



## Working Across Professional Boundaries in the Management of Diabetes: The PPOD Project

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CDC Division of Diabetes Translation

# **Working Across Professional Boundaries in the Management of Diabetes: The PPOD (Pharmacy, Podiatry, Optometry, Dentistry) Project**

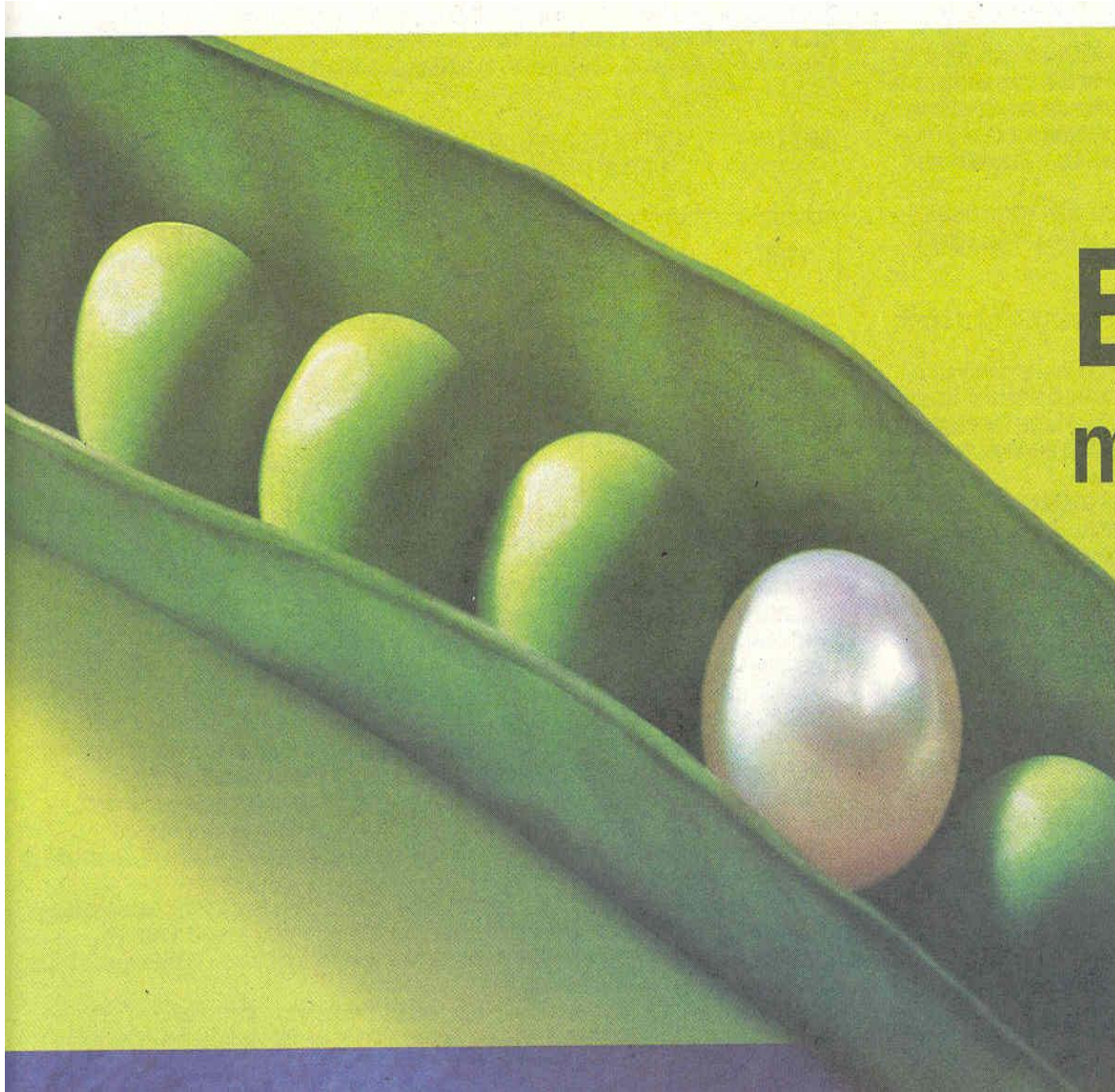
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*The findings and conclusions of this presentation are those  
of the presenter and  
do not necessarily represent views of the Centers for Disease  
Control and Prevention.*

