

Bridging the Interprofessional Collaboration Gap For Better Patient Outcomes

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DISCLOSURE INFORMATION

for

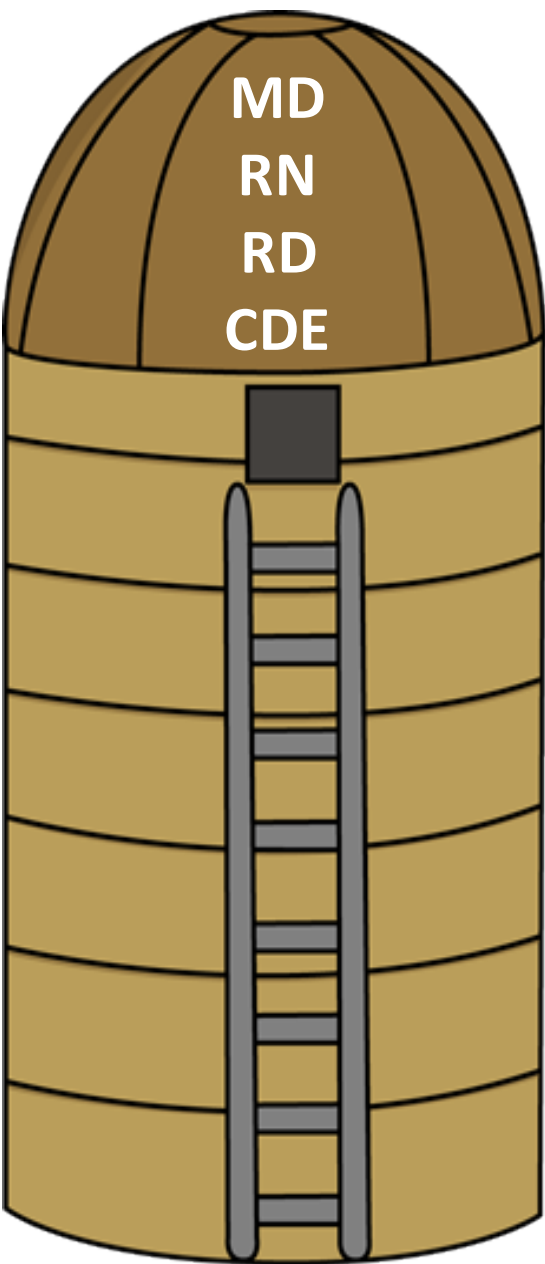
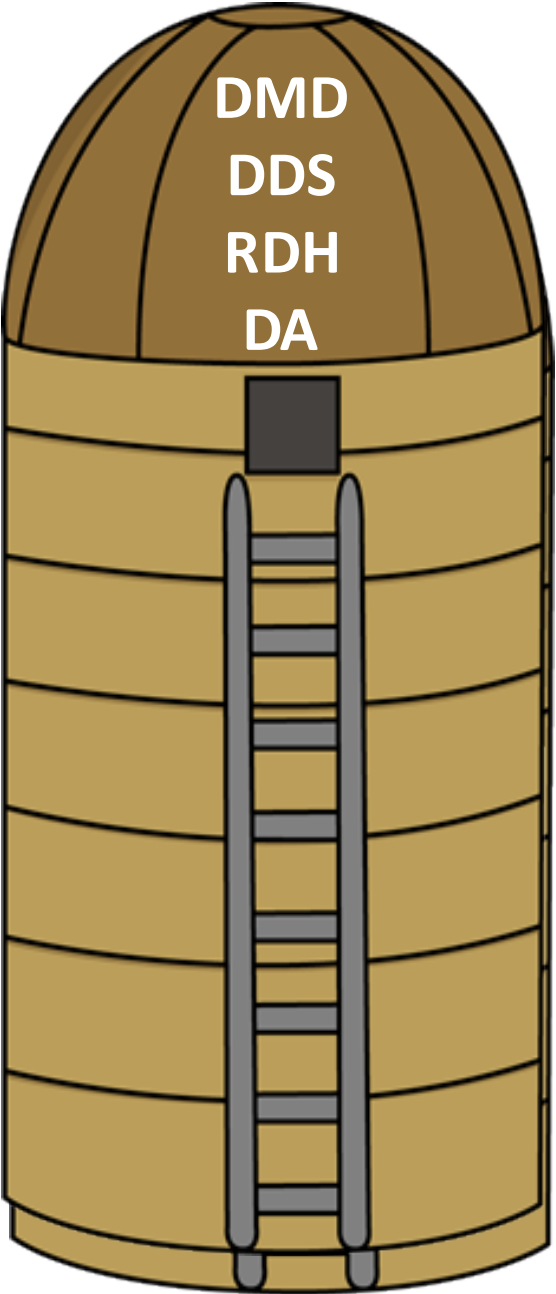
Jerry A Brown DMD, CDE

