How Diabetes Education and the 7 AADE Self-Care Behaviors are Delivered in Community Programs?

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Our Role as Diabetes Educators

• Diabetes Self-Management Education (DSME):
  – Ongoing process facilitating knowledge, skills and the abilities necessary for diabetes self-care
  – Incorporate individual’s needs, goals and life experiences
    • evidence-based standards
  – Improve clinical outcomes, health status and quality of life

• DSME does not stop when the patient leaves the educator's office = DSMS
  – Behavior change, maintenance of healthy diabetes-related behaviors, and continuously address psychosocial concerns

• Cover the AADE7 Framework
Knowledge does not change behavior, but...it has an impact
Better A1c knowledge was associated with lower A1c levels.

* $p = 0.029$ for trend

Barnes et al., 2012. Grady Memorial Hospital
Accredited Diabetes Education Programs

684 programs, 1652 sites

1714 programs, 3506 sites
DSME Reimbursement

An education and training program that helps patients manage their diabetes

CPT Codes
Healthcare Common Procedure Coding (HCPC) System II G Codes (G0108 and G0109)

Nutritional management is one content area and may be delivered by non-RD members of healthcare team
National Standards for Diabetes Self-management Education and Support

- Standard 1: Organizational Structure, Mission Statement, Goals
- Standard 2: Target Population
- Standard 3: Advisory Board
- Standard 4: Coordinator
- Standard 5: Multifaceted Education Team
- Standard 6: Curriculum
- Standard 7: Assessment, Development of Education Plan, Re-assessment
- Standard 8: Ongoing Support
- Standard 9: Documentation
- Standard 10: Continuous Quality Improvement Plan (Data Collection and Analysis)

Multidisciplinary Team Approach: Is it more Effective?

- Coordinated, team-based care vs standard care in FQHCs
- MD or NP, care manager (RN or LPN), medical assistant, information specialist and a social worker
  - Telephone calls, system prompts key guideline requirements to practitioners (A1C testing), planned visits addressing multiple diseases
- Patients receiving team-based care showed reductions and significantly better outcomes in:
  - glycemic control, hypertension, and BMI

Scanlon et al. 2008; Shojania et al. 2006
Is a Multidisciplinary Team Approach More Costly?

• Differences in Medicaid/Medicare claims of team-based care vs standard care in FQHCs.
  
• Both team based and control patients had an increase in claims, but no significant difference in total payments
  – Team based approach is no more costly than standard care

• Diabetes outcomes in team management program
  
  • Diabetes visits, groups DSME and telephone contact
  • Increase in A1C, urinary protein, and serum lipids screenings
  • Shorter hospital stays
  
  ✩ Lower overall cost for patient and facility

Scanlon et al. 2008; Domurat ES.1999
Preventative Services
Age-Adjusted % of Adults (18+ years) with Diagnosed Diabetes Receiving Preventive Care
United States

- Annual Dilated Eye Exam
- Daily Self-Monitoring of Blood Glucose
- Annual Foot Exam
- Annual Doctor Visit
- Daily Self-Exam of Feet
- Two or More A1c Tests in Last Year
- Attended Diabetes Self-Management Class
- Annual Influenza Vaccine
- Ever Had Pneumococcal Vaccine

Percentage

84%

Preventative Services: Ophthalmology

• Between 2005 and 2050, the number of Americans 40 years or older with diabetic retinopathy (DR) is predicted to triple
  – 5.5 million to 16 million people
  – Vision threatening (DR) will increase from 1.2 million to 3.4 million

• The National Committee for Quality Assurance, Health Plan Employer Data and Information Set concluded that:
  – 56.5% of those covered by commercial health plans had a retinal exam in the previous year
  – 63.5% covered by Medicare had a retinal exam in the previous year
  – 52.7% covered by Medicaid had a retinal exam in the previous year

• Healthy People 2020 goal for annual dilated eye exams for adults with diabetes is 58.7%
Preventative Services: Nephrology and Podiatry

- **Nephrology**: Dialysis Morbidity and Mortality Study
  - 30% of all patients with Stage 5 CKD did not see a nephrologist until 3 months before initiating RRT
  - 50% never consulted with a dietitian before starting such therapy

- **Podiatry**: study of time for foot ulcer treatment/healing
  - 57% of patients had a delay time of >2 weeks before seeing a podiatrist
    - Patient delay: 3 days
    - Professional delay: 7 days
  - Ulcer healing time was 49 days vs the average 21 days
  - Reducing the number of health care professionals in the referral trajectory – decrease treatment delay and healing time?