# Objectives

- **Team care is important for the overall health of people with diabetes.**
- **Learn why it's important for vision practitioners to be included in the team of people who care for folks with diabetes.**
- **Learn about CDC resources that can help you and your patients.**

# PPOD is NOT a Vegetable: A CDC Resource



# What is a PPOD?

- **Something healthy that goes with beef or chicken**
- **Endamame**
- **Something that promotes health like a workgroup of NDEP**
- **P**harmacists, **P**odiatrists, **O**ptometrists, **D**ental Professionals



# EXPLORING TEAM CARE

# **What Is the National Diabetes Education Program(NDEP)?**

- **Established in 1997 as an initiative of the U.S. Department of Health and Human Services to:**
  - **Promote early diagnosis.**
  - **Improve diabetes management and outcomes.**
  - **Prevent/delay the onset of type 2 diabetes in the United States and its territories.**
- **Jointly sponsored by Centers for Disease Control and Prevention (CDC) and National Institutes of Health (NIH).**
- **Involves 200+ federal, state, and private sector agency partners.**

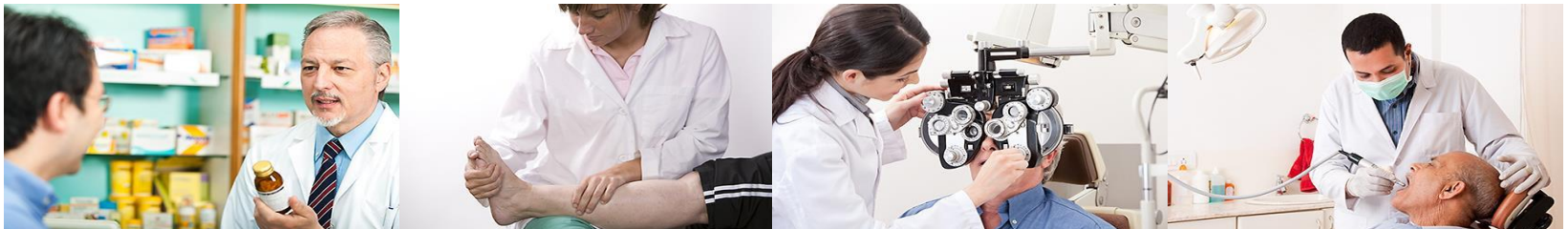
# What Is PPOD?

- **PPOD is a collaborative team approach that:**
- **Engages many health care providers who treat patients with diabetes.**
  - **Reinforces consistent diabetes messages across four disciplines:**
    - **Pharmacy**
    - **Podiatry**
    - **Optometry**
    - **Dentistry**



# What Can PPOD Providers Do?

- PPOD providers can:
  - Embrace a team approach to diabetes care.
  - Recognize signs of diabetes and systemic concerns across all PPOD areas.
  - Reinforce the importance of annual screenings and healthy habits.
  - Educate patients about diabetes.
  - Encourage self-management.
  - Provide treatment.