- **I have the following financial relationships to disclose:**
Speaker's Network for: Colgate Oral Health
- **Today's presentation is consistent with all FDA rules and guidelines**

Learning Objectives:

- Defining a true healthcare crisis (Diabetes mellitus).
- Describe the formulation of the Diabetes Task Force.
- Explore ways that dentists, physicians, and other healthcare professionals can help mitigate this problem.
- Describe strategies to facilitate communication and collaboration between healthcare professionals.

Healthcare Siloism



The Pandemic of Diabetes

30 million people living with Diabetes in the US! (7 million unaware of their disease!)

84 million people classified with Prediabetes! (90%, or 76 million unaware!)

25% of all seniors (~ 12 million) living with Diabetes!

It is estimated, that on average 7-10 years elapses before T2DM is diagnosed!

**For every 1,000 patients you see 350 of them are likely
to be metabolically challenged!!!**

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\$327 Billion in Medical Costs/ Year

\$327 billion: Total costs of diagnosed diabetes in the United States in 2017.

\$237 billion for direct medical costs.

\$90 billion in reduced productivity.

32% of Medicare Dollars Go To Treat Diabetes.

Leading cause of: Kidney Failure, Blindness, Atraumatic Limb Amp

Diabetes is the seventh leading cause of death in the US.

Economic Costs of Diabetes in the U.S. in 2017

American Diabetes Association

Diabetes Care 2018 Mar; dci180007.

<https://doi.org/10.2337/dci18-0007>

Diabetes Task Force Launched by 3 Leading Health Organizations

- Academy of General Dentistry (AGD)
- American Academy of Family Physicians (AAFP)
- American Association of Diabetes Educators (AADE)

Diabetes Task Force

- **A joint effort by the:**

Academy of General Dentistry

American Academy of Family Physicians

American Association of Diabetes Educators

- **Goal:**

To promote integrated management and communication of dentists, physicians, and diabetes educators in an effort to improve outcomes of people living with diabetes.

Academy of General Dentistry



- Professional organization of over 40,000 dentists
- The AGD is a nonprofit international organization with 37,000 member dentists from the United States and Canada. It was founded in 1952.
- The AGD strives to provide the best possible patient care through its dedication to the continuing dental education of its members. In addition, it provides the public with information to help make informed choices about personal dental care and treatments.

American Academy of Family Physicians



- Represents 129,000 physicians and student members nationwide.
- The only medical society devoted solely to primary care.
- Founded 1969
- Family physicians conduct approximately one in five office visits
- 192 million visits annually
- 48 percent more than to the next most visited specialty.
- Unlike other specialties that are limited to a particular organ or disease, family medicine integrates care for patients of all genders and every age, and advocates for the patient in a complex health care system.

American Association of Diabetes Educators



- AADE is a multi-disciplinary professional membership organization dedicated to improving diabetes care through innovative education, management, and support.
- 14,000 professional members including nurses, dietitians, pharmacists, exercise specialists, and others
- AADE has a vast network of practitioners working with people who have, are affected by, or are at risk for diabetes.

You're a what?

