

The Changing Role of the Diabetes Educator: Diabetes Education and U.S. Health Care

National Diabetes Education Program Quarterly Webinar Series

Wednesday, November 5, 2014
2-3 PM ET



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Webinar Logistics

- All lines are muted
- Two ways to ask questions during Q&A period:
 1. Type your question into the question section and we will read your question aloud.
 2. Click the “raise hand” icon and we will call your name and unmute your line allowing you to ask your question.



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Presenters

Linda M. Siminerio, R.N., Ph.D., C.D.E.
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Professor of Medicine, University of Pittsburgh

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The Changing Role of the Diabetes Educator: Diabetes Education and U.S. Health Care

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Objectives

- Describe the evolution of diabetes education.
- Discuss the current state of health care and diabetes education.
- Summarize the future direction and opportunities for diabetes educators.
- Discuss questions from the participants and provide answers.



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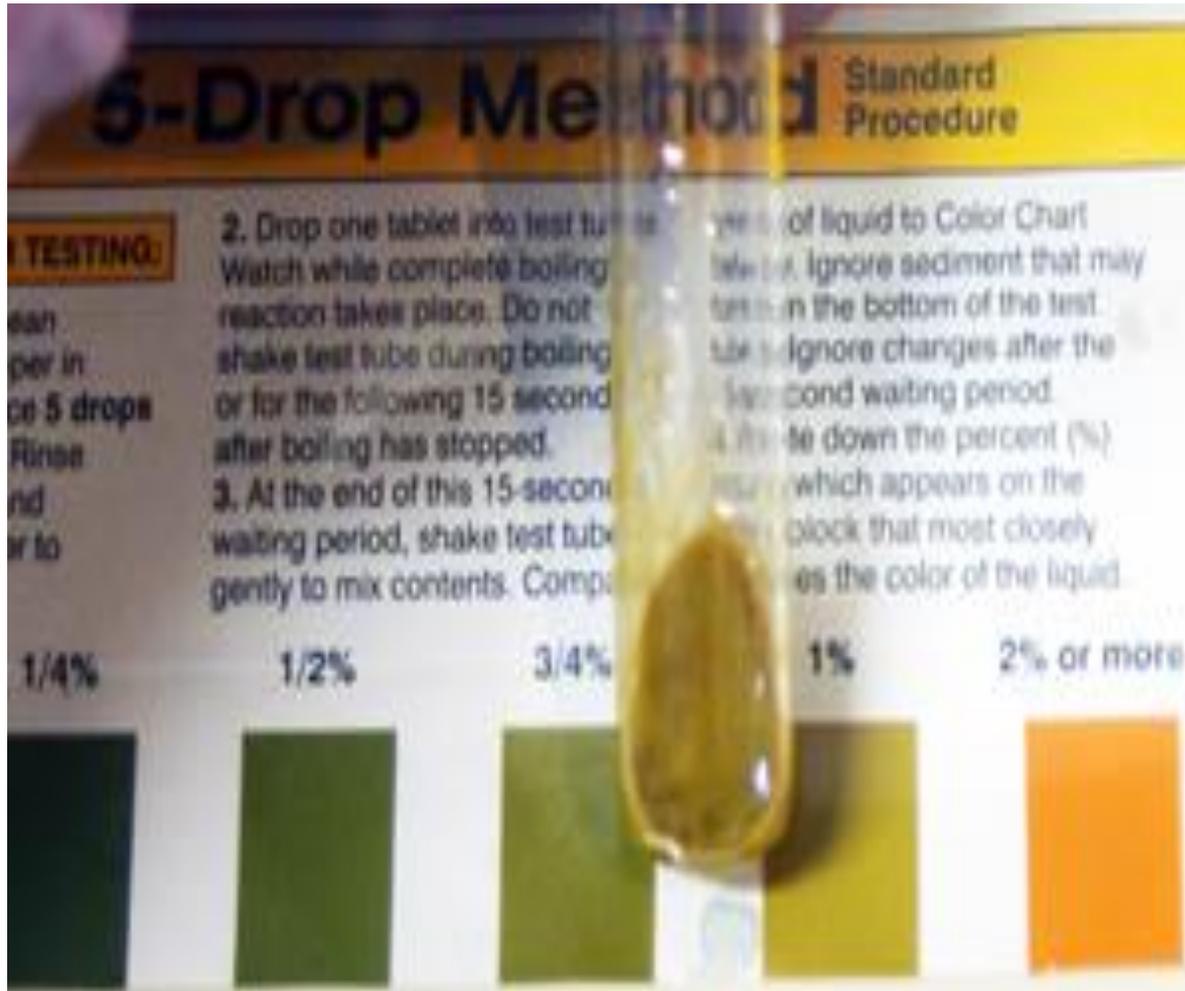


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My First Diabetes Patient







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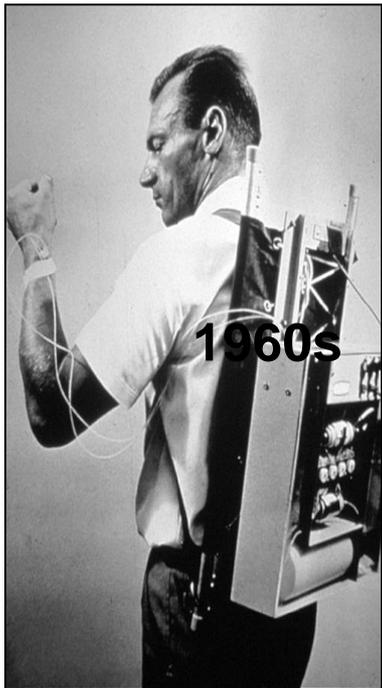
The “Not-So-Good Old Days”