# Why Do We Need PPOD?

- **PPOD makes a difference for patients with diabetes.**
- **A team approach to diabetes care:**
  - **Reduces risk factors.**
  - **Improves diabetes management.**
  - **Lowers the risk for chronic disease complications.**

# **A PPOD Provider May Be the First to See a Person Having a Problem**

- **Patients may consult a PPOD provider about new symptoms that may be diabetes-related before consulting with a primary care provider.**
- **Regular communication provides an opportunity to keep diabetes on the patient's radar screen.**
- **PPOD providers are well positioned to advise and educate their patients about diabetes control and prevention.**
- **All providers need to give consistent messages, recognize early danger signs, and promote the team approach.**

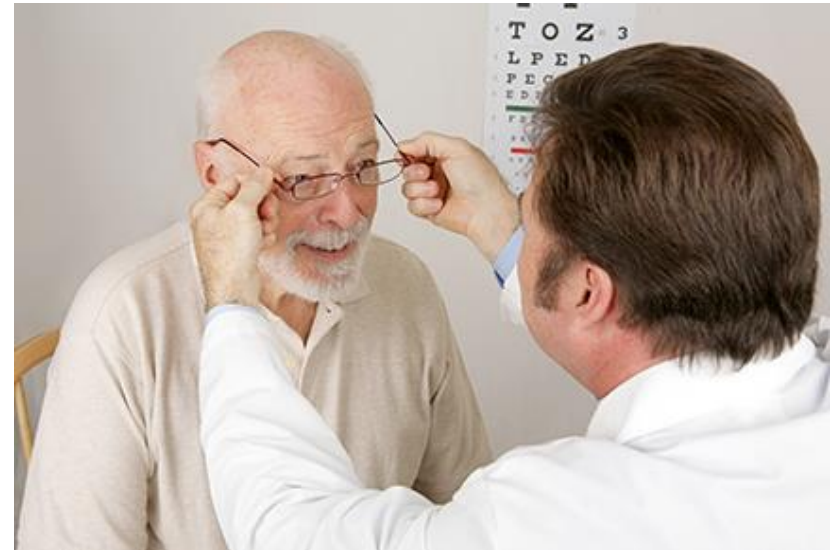
# Visits to Pharmacy, Podiatry, Optometry and Dentistry Providers

- **Nearly 84 million adults use prescription medicines**
- **Approximately 50% of adults have a personal pharmacist**
- **About 5% of the population visits a podiatrist each year**
- **More than half the US population wears corrective lenses**
- **Approximately 2/3 of Americans see a dentist at least once a year**

# Eye Health



- **11% of U.S. adults with diabetes have a form of visual impairment.**
- **Adults with visual function loss are at least 90% more likely to have depression than those without visual function loss.**
- **The majority of severe vision loss from diabetes is preventable with timely diagnosis and therapy.**



Zhang, X, Bullard, KM, Cotch, MF, et al. Association between depression and functional vision loss in persons 20 years of age or older in the United States, NHANES 2005–2008. *JAMA Ophthalmol.* 2013; 131(5):573–81. Doi: 10.1001/jama.ophthalmol.2013.2597. Available at, Centers for Disease Control and Prevention. *National Diabetes Statistics Report: Estimates of Diabetes and Its Burden in the United States, 2014.* Atlanta, GA: U.S. Department of Health and Human Services; 2014.

# Eye Exams



- **People with diabetes should have an annual comprehensive dilated eye exam at least once a year.**
  - **Help determine risk of developing eye complications.**
  - **Educate high-risk patients on how to care for and monitor their eye health.**
  - **Prevent low-risk patients from becoming high-risk.**

# Key Questions to Ask Your Patient About Eye Health



- **Patients should be referred to an optometrist (or other eye care professional) if the answer to these questions is “no” or “unsure”:**
  - Have you had a full eye exam with dilated pupils at least once a year?
  - Do you know how diabetes can affect your eyes?
  - Do you know what to do if you have vision changes?