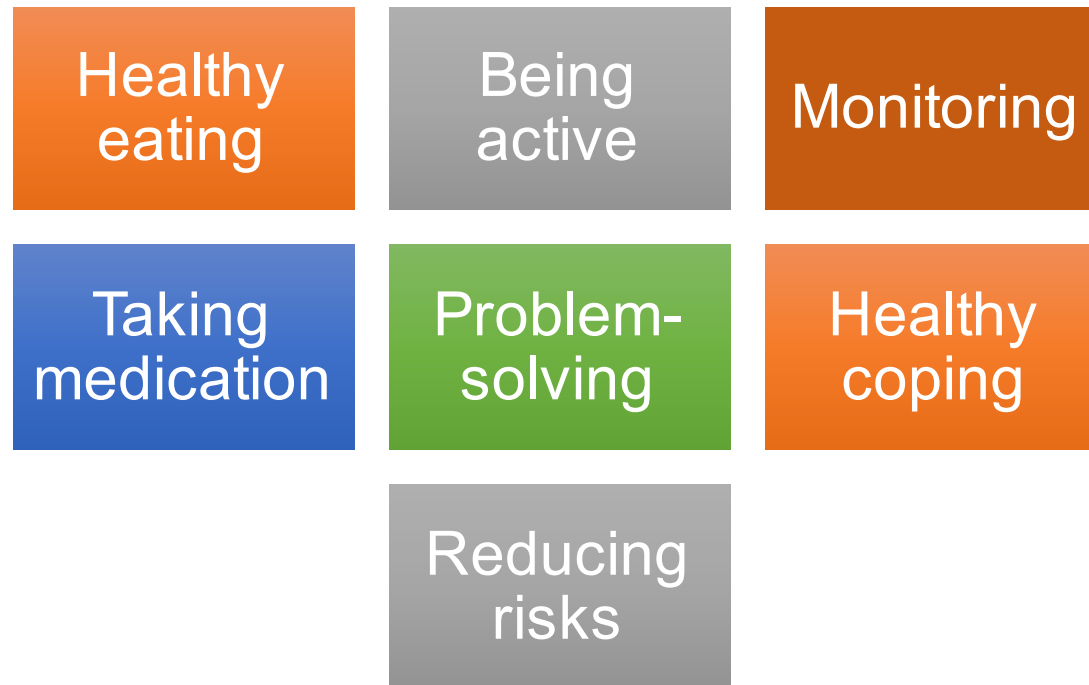


Role of the Diabetes Educator

- Helping to direct/refer patients for other health needs
 - Dental assessments
 - Ophthalmology referrals
 - Podiatry referrals
- Education and demonstration of the AADE7™ Self-Care Behaviors

How Do Diabetes Educators Help?

- AADE7™ Self-Care Behaviors:



Strategies of the Task Force thus far:

1. Developed Forms used to exchange information between physicians and dentists:
 - a) Forms for dentist to use for referral to physicians.
 - b) Forms for physicians to use for referral to dentists.
2. Developing a Shared Database and EMR to increase access to information.
3. Creation of presentations to educate the professions on how we can and should work together.

Diabetes Task Force Presentations

- Academy of General Dentistry: June 8, 2018
New Orleans, LA
- American Association of Diabetes Educators: Aug 18, 2018
Baltimore, MD
- American Academy of Family Physicians: October, 13, 2018, New Orleans, LA

- **Diabetes Task Force Goal:**

“To promote integrated management and communication of dentists, physicians, and diabetes educators in an effort to improve outcomes of people living with diabetes.”



There is a definite need for change!

- Pre-Diabetes and Diabetes are growing at an alarming rate.
- Improperly managed Diabetes leads to adverse outcomes.
- Incidence/Prevalance provide clear evidence that tremendous change is necessary!

Role of the Family Physician and team in treating the PWD

- Comprehensive care of the whole person.
- Prevention and chronic illness care
- Anticipatory guidance and preventive counseling
- Review history, medications
- Physical exam
- Lab work for diagnosis and/or follow up
- Assure annual retinal exam
- Assess systems high risk for co-morbidity: oral, cardiovascular, renal, ophtho
- Assess lifestyle and counsel regarding needed changes
- Assess and administer appropriate immunizations
- Assure proper patient education

Interprofessional collaboration can be defined as:

“the process by which professionals reflect on and develop ways of practicing that provides an integrated and cohesive answer to the needs of their patient/family/population. This process involves continuous interaction and knowledge sharing between professionals, organized to solve or explore a variety of education and care issues all while seeking to optimize the patient’s participation”.