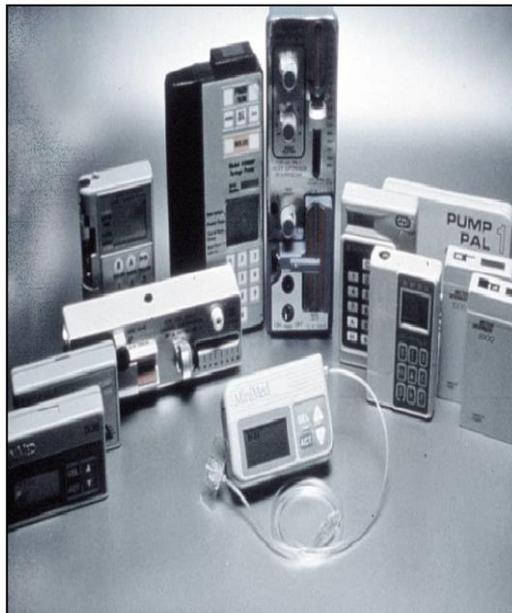


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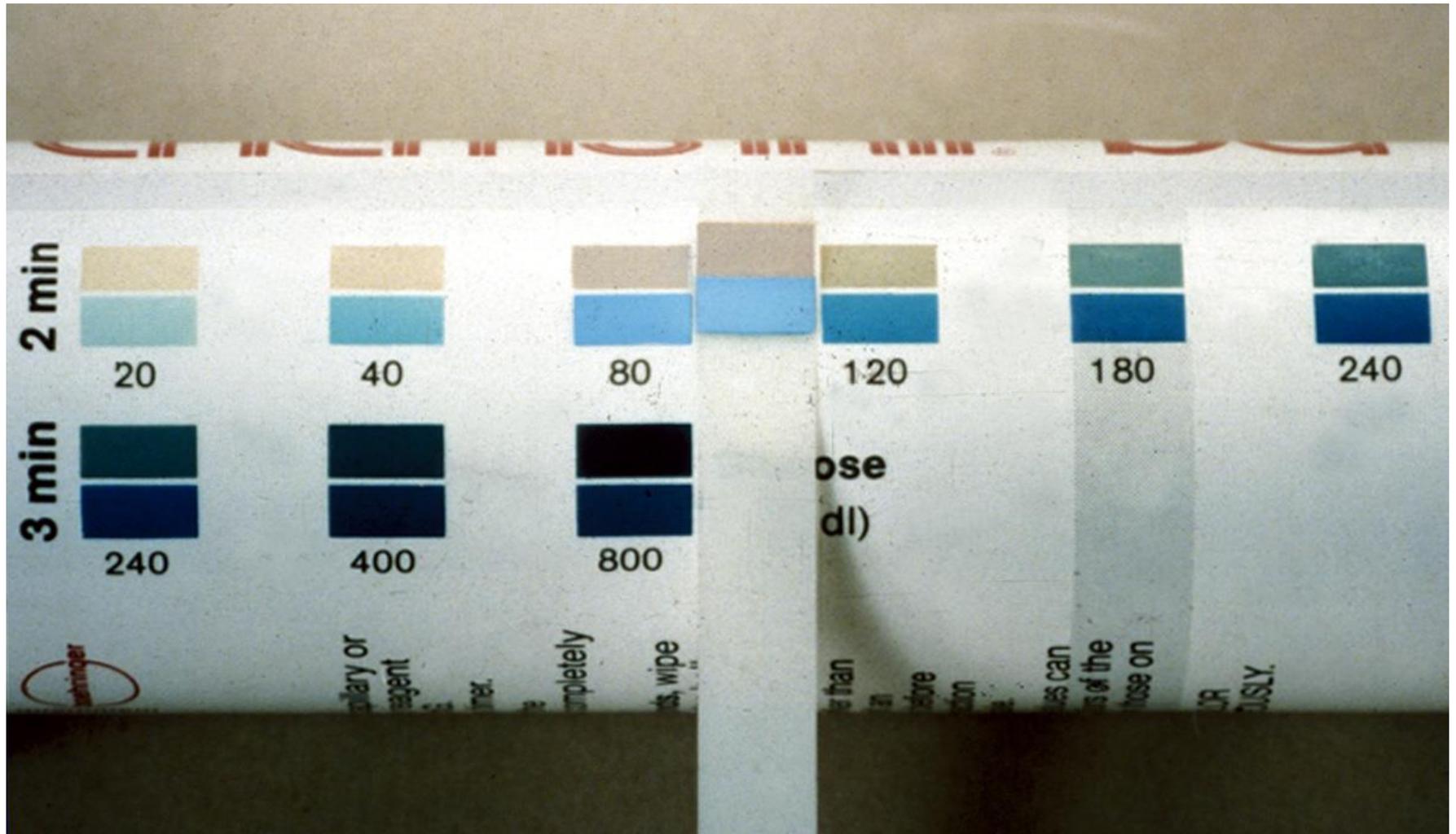
1960s





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SMBG Consensus Report Coalition for Clinical Research, 2008

- Research on the performance of SMBG in T2DM is needed
- Protocols assessing SMBG performance in T2DM must provide BG goals and how to respond to BG data
- Treatment algorithms in T2DM may include a dietary, exercise, and/or medication intervention