# Example: PPOD in Action



- **A 45-year-old African American woman brings her mother for her annual comprehensive diabetes eye exam.**
- **The eye care provider asks if she has ever considered that she, too, is at risk for developing type 2 diabetes.**
- **The provider gives the woman *NDEP's Am I At Risk?* brochure and points out the NDEP website and toll-free number for more information and resources.**
- **The provider suggests the woman make a follow-up appointment with her own primary care provider.**
- **The provider recommends the woman schedule a dilated eye examination to check for signs of diabetic retinopathy, which occurs in 20% of patients at diagnosis, as well as glaucoma, which is 4X more common in African Americans and a leading cause of blindness.**



# What Is Included in the PPOD Toolkit?

- ***Working Together to Manage Diabetes:  
A Guide for Pharmacy, Podiatry, Optometry, and Dentistry***
- **Patient education sheet and patient care checklist**
- **Patient fact sheet series:**
  - ***Diabetes and You: Your Eyes Matter!***
  - ***Diabetes and You: Your Teeth Matter!***
  - ***Diabetes and You: Your Feet Matter!***
  - ***Diabetes and You: All Medicines Matter!***
- **PPOD PowerPoint presentation**
- **PPOD promotional materials**
- ***Working Together Medications Supplement***

# **Working Together to Manage Diabetes: The PPOD Guide**

- **Offers an overview of team approach to care.**
- **Includes details for each PPOD specialty area on:**
  - **Current data and trends**
  - **Common diabetes-related complications**
  - **Assessment techniques**
  - **Key warning signs**
  - **Patient education information**
- **Serves as a “cross-education” resource, *not* a comprehensive guide to subspecialty care.**

# **Working Together to Manage Diabetes: Considerations**

- **Guide provides a “quick course” on each specialty and its relation to diabetes.**
- **Each section is written by content specialists for providers OUTSIDE of the specialty to read.**
- **Your own specialty section may seem “simplistic.”**
- **The goal of the PPOD Guide is to relay consistent messages across the disciplines.**

# PPOD Multidisciplinary Patient Care Checklist

- Promotes increased collaboration among all members of the health care team.
- Documents key exam measures for sharing with providers and patients.

During pilot test of checklist, 74.3% of providers stated they were likely to change their practice to more of a team approach.

**Diabetes Head to Toe Checklist Examination Report**  
Your organization's name here \_\_\_\_\_

**From:** \_\_\_\_\_ **To:** \_\_\_\_\_

**Patient Information:**  
**Name:** \_\_\_\_\_ **DOB:** \_\_\_\_\_  
**Diabetes:**  Type 1  Type 2  Gestational  Prediabetes **HbA1c Goal:** \_\_\_\_\_  < 6 months  >= 6 months  Unknown  
**Duration of Diabetes (in years):** \_\_\_\_\_ **Current Diabetes Therapy:**  Insulin  Oral Hypoglycemic  Diet Control  None  
 Results of Last Finger-stick blood glucose reading (per patient): \_\_\_\_\_  N/A  Patient reports under control  Yes  No  
 Dietary Counseling  Yes  No **Type of Diet:** \_\_\_\_\_