Healthy People 2020 goal: 37%
Healthy People 2020 goal: 75%
Mental Health and Glycemic Control

• Clinical trial in out-patient setting: Depression and diabetes
  – 30% screened positive for depression or increased stress due to their condition
  • 65% expressed NO interest in referrals to psychology
    – younger, higher A1C and smoked

  – Ask patients about well being and whether they have an unmet need for psychological care they wish to have addressed?

Fleer et al. 2012; Park et al. 2013
Mental Health and Glycemic Control

- Improve diabetes self-care integrating mindfulness and acceptance skills
  - Effective in treating depression and in improving glycemic control

- Controlled psychosocial intervention incorporating Cognitive Behavioral Therapy (CBT)
  - CBT was more effective in improving glycemic control than education alone

Gregg et al., 2007; Lustman et al., 1998; Markowitz 2011
Barriers of Referral to Preventative Services

• Minimal patient awareness of the importance of preventative care
  – Interventions to increase patient awareness have proven effective at increasing screening rates (i.e. eye exams)

• Limited health knowledge by primary care doctors
  – Identifying high risk patients
    • Barrier to adherence to standard guidelines

• Lack of information to patients’ about their health during the physical exam
  – Teachable moments?

• Cultural differences

Dervan et al., 2008; Xuanping Zhang et al., 2007; Charles et al., 2010; O’Hare et al., 1996; National Eye Institute, 2007.
Cultural factors in Diabetes
Assessment of health beliefs

• What do you think has caused your diabetes?
• Why do you think it started when it did?
• What do you think diabetes does to you? How does it work?
• What problems has diabetes caused to you?
• What concerns you most about your diabetes?
• How serious is your diabetes, do think you will get better soon?

Health Literacy and Literacy. Is it the same?

- Literacy: Ability to read and write
  - Approximately 1/5 of the US adult population reads below the fifth-grade level

- Health literacy refers to a patient’s ability to obtain, process and understand health information and services needed to make appropriate decisions

- Patients with low literacy and health literacy often struggle with diabetes self-management

Who is at risk for low health literacy?

- Low health literacy is more prevalent among:
  - Older adults
  - Minority populations
  - Those who have low socioeconomic status
  - Medically underserved people

- Patients with low health literacy may have difficulty:
  - Locating providers and services
  - Filling out complex health forms (i.e. questionnaires)
  - Sharing their medical history with providers
  - Seeking preventive health care
  - Knowing the connection between risky behaviors and health
  - Understanding directions on medication bottles

http://www.hrsa.gov/publichealth/healthliteracy/healthlitabout.html
How can we help?

• Use simple language, short sentences and define technical terms
• Supplement instruction with appropriate materials (videos, models, pictures, etc.)
• Ask patients to explain your instructions (teach back method) or demonstrate the procedure
• Ask questions that begin with “how” and “what,” rather than closed-ended yes/no questions
• For Limited English Proficiency (LEP) patients, provide information in their primary language
• Offer assistance with completing forms
• Organize information so that the most important points stand out and repeat this information

http://thepoliticalcarnival.net/tag/hero/
http://www.hrsa.gov/publichealth/healthliteracy/healthlitabout.html
How can we help?

http://thepoliticalcarnival.net/tag/hero/
http://www.hrsa.gov/publichealth/healthliteracy/healthlitabout.html
What to ask?

- Are you taking any medication?
- Use of herbal medicines including: spearmint, chamomile, aloe vera (nopal), garlic, lavender, ginger, ginseng, rue, anise, orange leaves, sweet basil, oregano, lime, peppermint, cinnamon pills, red yeast rice, St.John’s wart, garlic, benfotiamine, fengugreek, Ginseng, bitter melon

Are you taking anything to relieve your symptoms?
Healers

- Curanderos/as (Mexico) - Medicine Men
- Santiguadura (PR) – Medicine Men
- Espiritistas – Spiritual Healers
- Sobadora – Massage Therapists
- Partera – Midwife
- Senoras – Women with herbal remedies
## How are We Doing?