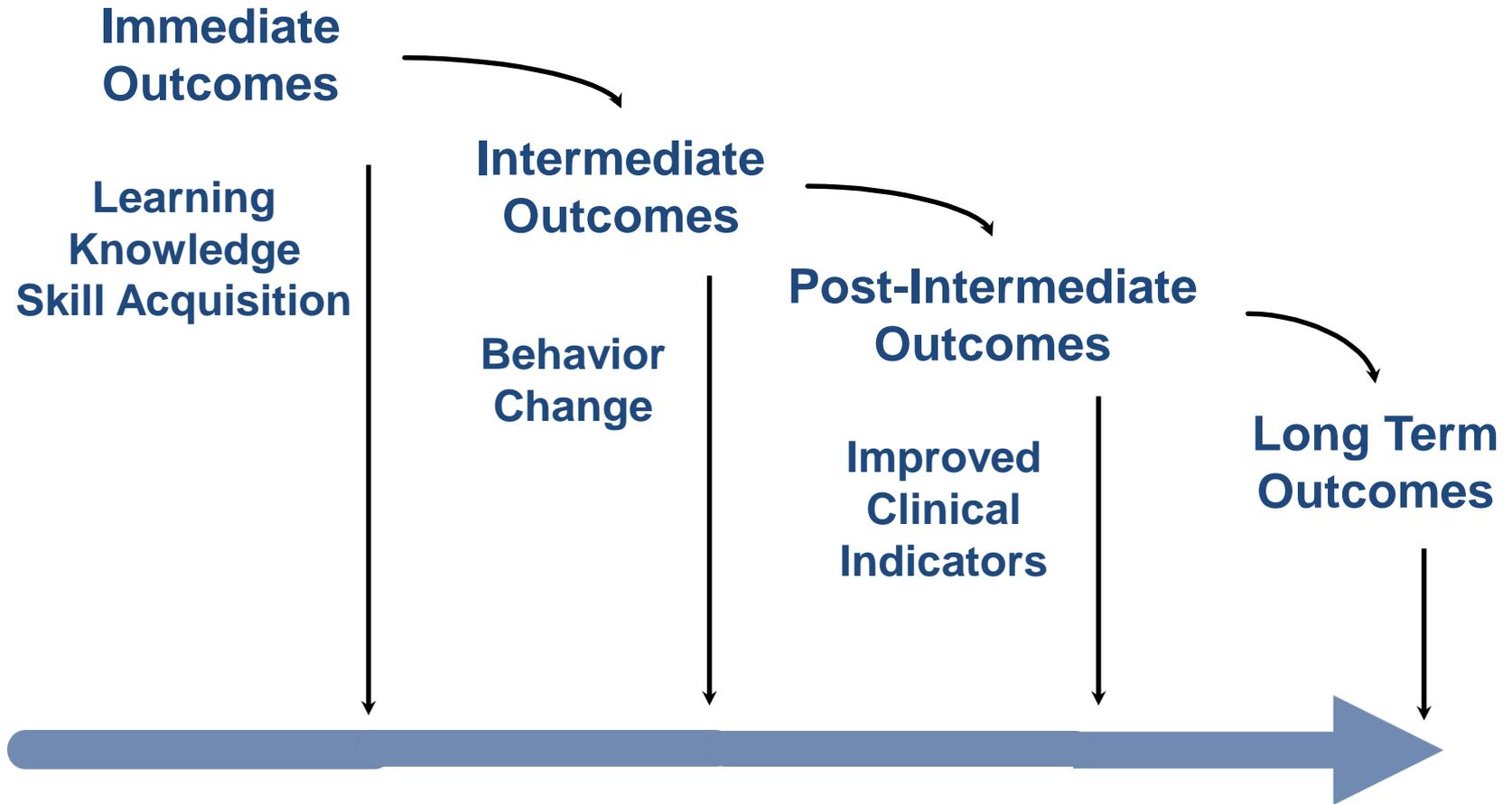
Education Revolution

- Education may not be an efficacious therapeutic intervention in most adults
- Cognitive (knowledge) scores increased in the education group – not A1C
- Study results demonstrate that effects of education are of limited value if they do not lead to permanent changes in attitudes and motivation

Bloomgarden ZT, et al: Randomized, controlled trial of diabetic patient education: improved knowledge without improved metabolic status. *Diabetes Care* 10:263–272, 1987. Korhonen T, et al: A controlled trial on the effects of patient education in the treatment of insulin dependent diabetes. *Diabetes Care* 1983, 6:256–261.



Health Care Outcomes Continuum





Diabetes Control and Complications Trial

- The DCCT Research Group: The effect of intensive treatment of diabetes on the development and progression of long-term complications in insulin-dependent diabetes mellitus. *N Engl J Med* 329:977–998, 1993
- Delahanty L, et al: Expanded role of the dietitian in the Diabetes Control and Complications Trial: implications for clinical practice. *J Am Dietetic Assoc* 93:758–764,767, 1993
- Ahern JA, Kruger DF, et al.: The Diabetes Control and Complications Trial: the trial coordinator perspective. *Diabetes Educator*. 15:236–241, 1989



Affordable Care Act

The Forces on Diabetes Education

- Prevention
- Preventing hospital readmissions
- Processes to improve primary care
- Need for health disciplines to practice at their highest level
- Specialist services reduced
- Technological approaches a recurring theme



Future of Diabetes Education: Expanded Opportunities and Roles for Diabetes Educators

- Demand for diabetes educators is projected to increase
- Employer base will broaden and extend into industry, retail pharmacy clinics, and community-based organizations
- Increasing roles in management, quality assurance, and technology



Diabetes educators are urged to:

1. Gain insight about health care trends to thrive in the workplace of the future.
2. Promote the evidence concerning the benefits of diabetes education.
3. Work to increase physician referrals.
4. Acquire needed competencies for the workplace of the future.



Self-Management Education: The Evidence

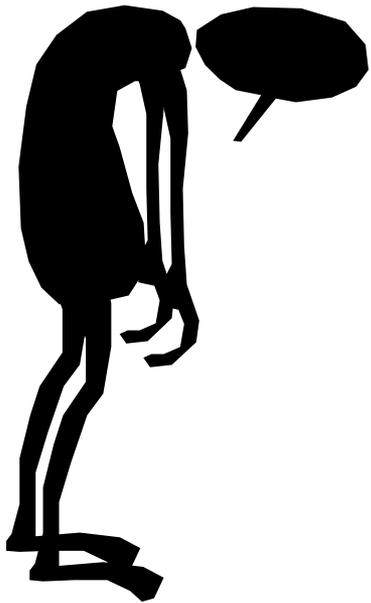
- Improves A1C by 0.76%¹
- Is effective and cost-saving ²
- Team-based care best predictor of improved glycemia³
- Access to a nurse associated with improved outcomes⁴
- Technological approaches are showing promise^{5, 6}

Norris SL, et al. Effectiveness of self-management training on type 2 diabetes: a systematic review of randomized controlled trials. *Diabetes Care*. 2001¹. Robbins, J. et al Nutritionist visits, diabetes classes and hospitalization rates and charges. *Diabetes Care*. 31, 2008². Funnell, et al: Steering toward a new DAWN in diabetes management. *The Diabetes Educator, Journal Supplement for Continuing Education*, 2005³. Siminerio L, Funnell M, et al. US nurses' perceptions of their role in diabetes care: Results of the cross-national diabetes, attitudes, wishes and needs (DAWN) study. *The Diabetes Educator*. 2007, 33(1):152-62. ⁴

Siminerio L. The role of technology and the chronic care model. *Journal of Diabetes Science and Technology*. 2010, 4(2):470-75. ⁵ Siminerio L, et al. Telemedicine for Reach, Education, Access and Treatment (TREAT): Linking telemedicine with diabetes self-management education to improve care in rural communities. *The Diabetes Educator*, 2014, 40. ⁶