<b>MEDICINES</b>	<b>Date:</b> _____ Patient has a written med list <input type="checkbox"/> Yes <input type="checkbox"/> No OTC Meds Used: (if none: <input type="checkbox"/> ) Herbal Meds Used: (if none: <input type="checkbox"/> ) Pharmacist reviewed meds on (date): _____ Patient has Rx for: (provide reason if "no") Aspirin <input type="checkbox"/> Yes <input type="checkbox"/> No: Cholesterol med <input type="checkbox"/> Yes <input type="checkbox"/> No: ACE inh or ARB <input type="checkbox"/> Yes <input type="checkbox"/> No:	Reports Side Effects to Meds <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe: _____ Reports hypoglycemia events? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe: _____ Does patient know their current: A1c? <input type="checkbox"/> Yes <input type="checkbox"/> No Goal A1c: <input type="checkbox"/> Yes <input type="checkbox"/> No LDL? <input type="checkbox"/> Yes <input type="checkbox"/> No Goal LDL? <input type="checkbox"/> Yes <input type="checkbox"/> No BP? <input type="checkbox"/> Yes <input type="checkbox"/> No Goal BP? <input type="checkbox"/> Yes <input type="checkbox"/> No	Home Glucose Monitoring Frequency: <input type="checkbox"/> once daily <input type="checkbox"/> twice daily <input type="checkbox"/> 3-4 times daily <input type="checkbox"/> Other: _____ If on insulin, list current dose: List dosing times: _____
	<b>Date:</b> _____ Risk factors in addition to diabetes: (give dates for all) _____ Blood Pressure: Goal: _____ Measured: _____ Total, LDL and HDL cholesterol, triglycerides: (LDL goal and measured values for all) _____ _____	Smoking status: (circle all that apply) Never _____ Former _____ Current _____ Willing To Quit _____ Assessments: (give dates for all) Urine albumin-to-creatinine ratio: _____ Serum creatinine and estimated GFR: _____ _____ Potassium: _____ Hemoglobin: _____	History of myocardial infarction, heart failure, or stroke: _____ Heart or brain testing (e.g. stress test, echo, angiogram, CT scan, ultrasound, MRI): _____ History of dialysis or kidney transplant: _____ Kidney tests (ultrasound, CT Scan, Angiogram): _____
<b>FEET</b>	<b>Date:</b> _____ Current ulcer or history of a foot ulcer? <input type="checkbox"/> Yes <input type="checkbox"/> No <b>Foot Exam: Skin, Hair, and Nail Condition</b> Is the skin thin, fragile, shiny and hairless? <input type="checkbox"/> Yes <input type="checkbox"/> No Are the nails thick, too long, ingrown, or infected with fungal disease? <input type="checkbox"/> Yes <input type="checkbox"/> No <b>Note Musculoskeletal Deformities</b> <input type="checkbox"/> Toe deformities <input type="checkbox"/> Bunions (Hallux Valgus) <input type="checkbox"/> Charcot foot <input type="checkbox"/> Foot drop <input type="checkbox"/> Prominent Metatarsal Heads	<b>Pedal Pulses</b> - "P" for present or "A" for absent Posterior tibial Left ___ Right ___ Dorsalis pedis Left ___ Right ___ <b>Risk Categorization</b> check appropriate box: <input type="checkbox"/> Low Risk Patient <input type="checkbox"/> High Risk Patient All of the following: _____ One or more of the following: <input type="checkbox"/> Intact protective sensation <input type="checkbox"/> Loss of protective sensation <input type="checkbox"/> Pedal pulses present <input type="checkbox"/> Absent pedal pulses <input type="checkbox"/> No deformity <input type="checkbox"/> Foot deformity <input type="checkbox"/> No prior foot ulcer <input type="checkbox"/> History of foot ulcer <input type="checkbox"/> No amputation <input type="checkbox"/> Prior amputation	
	<b>Date:</b> _____ <b>Visual Acuity (best corrected)</b> Right: _____ Left: _____ Intraocular Pressure Right: _____ Left: _____ <input type="checkbox"/> Dilated Fundus Exam Performed Diagnosis: No Diabetic Retinopathy <input type="checkbox"/> Yes <input type="checkbox"/> No Non-Proliferative Diabetic Retinopathy <input type="checkbox"/> Yes <input type="checkbox"/> No	<b>Plan:</b> <input type="checkbox"/> Monitor Only <input type="checkbox"/> Repeat Dilated Exam In _____ months <input type="checkbox"/> Additional Testing/Treatment Recommended: Proliferative Diabetic Retinopathy <input type="checkbox"/> Yes <input type="checkbox"/> No Clinically Significant Macular Edema <input type="checkbox"/> Yes <input type="checkbox"/> No	
<b>MOUTH</b>	<b>Date:</b> _____ <b>Examination Findings</b>		
	Intraoral/Extraoral: Caries: _____ Periodontal (health, abscesses, gingivitis, periodontitis): _____ Functional (eating, swallowing, etc) concerns: _____ Additional Testing/Treatment Recommended: _____ Refer to Specialist: _____	Xerostomia: _____ Fungal infection: _____ Parotid gland changes: _____ Re-evaluate in _____ month(s)	