<table>
<thead>
<tr>
<th>Proportion of people with diabetes</th>
<th>Controlled Blood Pressure ($\leq 140/80$ mmHg)</th>
<th>57.1%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LDL at goal level ($\leq 100$ mg/dL)</td>
<td>58.8%</td>
</tr>
<tr>
<td></td>
<td>A1C at goal level ($\leq 7%$)</td>
<td>43.2%</td>
</tr>
<tr>
<td></td>
<td>All three met</td>
<td>18.8%</td>
</tr>
</tbody>
</table>

*Center for Disease Control – Diabetes National Statistics 2014*
Emory Diabetes Education Training Academy

- Live and web-based Continuing Medical Education (CME)
  - MDs, NPs, PAs
- Professional Diabetes Educator Certificate Course for mid-level professionals
  - CDEs, PharmDs, RDs, RNs
- Diabetes Education for Clinical Support Staff
  - MAs, CNAs, LPNs, CHWs, Public Health
Study Design and Methods

• **Purpose:**
  – To evaluate the gaps in the delivery of diabetes-self management education to patients with diabetes

• **Design:**
  – Healthcare professionals (HCP) were invited to attend Continuing Education interactive webinars by Endocrinologists
    • “Discussing Cases with Diabetes Experts”
  – Participants had the opportunity to interact, discuss challenging cases within their facility and ask questions to the presenters
Study Design and Methods

• 1 hour Continuing Education credit
  – No cost

• Webinars were available for 3 months for those participants unable to attend
  – Is Incretin Therapy the Way to go?
  – Diabetes Updates 2014

• Information was collected on healthcare professionals, diabetes education and prevention strategies at their working institutions
Statistical Methods

- Descriptive analyses were conducted for variables related to health settings, resource utilization, diabetes education, and preventative services.
- Chi square test was used to analyze the relationship between type organizations, individuals and health care variables.
Results

Attendees by License

- Other: 1.5%
- MD: 3.1%
- PA: 0.8%
- NP: 5.5%
- CDE: 14.2%
- PT: 0.9%
- RN: 41.8%
- RD: 32.2%

Total Attendees: n = 127
Results

Attendees by Organizational Affiliation

<table>
<thead>
<tr>
<th>Affiliation</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital</td>
<td>56</td>
</tr>
<tr>
<td>Clinic</td>
<td>4.7</td>
</tr>
<tr>
<td>FQHC</td>
<td>6.3</td>
</tr>
<tr>
<td>Doctor’s Office</td>
<td>3.7</td>
</tr>
<tr>
<td>Nursing Home</td>
<td>4.7</td>
</tr>
<tr>
<td>Local Health Department</td>
<td>0.8</td>
</tr>
<tr>
<td>Employee Health Service</td>
<td>0.8</td>
</tr>
<tr>
<td>Home Health</td>
<td>6.3</td>
</tr>
<tr>
<td>Public Health</td>
<td>2.3</td>
</tr>
<tr>
<td>OBGYN</td>
<td>0.8</td>
</tr>
<tr>
<td>Other</td>
<td>6.2</td>
</tr>
<tr>
<td>No Data</td>
<td>7.4</td>
</tr>
</tbody>
</table>

n = 127
Results

AADE or ADA Accredited Programs

- Facilities with Accreditation: 46%
- Facilities without Accreditation: 54%

n = 127
Results

AADE7 Behaviors Covered in Facilities

![Pie chart showing the distribution of AADE7 behaviors covered in facilities.](image)

- **59%**: Covered 7 behaviors
- **23%**: Covered 4 behaviors
- **7%**: Covered 3 behaviors
- **11%**: Covered < 3 behaviors

Accredited facilities covered a higher number of the AADE7 (p=0.026, $X^2 = 5.3$)

n = 127
Results

Provided/Referred to Preventative Services

- Ophthalmology: 39.3%
- Dental: 40.2%
- Podiatry: 50.4%
- Nephrology: 37%
- Pharmacy: 40.2%

n = 127
Results

Provided/Referred to Preventative Services by Hospitals

<table>
<thead>
<tr>
<th>Service</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ophthalmology</td>
<td>36</td>
</tr>
<tr>
<td>Dental</td>
<td>17.6</td>
</tr>
<tr>
<td>Podiatry</td>
<td>21.9</td>
</tr>
<tr>
<td>Nephrology</td>
<td>12.8</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>23.5</td>
</tr>
</tbody>
</table>

72% referred/provided only 1 preventive service

n = 71
Results

- A total of 37% of healthcare professionals did not know if mental/psychological assistance was provided or referred
  - 65% were diabetes educators (p<0.01)
Results

Who Teaches Insulin Administration?