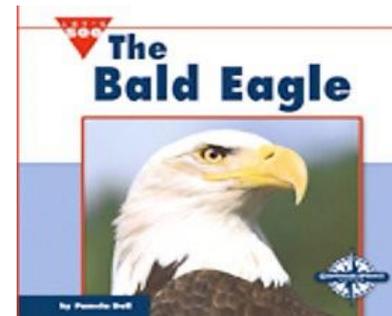


Educator challenges: Lessons from the “almost extinct” American Bald Eagle



- Challenges

- Numbers of patients increasing
- Hospital-based programs are closing
- Numbers of those receiving education are small



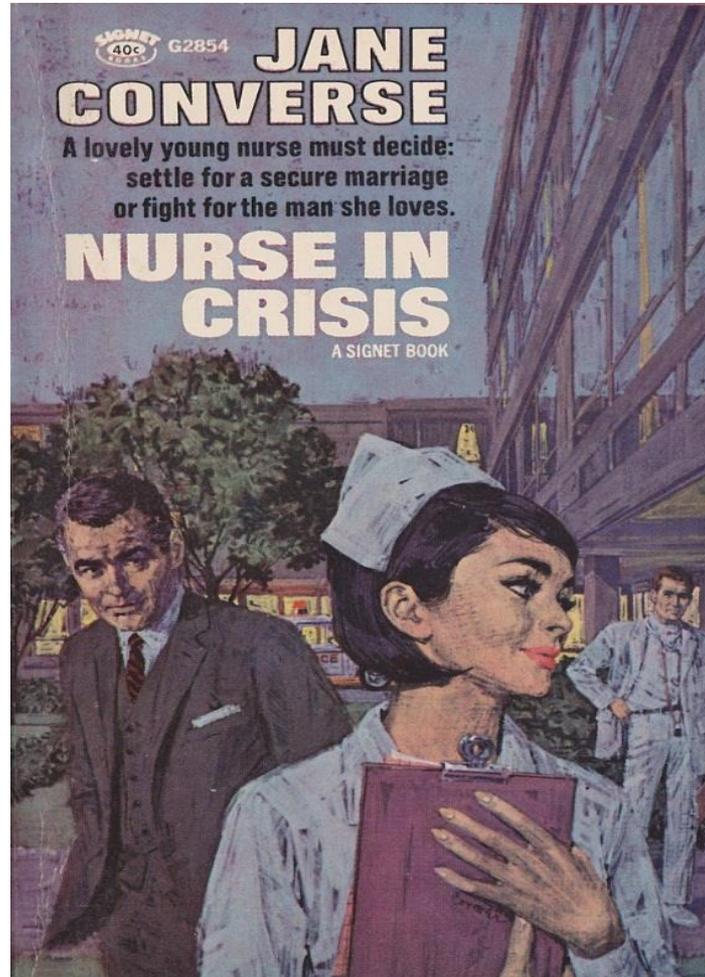
Siminerio, L. Is the diabetes educator the next endangered species?. *Diabetes Spectrum*. Vol 20, 2007.; Pearson J, et al: Medicare reimbursement and diabetes self-management training: national survey results. *The Diabetes Educator* 30:914-927, 2004.



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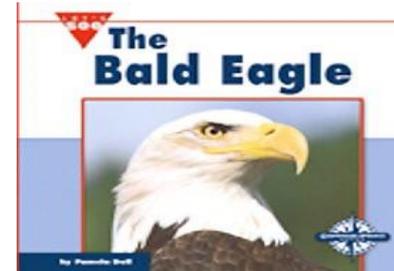
Re-Inventing Our Educators





Educator Solutions: Lessons from the American Bald Eagle

- Focus on primary care
- Consider educator as central resource for hospital staff, business and insurers
- Empower educator to support therapeutic management (approved physician protocols)
- Educator role with technology –e.g. telemedicine





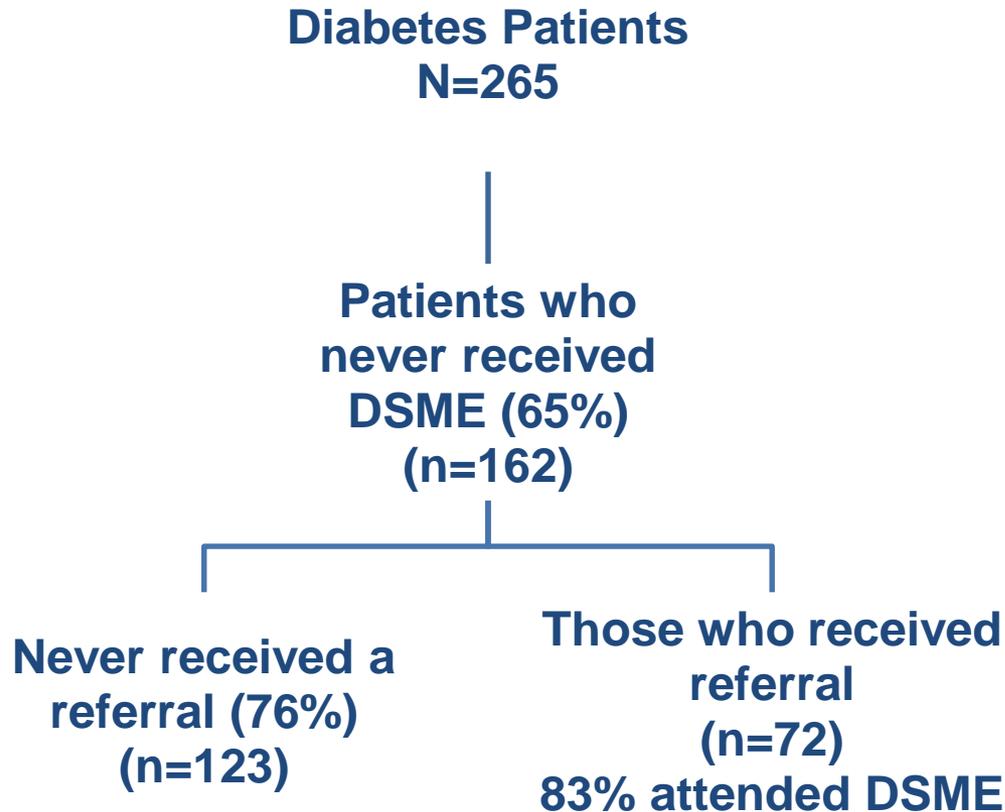
Education Services in UPMC Database

- Those who received education:
- All patients studied n=12,745 (100%)
 - DSME only n= 1,512 (12%)
 - MNT only n= 0 (0%)
 - DSME and MNT n= 672 (5%)
 - Neither DSME or MNT n= 10,561 (83%)

Ruppert K, et al. Diabetes education services and health care charges in a large health system database. ADA, Suppl. 2009.