The research shows:

People

- Simply avoid going to the physician.
- Don't follow-through on referrals.
- Ignore sub-clinical symptoms.
- Overweight/obesity epidemic.
- Sedentary lifestyles of Americans.
- Under-utilization of NDPP resources.

Providers

- Under-prescribe Diabetes Education.
- Sometimes forget patient follow up.
- Under-prescribe metformin for prediabetes?
- Don't always collaborate with other providers.

Treating People With Diabetes



**Demands on your
practice are escalating**

- Enabling PWD to help themselves
- Balancing priorities and goals

Research: People who have received diabetes education are more likely to-

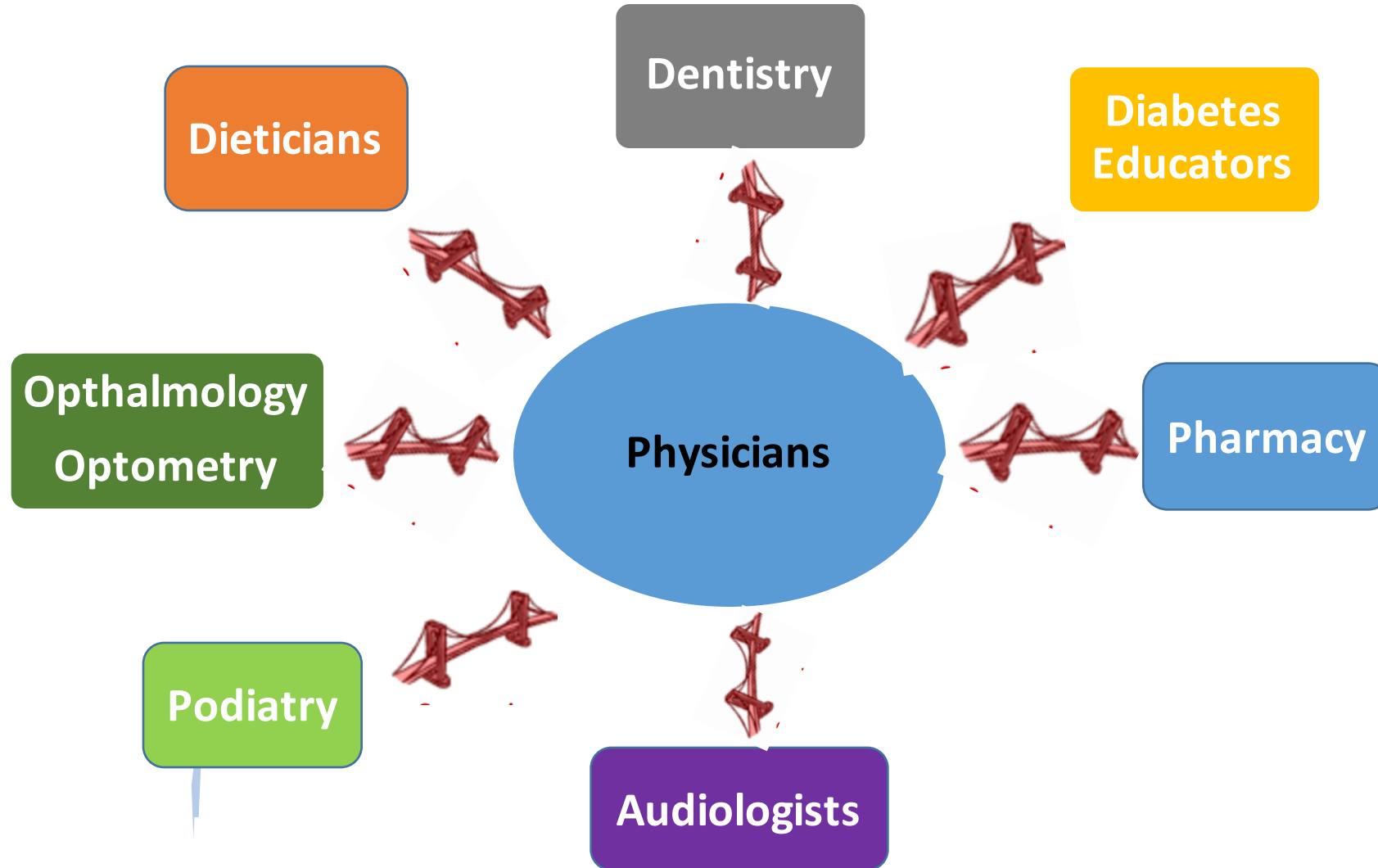
- Use primary care and preventive services
- Take medications as prescribed
- Control their blood glucose, blood pressure and cholesterol levels
- Have lower health costs