- Nurses: 56%
- LPNs: 7%
- MAs: 12%
- RDs: 5%
- MDs: 9%
- NPs: 8%
- No one: 3%
- n = 127
Who Focuses on the Teachable Moments Theory?
Participants’ Goals for Improving their Practice

- Addressing Clinical Inertia for Treatments: 14%
- Self Blood Glucose Monitoring: 12%
- Establish Treatment Plan to Address Triad Goals: 14%
- Referral to Diabetes Educators: 29%
- Increase Preventative Services: 18%
- Increase Number of Staff Teaching DSME: 20%

n = 127
Putting the Pieces together

• Facilities are eager to provide the most up-to-date DSME/S

• 7 out of 10 healthcare professionals who attended the webinars were RNs and RDs and some CDEs
  – MDs, NPs, PAs and CHWs, LPNs, CNA, and MAs

• Only half of the facilities had an accredited program and these were more likely to include the complete AADE7
  – 59% taught the all of the 7 self-care behaviors

• AADE7 behaviors taught were:
  – Healthy Eating
  – Being Active
  – Taking Medications
  – Blood Glucose Monitoring
  – Leaving out: Reducing Risks, Problem Solving and Healthy Coping
Putting the Pieces Together

• About 1 out of 3 hospitals provided and/or referred patients to preventative services

• About 2 out of 3 of hospitals only provided and/or referred patients to 1 preventative service

• Diabetes educators are not identifying those patients at high risk for mental health conditions

• Nurses were the main healthcare professionals to teach insulin administration
  – 12% of facilities did not have anyone to teach insulin administration
Where do we go from here?

1. Focus on increasing capacity training for all levels of healthcare professionals

2. Incorporate prevention strategies to reduce diabetes complications
   - Identifying patient in need of mental health assistance

3. Utilize clinical support staff for diabetes education and allocate resources to provide the most up-to-date care for patients with diabetes
What do you think?

BD is a 46 y/o Asian American man with T2D for 11 years and an A1C of 11.4% who refuses to start insulin. He has a family hx of diabetes on his father’s side.

What is your best initial answer?

a) Reassure the patient that will nothing bad will happen to him

b) Ask the patient if his father had complications

c) Educate the patient on the increased risk of complications due to high blood glucose

d) Ask the patient why he does not want to start insulin
What do you think?

How would you assess BD’s health literacy?

a) Ask the patient how well they can read
b) Ask the patient to read a pamphlet and then explain it to you
c) Obtain information about the educational level
d) Gauge reading level based on what newspaper or magazines he reads
How Diabetes Education & the 7 AADE Self-Care Behaviors are Delivered in Community Programs?

Presentation to: Healthcare/Public Health
Presented by: Dwana “Dee” Calhoun, MS, CHES
Date: Health Systems Project Director
August 25, 2014
Mission
Protecting and preserving the eyes, hearts, kidneys and feet of Georgians living well with diabetes, prediabetes, and gestational diabetes.

Vision
Georgians living well, free of diabetes and its complications, with increased access to quality-oriented diabetes care and healthier options where they live, work, play and learn.
Figure 1. Prevalence of Formal Diabetes Education among Adult with Diabetes by Demographic and Healthcare Coverage Status, Georgia, 2012

*Sample Size too small to produce reliable estimates

^Non-Hispanic

Data Source: Behavioral Risk Factor Surveillance System (2012)
Essential Services of Public Health (3)
Inform, Educate, and Empower People About Health Issues

Essential Services of Public Health (7)
Link People to Needed Personal Health Services and Assure the Provision of Healthcare (When Otherwise Unavailable)
Opportunity: Increase DSME Program Access
Opportunity: Increase DSME Program Access

Prevalence of Diabetes among Macon Adults by County, 2008-2010

Prevalence of Diabetes among Athens Adults by County, 2008-2010

Data Source: The Centers for Disease Control and Prevention.
http://www.cdc.gov/chronicdisease/resources/maps/diabetes.htm

We Protect Lives.
Opportunity: Increase DSME Program Access

Prevalence of Diabetes among Dalton Adults by County, 2008-2010

Prevalence of Diabetes among Rome PHD Adults by County, 2008-2010


We Protect Lives.
Expanded Chronic Care Model

Elimination of health disparities related to diabetes prevalence, disability, morbidity and mortality.
Increase the proportion of persons with diagnosed diabetes who receive formal diabetes education.
Relevant Healthy People 2020 Objectives: Diabetes (D)

D (Diabetes)-5.1
Reduce the proportion of persons with diabetes (with an A1c value greater than 9 percent).

D (Diabetes)-11
Increase the proportion of adults with diabetes who have a glycosylated hemoglobin measurement at least twice a year.