Risk Factors, Co-Morbid Conditions, Participation and Physician Referrals to a Rural DSME Program





Proportion of Diabetes Patient Behavioral Risk Factors (n=162)

Risk Factors	Percentage
Current smoker	17%
Hypertension	85%
Hyper-lipidemia	78%
BMI \geq 30 kg/m ²	65%
> 2 risk factors	92%

Ruppert, K., Uhler, A., Siminerio, L. Examining Risk Factors, Co-Morbid Conditions, Participation and Physician Referrals to a Rural DSME Program, Diabetes Educator.



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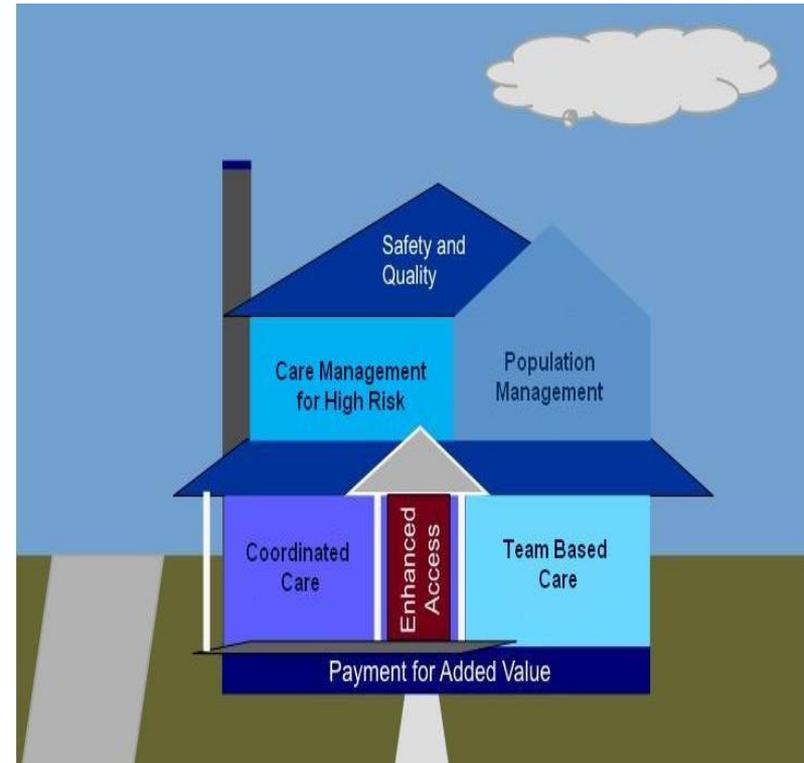




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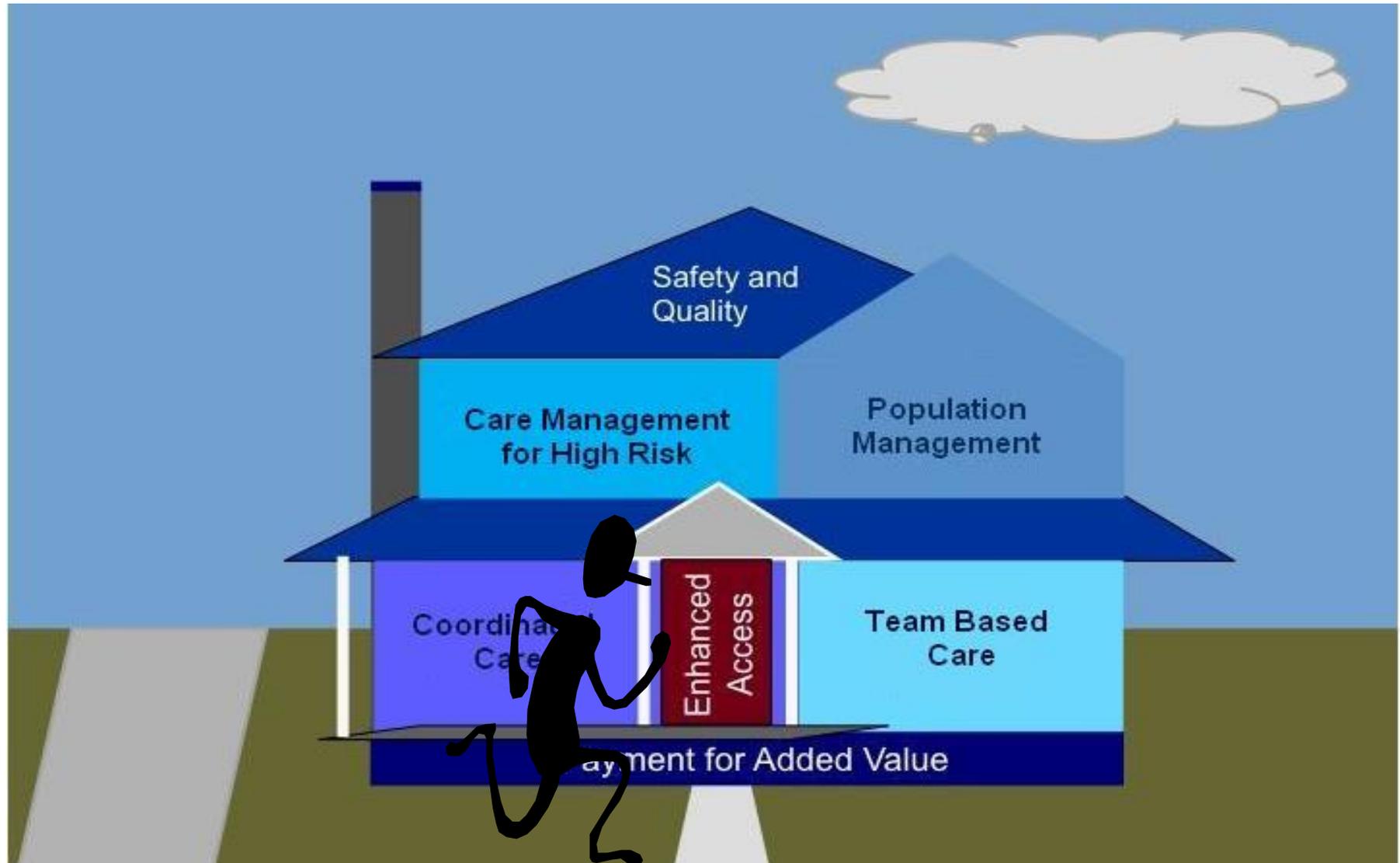
Educator Opportunities





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Who Can Provide DSMS in Primary Care?

