within the study population;
  – Defined the elements of diabetes education and appropriate identification algorithms to identify it within claims;
  – Identified the incidence of diabetes education claims.

• Hypotheses:
  – Patients who are participate in diabetes education have better clinical outcomes than those of similar risk profile who do not participate in education, and
  – Claims of patients who participate in diabetes education are lower than those of a matched cohort of patients who do not participate in diabetes education.
Results – Costs of Members with Diabetes
Value of Diabetes Education

- Continued study in 2010 focused on diabetes education provided by diabetes educators only (G108-G109).
  - Medicare pays for DSMT: 1 hour of individual (G108) and up to 9 hours of group (G109) DSME/T in first year; 2 hours group training in subsequent years.
- One additional year of claims data. (This results in the exclusion of a number of patients not continuously enrolled for all 4 years.)
- Compliance with diabetes medications.
- Dose-response analysis to answer the question: is more Diabetes Education better than less?
Four-Year Cohort Analysis (risk adjusted)*

Non-Diabetes Education= 31,075
Diabetes Education= 3,094

*Medicare population was relatively small in this cohort
Frequency of DSME/T over 4 Years

Preliminary Results – unpublished

Commercial PMPM Cost Coverage (Adjusted)

Non-Diabetes Education = 31,075  Diabetes Education (=1) = 2,044  Diabetes Education (>=2) = 1,050

P < .3668  P < .2984  P < .0497  P < .0778
More diabetes education is associated with lower inpatient admissions.

Frequency of DSME/T (Admits/1000)
More diabetes education is associated with higher compliance with diabetes medication use.

Anti-diabetics include: Insulin; Sulfonylureas/Meglitinides; Biguanides /Thiazolidinediones; Alphaglucosidase Inhibitors-Incretin Mimetics; Amylinomimetics; Dipeptidyl IV Inhibitors

Frequency of DSME/T (Diabetes Drug Costs Per Member Per Year)
Diabetes Medications include: Insulin; Sulfonylureas/Meglitinides; Biguanides /Thiazolidinediones; Alphaglucosidase Inhibitors-Incretin Mimetics; Amylinomimetics; Dipeptidyl IV Inhibitors

Preliminary Results – unpublished

Non-Diabetes Education  with Rx Coverage = 18,752
Diabetes Education (=1) with Rx Coverage = 1,343
Diabetes Education (>=2)  with Rx Coverage = 735

Non-Diabetes Education  with Rx Coverage = 23,181
Diabetes Education (=1) with Rx Coverage = 753
Diabetes Education (>=2)  with Rx Coverage = 135
Non-Diabetes Education with Rx Coverage = 18,752
Diabetes Education (=1) with Rx Coverage = 1,343
Diabetes Education (>=2) with Rx Coverage = 735

Diabetes Medications included in the study: Insulin; Sulfonylureas/Meglitinides; Biguanides /Thiazolidinediones; Alphaglucosidase Inhibitors-Incretin Mimetics; Amylinomimetics; Dipeptidyl IV Inhibitors

Diabetes Education and Pharmacy Use
Value of Diabetes Education

- Results of the new analysis, based on diabetes education codes (G108-G109), are consistent with the 2009 publication: Diabetes Educators are contributing to improved outcomes and bending the cost curve.
- Similarly, people with diabetes who receive education are likely to show lower utilization patterns compared to the control group.
- People with diabetes with repeat diabetes education encounters are more likely to adhere to diabetic standards of care.
- People with diabetes who received 2 years or more of diabetes education have higher level adherence to medication regimen than those who did not receive diabetes education.
System Transformation

Current System
• Provider-centered
• Price-driven
• Knowledge-disconnected
• Slow diffusion of information
• Disease-focused
• Paper-based
• Process focused government
• Overall cost increases
• Quantity and price measured

21st Century System
• Patient-centered
• Value-driven
• Knowledge-intense
• Rapid diffusion of innovation
• Prevention and health-focused
• Electronically-based
• Outcomes-focused government
• Overall cost decreases
• Quality of care and quality of life

*Adopted from The Center for Health Transformation
Emerging Delivery Models

• Two widely discussed models that take complementary approaches to delivery-system approach
• Patient Centered Medical Home and Accountable Care Organizations
Emerging Delivery Models

• PCMH model emphasizes the creation of a strong primary care foundation for the healthcare system

• ACO model emphasizes the alignment of incentives and accountability for providers across the continuum of care

• Both focus on meeting the needs and preference of patients
Accountable Care Organizations & Medical Home

Source: Premier Healthcare Alliance
Striving to provide patient centered DSME/T …

- Advance promotion and provision of education in non-traditional places
- Advocate for inclusion of DE on coordinated care team as patient education and self-care help expand the reach of physicians and help reinforce their recommendations
- Advocate for patient involvement as partners in delivery of DSME/T
- Ensure patients with diabetes receive well-coordinated diabetes education and care during transition across all providers and settings
Striving to provide patient centered DSME/T ...