**Management:**  
 Follow-up: \_\_\_\_\_ months  Patient education/discussion  Information pamphlet given  
 Referral To: \_\_\_\_\_ For: \_\_\_\_\_

# Key Message to Prevent Diabetes Complications: Control the ABCs

- **A1c:** Blood glucose control
- **B:** Blood pressure control
- **C:** Cholesterol (Blood lipid) control
- **S:** Smoking (and use of other tobacco products) cessation (and don't start)
  
- Preventive care practices for eyes, kidneys, feet, teeth, and gums

# PPOD Tool Kit Consumer Resources

- General PPOD Fact Sheet
- Piloted tested
- Content reviewed for health literacy issues

**I Can Control My Diabetes  
By Working With My Health Care Team!**

**To team up with my pharmacist, I will—**

- Make a list of all my medicines, the exact doses, and include over-the-counter medicines, vitamins, and herbal supplements.
- Update and review the list with my pharmacist every time there is a change.
- Ask how to take my medicine and use supplies to get the best results at the lowest cost.
- Ask about new medicines that I can talk about with my doctor.

**To team up with my podiatrist, I will—**

- Get a full foot exam by a podiatrist at least once each year.
- Learn how to check my feet myself every day.
- See my podiatrist right away if I develop any foot pain, redness, or sores.
- Ask about the right shoes for me.
- Make sure my feet are checked at every health care visit.

**To team up with my eye care provider, I will—**

- Ask for a full eye exam with dilated pupils each year.
- Ask how to prevent diabetic eye disease.
- Ask what to do if I have vision changes.



**To team up with my dental provider, I will—**



- Visit my dental provider at least once a year for a full mouth exam.
- Learn the best way to brush my teeth and use dental floss.
- Ask about the early signs of tooth, mouth, and gum problems.
- Ask about the link between diabetes and gum disease.

**To control my diabetes every day, I will—**

- Be more active—walk, play, dance, swim, and turn off the TV.
- Eat a healthy diet—choose smaller portions, more vegetables, and less salt, fat, and sugar.
- Quit if I smoke or use other tobacco products—tobacco use increases the risk of health problems from diabetes. To quit, call: 1-800-QUIT-NOW (1-800-784-8669).
- Ask all my providers to share my exam results with my other health care providers.
- Learn about managing my diabetes by visiting [www.yourdiabetesinfo.org](http://www.yourdiabetesinfo.org).
- Control my ABCs of diabetes:
  - ▶ **A1c.** This test measures average blood sugar levels over the last 3 months. The goal is less than 7% for many people but your health care provider might set different goals for you.
  - ▶ **Blood Pressure.** High blood pressure causes heart disease. The goal is less than 130/80mm Hg for most people.
  - ▶ **Cholesterol.** Bad cholesterol or LDL (Low Density Lipoprotein) builds up and clogs your arteries. The goal is an LDL less than 100 mg/dl.

For more **FREE** information on how to prevent and control diabetes call the National Diabetes Education Program (NDEP) at 1-888-693-NDEP (6337), TTY 1-866-569-1162, or visit [www.yourdiabetesinfo.org](http://www.yourdiabetesinfo.org).

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

  **NDEP**  
National Diabetes Education Program

CS222736-A NDEP-128

# 4 New Fact Sheets— One for Each Specialty

- Healthy Eyes Matter
- Healthy Teeth Matter
- Healthy Feet Matter
- All Medicines Matter



## Example: PPOD in Action

- A 40-year-old woman notices blurry vision, and asks her pharmacist about reading glasses
- The pharmacist uncovers a history of diabetes, diagnosed the previous year, but discovers that the patient never returned for her follow-up appointment
- He advises the woman that vision changes may be a sign of diabetes and not a need for reading glasses and arranges primary care and eye care visits for follow-up
- He also refers her to the NDEP website at <http://ndep.nih.gov> for more helpful materials