- **OBJECTIVE:** Compare DSMS approaches and determine who can be most effective in helping patients maintain/improve clinical outcomes, self-care behaviors, distress, and satisfaction following DSME delivered in primary care.
- **RESULTS:**
 - Significant improvement in A1C, empowerment, aspects of self-care, and distress following DSME at 6 weeks.
 - Educator DSMS group best sustained improved A1C while those in the other DSMS groups maintained glycemic improvements but began to show trends toward worsening.
 - Participants maintained improved glycemia, lipid, weight, and self-care behaviors and reductions in distress throughout the delivery of DSMS interventions regardless of DSMS supporter.
- **CONCLUSIONS:**
 - Findings reaffirm the critical role of educators but suggest that others may serve as DSMS supporters. Results suggest that DSME delivered in primary care is effective and multiple DSMS agents are reasonable.

Siminerio, L. et al. Who best provides diabetes self-management support in primary care? Findings from a randomized controlled trial. *The Diabetes Educator*. 2013, 39(5). 705-13.



Comparative Effectiveness of Peer Leaders and Community Health Workers in DSMS

- **OBJECTIVE:** Compare peer leader (PL) vs a community health worker (CHW) telephone outreach intervention in sustaining improvements in HbA1c over 12 months after a 6-month DSME program.
- **RESULTS:**
 - PL group achieved a reduction in mean HbA1c (8.2–7.5%, $P < 0.0001$) that was maintained at 18 months.
 - CHW group also showed a reduction in HbA1c (7.8 vs. 7.3%, $P = 0.0004$) post-6 month DSME;
 - Only the PL group maintained improvements achieved in blood pressure at 18 months. At the 18-month follow-up, both groups maintained improvements in waist circumference, diabetes support, and diabetes distress, with no significant differences between groups.
- **CONCLUSIONS:**
 - Both low-cost maintenance programs led by either a PL or a CHW maintained improvements in key patient-reported diabetes outcomes, but the PL intervention may have additional benefit in sustaining clinical improvements beyond 12 months.



2014 Statistics Total US CDEs 18,401

- Pennsylvania 12.7 mil people
- 8% with diabetes = 1 mil people
- 796 PA CDEs = **1,323 patients per CDE**

<http://www.ncbde.org/documents/statecount0112.pdf>



Benefits of Diabetes Education in Primary Care

Diabetes Education (0-6 weeks)	Community Medicine	FQHC
	Median Change [p-value]	Median Change [p-value]
HbA1c (%)	0.6 [.0001]*	1.1 [.0001]*
SBP (mm/Hg)	NS	NS
DBP (mm/Hg)	2.5 [.005]*	3.6 [.02]*
HDL (mg/dL)	NS	NS
LDL (mg/dL)	8.5 [.04]*	11 [.01]*
tChol (mg/dL)	8.7 [.05]*	13.3 [.009]*

SBP=Systolic Blood Pressure; DBP=Diastolic Blood Pressure; HDL=High-Density Lipoprotein; LDL=Low-Density Lipoprotein; tChol=Total Cholesterol; NS=No Significant Change * p < .05



Elements of Glucose-to-Goal :

- Strengthen DE relationships with primary care practices
 - Increase utilization of DEs across the UPMC Health System.
 - DEs become a more visible member of the medical home.
- Use EMR resources to proactively identify diabetes patients
 - Use data to identify patients at high risk.
 - Adopt a more aggressive approach by reaching out to patients.
- Empower DEs to take the lead (with physician oversight) in helping patients manage their diabetes
 - Relieve provider workloads.
 - Realize a team approach by coordinating patient care with PCMH care managers, PharmDs, etc.
 - DEs can work with a patient's physician to help design a personalized plan of care.



Glucose-to-Goal: Process Steps

1. Identify practices in community
2. Meet with practices to determine methods for identifying high risk patients, (e.g. A1C, BP)
3. Use EMR resources to proactively identify diabetes patients
 - Use data to identify patients at high risk
 - Adopt a more aggressive approach by reaching out to patients
4. Establish method for communication/ schedule for program
5. Deliver program
6. Bill for DSME
7. Refer to DSMS
8. Collect and report data



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Reimbursement – No Cash COW!





What to do

1. Educators collect data for recognition
2. Seek Recognition Approval
3. Develop an agreement with practice(s)
4. Bill through practice -- return revenue to the hospital program



The Effectiveness of Nurse- and Pharmacist-Directed Care in Diabetes Disease Management: A Narrative Review

Mayer B. Davidson*

Charles R. Drew University, UCLA School of Medicine, USA

Abstract: People with diabetes have a marked increase in morbidity and mortality. The American Diabetes Association has recommended evidence-based process and outcome measures to improve diabetes care. However, these measures are not widely used in the current health care system. There have been several studies that have shown that nurse- and pharmacist-directed care can improve diabetes management. These studies have shown that nurse- and pharmacist-directed care can improve glycemic control, reduce complications, and improve patient satisfaction. The American Diabetes Association has recommended that nurse- and pharmacist-directed care be used as a strategy to improve diabetes management. This narrative review discusses the effectiveness of nurse- and pharmacist-directed care in diabetes disease management.