• Diabetes education is:
  – A collaborative process through which people with or at risk for diabetes gain the knowledge and skills needed to modify behavior and successfully self-manage the disease and its related conditions
  – Interactive, ongoing and involves the person with diabetes (or the caregiver or family) and a diabetes educator or team of educators
  – Aims to achieve optimal health status, better quality of life and reduce the need for costly health care
  – Provided by diabetes educators who are qualified healthcare professionals
Striving to provide patient centered DSME/T …

• Diabetes educators are
  – Multidisciplinary healthcare professionals who make a positive difference in the lives of people with diabetes by:
    • providing diabetes self management education/training.
    • engaging in essential collaboration with Endocrinologists, Medical Internists, and Primary Care Physicians.
    • improving the outcomes of diabetes control and saving money by contributing to behavior change and better self-management.
Striving to provide patient centered DSME …

- Diabetes Educators are uniquely prepared to provide DSME/T

- Diabetes Educators are found in almost any setting from the community pharmacy, doctors offices, independent consultants, employer groups, health food stores, and disease management companies to traditional hospital-based education programs
Striving to provide patient centered DSME/T …

- 90% of diabetes care is delivered by primary care, often without the involvement of a qualified diabetes educator
- 14.3% of all diabetes related primary care visits include diet or nutrition counseling
- 10% include exercise counseling
- 3.6% include weight reduction counseling
- Less than 33% of Medicare beneficiaries use the Medicare benefit for DSMT
- PCPs typically provide advice on risk reduction rather than training in diabetes self-management

U.S. Department of HHS. National Ambulatory Medical Care Survey; 2004.
Striving to provide patient centered DSME/T …

• Delivery models for DSME
  – Traditional
    • Hospital-based (outpatient/ambulatory)
  – Non-traditional
    • Community-based (church, pharmacy, physician practice, YMCA, …)
Striving to provide patient centered DSME/T …

- Partnership with the Emory University Diabetes Education Latino Program
  - Community based diabetes education program that has a home in DeKalb primary care clinic, and is part of Emory O’Grady Hospital
Striving to provide patient centered DSME/T …

• Access to DSME
  – Once referred, no waiting time to join classes at convenient locations in community patients live or work
  – Off hour bi-lingual service and education
  – Assessment (including level of health literacy)
Striving to provide patient centered DSME/T …

• Patient Engagement in Care
  – Collaborative goal setting (behavior and clinical)
  – Written care plan or summary of patient self assessment
  – Attendance
Striving to provide patient centered DSME/T …

- Clinical Information System
  - AADE 7 System: Diabetes Education EMR
    - Interventions
    - Clinical Information and Medication
    - Report (outcomes)
  - Behavior score
    - Measure change over time for each behavior (AADE 7 self-care behaviors)
    - Measure aggregate behavior change
    - Patient handouts
      - Dashboard appropriate for different levels of health literacy and numeracy
    - Provider reports pre- and post- DSME/T
Striving to provide patient centered DSME/T …

• Team Care: multi-discipline and multi-level DSME team

<table>
<thead>
<tr>
<th>Staff</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1 CHW/Promotoras</td>
<td>Provide non clinical instruction</td>
</tr>
<tr>
<td>Level 2 LPN</td>
<td>Obtain height/weight; conduct meter training</td>
</tr>
<tr>
<td>Level 3 RN</td>
<td>Provides basic DSME</td>
</tr>
<tr>
<td>Level 4 – 5 CDE or BC-ADM (RN, RD, PhrmD)</td>
<td>Undertake insuling adjustments per protocol delegation, teach DSME on monitoring and problem solving</td>
</tr>
<tr>
<td>Physician</td>
<td>Overall patient care and referral to DSME</td>
</tr>
</tbody>
</table>
Striving to provide patient centered DSME/T …

- CDE or DE assumes a role of care coordinator for diabetes
  - CHW oversight, guidance and feedback
  - Feedback to physicians and other specialists involved in the care,
  - Patient follow-up (3 month, 6 month)
Striving to provide patient centered DSME/T …

- Patient and Provider Feedback
  - Patient satisfaction survey
  - Provider satisfaction with information sharing and education process
Conclusion

• Diabetes Educators are contributing to improved outcomes and bending the cost curve
• Team approach is essential to ensure that patients with diabetes have access to DSME, training and support
• Patient centered diabetes education is effective and sustainable when delivered in community setting and coordinated with patient’s medical home or primary care physician