Case History

A 25-year-old male presents with a history of polyuria, polydipsia, and weight loss of 6 kg over 3 months. His lab results show a fasting plasma glucose of 280 mg/dl, a HbA1c of 10.5%, and he is glutamic acid decarboxylase (GAD) antibody positive.

- Learn how to inject insulin
- Titrate insulin dosage
- Learn how to monitor his BG
- Managing Hypo/Hyperglycemia
- Nutritional counseling
- Screen for other autoimmune diseases
- Referral for MNT
- Referral for DSME/S
- Referral for dental/perio evaluation.
- Referral for mental health evaluation?

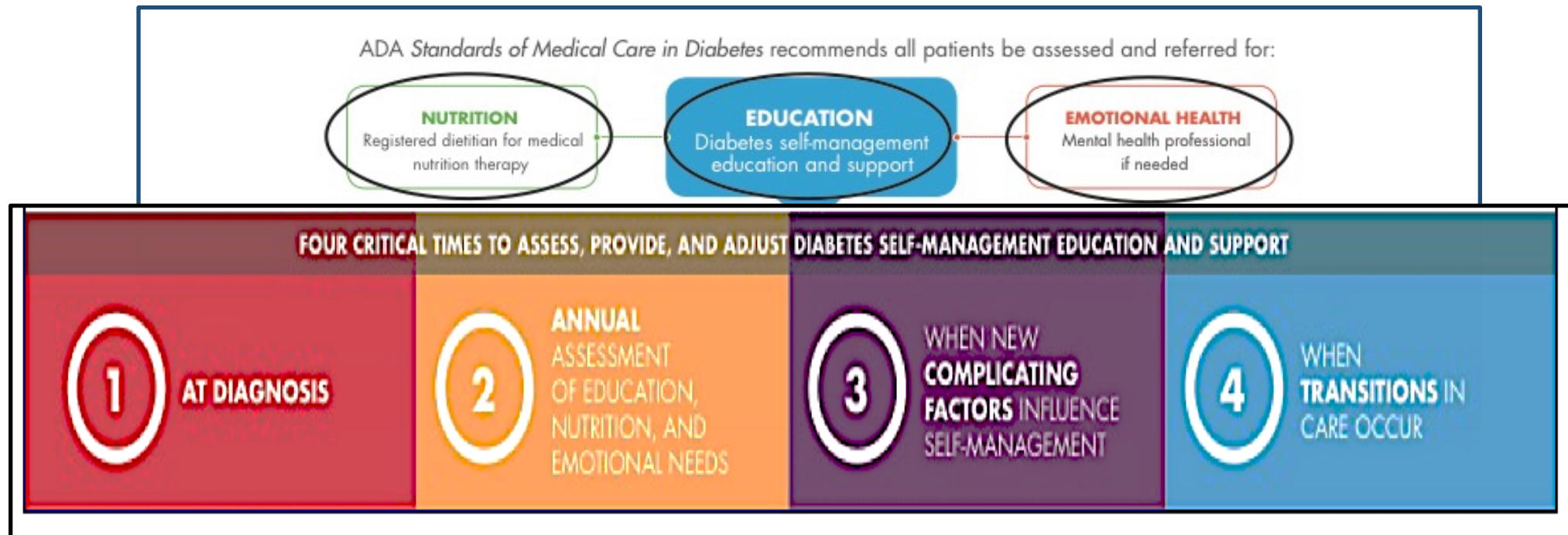
Interdisciplinary Bridges For Better Outcomes