Inpatient Diabetes Education Is Associated With Less Frequent Hospital Readmission Among Patients With Poor Glycemic Control

- **OBJECTIVE:** To explore the relationship between inpatient diabetes education and hospital readmissions in patients with poorly controlled diabetes. IDE was conducted by a certified diabetes educator or trainee.
- **RESULTS:**
 - Patients who received DE had a lower frequency of readmission within 30 days than did those who did not (11 vs. 16%; $P = 0.0001$). This relationship persisted after adjustment for socio demographic and illness-related factors.
 - IDE was also associated with reduced readmissions within 180 days, although the relationship was attenuated.
 - Further analysis determined that higher HbA1c was associated with lower frequency of readmission only among patients who received a diabetes education consult.
- **CONCLUSIONS:**
 - Formal IDE was independently associated with a lower frequency of all cause hospital readmission within 30 days; this relationship was attenuated by 180 days. Prospective studies are needed to confirm this association.



Take home message

- Is it reasonable to think that education can be done by a diabetes educator during a hospital stay?
- Educators can serve as:
 1. Resources for hospital unit nurse
 2. Train inpatient staff on new therapies and protocols



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Comparison of Diabetes Education Through Telemedicine Vs in Person

- **OBJECTIVE:** To determine whether diabetes education can be provided as effectively through telemedicine technology as through in-person encounters with diabetes nurse and nutrition educators.
- **RESULTS:**
 - Problem Areas in Diabetes scale scores improved significantly with diabetes education (p .05).
 - Behavior change goals did not differ between groups.
 - HbA1c improved from 8.6 1.8% at baseline to 7.8 1.5% immediately after education and 7.8 1.8% at 3 months.
- **CONCLUSIONS:** Data suggest that telemedicine can be successfully used to provide diabetes education to patients.



Telemedicine for Reach, Education & Treatment (TREAT)



- PCPs and patients satisfied (100%)
- Mean A1C reduction – 2.0% (p=.02)
- Significant improvements in Problem Assessment in Diabetes (PAID), Empowerment and Self-Care scores

Toledo F et al. Telemedicine consultations: An alternative model to increase access to diabetes specialist care in underserved rural communities. *JMIR Research Protocols*. 2012, 1(2):e14.; Toledo F, et al. Efficacy of the Telemedicine for Reach, Education, Access and Treatment (TREAT) Model for diabetes care. *Diabetes Care*. 2014, e¹-e².DOI:10.2337/dc13-1909.



TREAT Outcomes

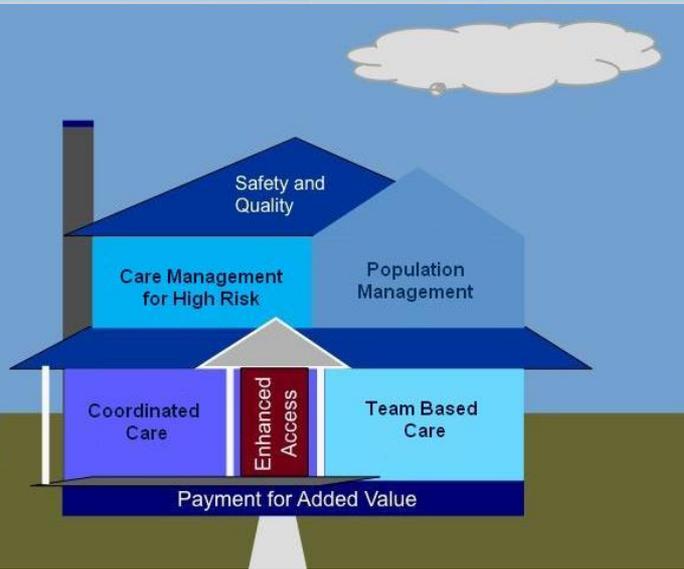
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From Medical Home

To Insurer





Leveraging Education and Diabetes Support (LEADS)

Practice-Based Care
Managers (PCMH)

Health Management
& Lifestyle Coaches

Senior Care Coordinators

Diabetes Educators

Direct Member Support

Transition Coordinators



Educators

- Provide training
- Serve as resource – the diabetes EXPERT
- Collaborate on patient-specific needs
- Explore and develop new programs and materials
- Initiate and train on new processes and technology
- Connect with providers and community resources



Landscape for Diabetes Education Survey

- Increase in pharmacist representation
- Significant increase of multiple locations
- Many patients receive < 10 hours DSME
- Newly dx not receiving DSME within 6 mos. (only 16%)
- Pre-diabetes education – 78%



Evaluation of a Primary Prevention Program Delivered by Diabetes Educators

- **OBJECTIVE:** Determine if individuals at risk for DM who participate in an intervention delivered by diabetes educators in existing diabetes self-management education community based programs can reduce risk factors.
- **RESULTS:**
 - Mean overall weight loss was 11.3 lb (5.1%, $P < .001$); in addition, significant decreases were noted in fasting plasma glucose, low-density lipoprotein cholesterol, triglycerides, and blood pressure.
- **CONCLUSIONS:**
 - Group Lifestyle Balance program delivered by diabetes educators was successful in reducing risk for diabetes and cardiovascular disease in high-risk individuals. Furthermore, diabetes educators, already integrated within the existing health care system, provide yet another resource for delivery of primary prevention programs in the community.

**“If you don’t like change,
you are going to like irrelevance
even less.”**





Related Resources from the National Diabetes Education Program

Joanne Gallivan, M.S., R.D.

Director, National Diabetes Education Program

National Institute of Diabetes and Digestive and Kidney Diseases

National Institutes of Health



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Practice Transformation for Physicians and Health Care Teams

www.YourDiabetesInfo.org/PracticeTransformation



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

NDEP National Diabetes Education Program

NDEP is a partnership of the National Institutes of Health, the Centers for Disease Control and Prevention, and more than 200 public and private organizations.

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Tengo diabetes ¿Corro riesgo?

You are here: [NDEP Home](#) > [Health Care Professionals, Businesses & Schools](#) > [Health Care Professionals](#) > Practice Transformation for Physicians and Health Care Teams

Practice Transformation

- Engage Leadership & Assess Practice
- Evidence-Based Care
- Information Systems
- Improve Practice Quality
- Clinical Decision Support
- Team-Based Care
- Patient-Centered Interactions
- Patient Care Coordination

Help Us Improve
The Practice Transformation Website
[Take the Survey](#)

The Health Improvement Institute recently named NDEP as the recipient of its 2013 Annual Ascendicus Award, recognizing Practice Transformation for Physicians and Health Care Teams website for excellence in the communication of reliable information about healthy lifestyles, disease prevention, and health care treatments. [Read more.](#)

[Go Back](#) [About the Practice Transformation Site](#)

Practice Transformation for Physicians and Health Care Teams

The National Diabetes Education Program's (NDEP) free resource Practice Transformation for Physicians and Health Care Teams is based on the patient-centered medical home model and provides health care professionals with online tools to help them change their practices and improve care for people with diabetes.