D (Diabetes)-13
Increase the proportion of adults with diabetes who perform self-blood glucose-monitoring at least once daily.
Relevant Healthy People 2020 Objectives: Diabetes (D)

D (Diabetes)-6
Improve lipid control among persons with diagnosed diabetes.

D (Diabetes)-7
Increase the proportion of persons with diagnosed diabetes whose blood pressure is under control.

D (Diabetes)-9
Increase the proportion of adults with diabetes who have at least an annual foot examination.

D (Diabetes)-10
Increase the proportion of adults with diabetes who have an annual dilated eye examination.

D (Diabetes)-12
Increase the proportion of persons with diagnosed diabetes who obtain an annual urinary microalbumin measurement.

Teachable Moments: Identifying Additional Opportunities for Patient Engagement

Every Physician Office Visit

- Family History-Medical
- Reduce Lifestyle Risk Factors
- Patient History-Medical
- Review Plan of Care (POC) Goals

Diabetes Diagnosis

- Maintain Recommended Testing
- Assess Medication Compliance
- Manage Co-morbid Conditions
- Assess for Tx & Referral Challenges
Teachable Moments: Identifying Additional Opportunities for Patient Engagement

**Who?**
- Frequent Emergency Room Visits/Hospital Admissions
- Episodes of visual, kidney, foot problems, or high blood pressure
- Experience difficulty adjusting to recommended nutritional intake

**When?**
- Glucose levels continue to fluctuate
- Difficulty adjusting to medication schedule or adherence with multiple medications
- Challenges with meeting plan of care or treatment goals

**Where?**
- Recently discharged from hospital due to diabetes complications
- New to insulin therapy regimen and experiencing challenges
- Difficulty recording or remembering when to check glucose levels in log book
Upcoming Opportunities for Georgia’s Healthcare & Public Health Professionals
Scholarships:

Certified Diabetes Educators (CDE) - Exam Fee for clinicians (including pharmacists)

Medication Therapy Management (MTM) Certificate Training Program for Registered Pharmacists
Diabetes is a serious and costly disease that affects both genders and crosses cultural, sociodemographic, and geographical boundaries.

In 2012, approximately 9.9%, or 734,800, Georgia adults were diagnosed with diabetes.¹

Diabetes-Related Complications among Older Adults

Nationally, older adults with diabetes have the highest rates of major lower-extremity amputation, visual impairment, end-stage renal (kidney) disease and heart conditions such as myocardial infarction (MI) of any age group. Normal aging and diabetes, and conditions such as functional and cognitive impairments that impair function are associated with a higher risk of falls and fractures. A potential cause of functional impairment in diabetes may include interaction between coexisting medical conditions, peripheral neuropathy, vision and hearing difficulty, and gait (walking) and balance problems.²³

Moreover, peripheral neuropathy, present in 50–70% of older patients with diabetes, increases the risk of postural instability, balance problems, and muscle atrophy, limiting physical activity and increasing the risk of falls.²³ Older adults are at high risk for the development of type 2 diabetes due to the combined effects of increasing insulin resistance and other impaired functions associated with aging.²³

2013 Diabetes Self-Management Report
2014 Georgia Diabetes Community Resource Guide

Featuring Diabetes and Chronic Disease Self-Management Education Programs, Care and Support Resources for Georgians with Diabetes, Prediabetes and Gestational Diabetes Mellitus (GDM)

Additional Resources

Additional Resources

Returning To The Tradition of Healthier Living
Learn More..Move More..Eat Healthy

Diabetes, Prediabetes and Gestational Diabetes in Georgia

This Georgia Diabetes Community Resource guide provides a general listing of services and resources for Georgians diagnosed with diabetes, prediabetes (also known as borderline diabetes) or gestational diabetes mellitus (GDM), their loved ones as well as healthcare and public health professionals providing care and support to them.

Prepared by: Georgia Diabetes Prevention and Control Program

We Protect Lives.
For Professionals: AADE Accredited Diabetes Self-Management Education (DSME) Programs

http://www.diabeteseducator.org/ProfessionalResources/accred/

For Professionals: American Diabetes Association (ADA) Diabetes Education Recognition Programs

Contact Information

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Georgia Diabetes Prevention and Control Program
2014 Georgia Diabetes Community Resource Guide
2013 Georgia Diabetes Self-Management Report and other reports
Diabetes Prevention and Management Resources
http://dph.georgia.gov/
THANK YOU!

Thank you for attending the webinar. Please access the survey to obtain credit. The link will be posted in the chat box to the left.

https://www.surveymonkey.com/s/N5SDPX2

Your comments are vital to the success of the program.

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