# Practice True Multidisciplinary Team Care!

- **Collaborate** with other health care providers, including **p**odiatrists, **p**harmacists, **o**ptometrists, and **d**entists, primary care physicians, nurse practitioners, diabetes educators, physician assistants, community health workers and other health care professionals (ophthalmologists, dermatologists, etc.) as needed.
- **Network** with local associations and local chapters of national associations.
- Consider creating a **local PPOD coalition** in your state or community.
- **Tailor and use PPOD materials** for patients in your practice and providers in your coalition.
- Make new friends

# PPOD: How to Get Started

- **Review and download** the PPOD Guide and other Toolkit materials including these slides at <http://www.cdc.gov/diabetes/ndep/ppod.htm>
- **Review and identify best strategies** to implement PPOD in your practice.
- **Share a consistent message** with your patients about controlling their ABCs.
- **Pay attention** to signs of problems in other PPOD areas and **make referrals**.

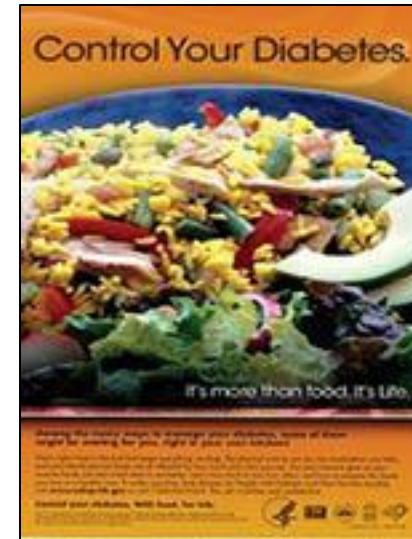
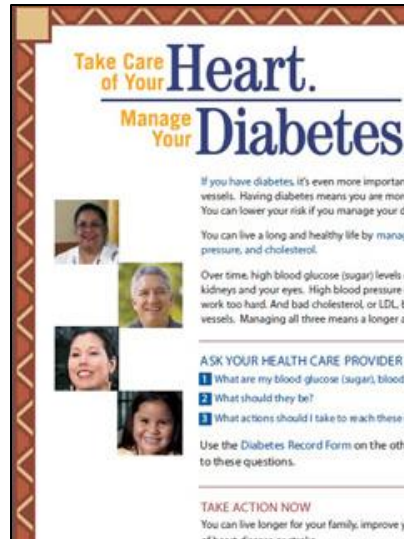
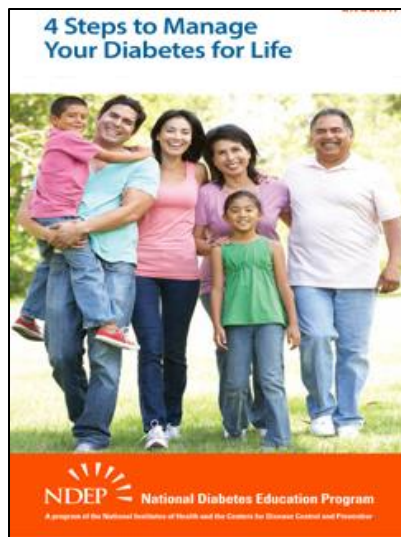
# What Have We Done and Where Have We Been?

- **Presentations at national specialty meetings: World Dental Federation, National Dental Association, American Dental Association, New York Academy of Sciences/ Columbia Medical and Dental Schools, Prevent Blindness Summit coming up**
- **Webinars: lots of them: APHA Vision and Oral Health Sections during Public Health Week. NDEP cross cutting webinars (3 times, multiple specialists)**
- **Walking the walk: a powerful message when multiple specialties are presenting together**

# Other NDEP Resources Available Online: [www.cdc.gov/diabetes/ndep](http://www.cdc.gov/diabetes/ndep)

Resources available for many audiences:

- Individuals with all types of diabetes
- Individuals at risk for type 2 diabetes
- Health care professionals





Our Vision Is Vision®