-  Engage Leadership and Assess Your Practice
-  Provide Evidence-Based Care
-  Use Information Systems
-  Improve Practice Quality
-  Use Clinical Decision Support
-  Practice Team-Based Care
-  Enhance Patient-Centered Interactions
-  Improve Patient Care Coordination

Help Us Improve
The Practice Transformation Website

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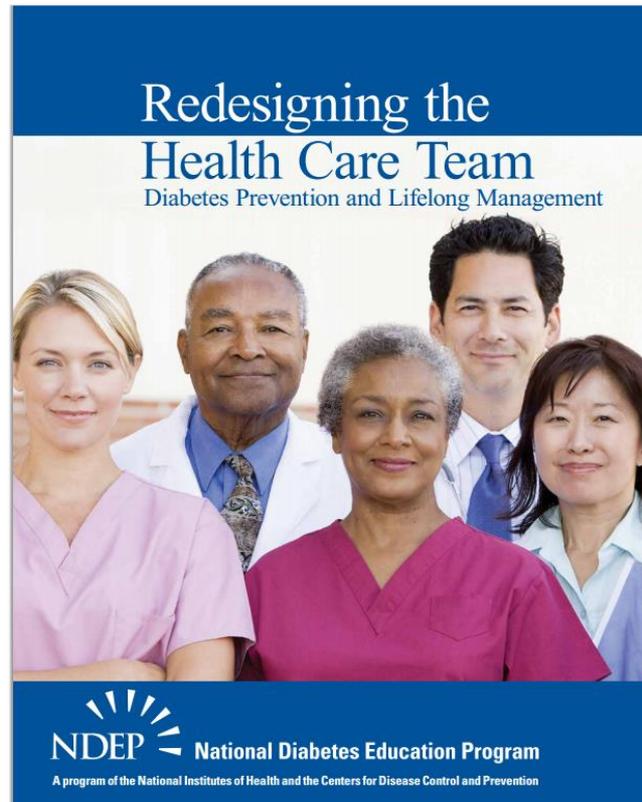


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Redesigning the Health Care Team

www.YourDiabetesInfo.org/Publications





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Diabetes HealthSense

www.YourDiabetesInfo.org/HealthSense

The screenshot shows the Diabetes HealthSense website. At the top, the title "Diabetes HealthSense" is displayed in a large, light blue font, with the tagline "Resources for living well" to its right. Below the title is a navigation bar with links: "HealthSense Home", "Make a Plan", "Health Care Professionals", "Submit a Resource", and "About HealthSense".

On the left side, there is a "Help Me" section with a "Select one:" dropdown menu. The menu options include: "Eat healthy", "Be active", "Manage my weight", "Cope with stress and emotions", "Set goals", "Stop smoking", "Prevent diabetes-related health problems", and "Check my blood glucose". Below this menu are four expandable categories: "I Am A", "Age", "Type of Resource", and "Language".

The main content area features a breadcrumb trail: "You are here: NDEP Home > Resources > Diabetes HealthSense". Below this is a search bar with the text "Search HealthSense by title or keyword" and a "Go" button. To the right of the search bar is a blue box with a sun icon and text: "The Health Improvement Institute recently named NDEP as the recipient of its 2012 Annual Aesculapius Award, recognizing NDEP's Diabetes HealthSense website for excellence in the communication of reliable information about healthy lifestyles, disease prevention, and health care treatments. [Read more](#)".

Below the search bar is a large text block: "Live well. Eat healthy. Be active. *It's not easy, but it's worth it.*" followed by a circular arrow icon and the text "Use the options on the left to find resources to help you get started."

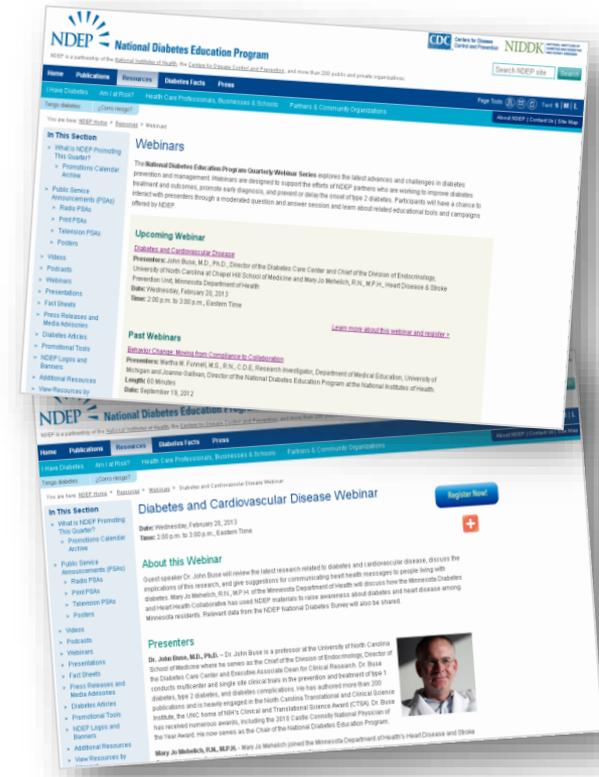
At the bottom of the main content area is a video player titled "Healthy Eating with Diabetes". The video shows two women sitting at a table, one holding a book. The video player includes a play button, a progress bar showing 0:00, and a "YouTube" logo. Below the video player are five numbered tabs (1-5).

On the right side of the page, there are three vertical panels. The top panel is titled "Make a Plan" and features a photo of a family with the text: "Change begins with just one step. Make a plan to achieve your goals." The middle panel is titled "Health Care Professionals" and features a photo of two doctors with the text: "Find research articles and resources for facilitating behavior change in your practice. [Research articles >](#) [Patient resources >](#)". The bottom panel is titled "Follow NDEP" and features social media icons for Facebook, Twitter, YouTube, and RSS.



Webinar Slides and Evaluation

- Webinar Series Webpage
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Question & Answer Session



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