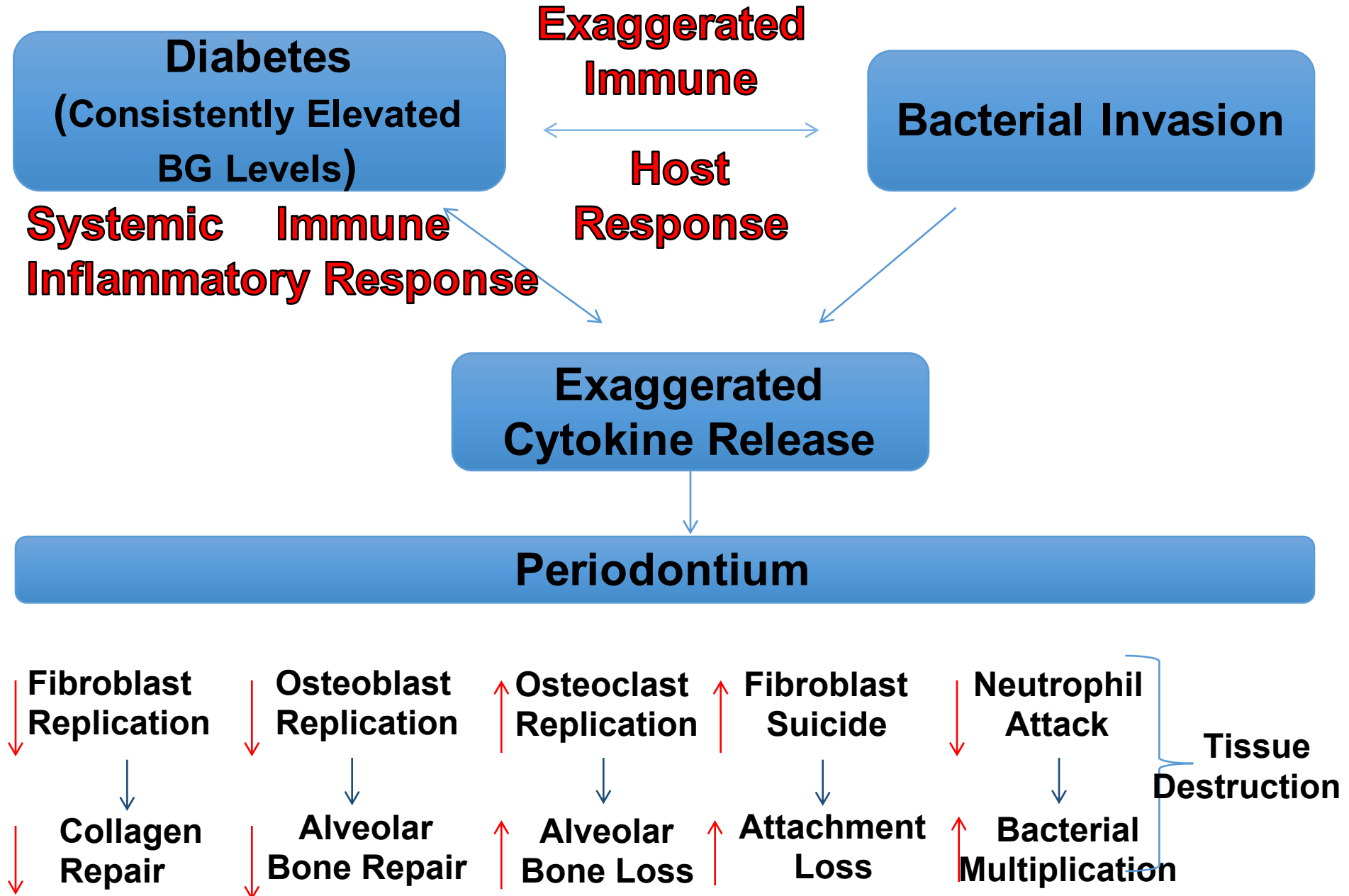
When should physicians refer to a diabetes educator?

The DSMES Position Statement describes when, what and how to best provide DSMES. Ensure nutrition, education and emotional health needs are met.

There are 4 critical times to assess, adjust, provide and refer for DSMES.



Diabetes ↔ Periodontal Disease: A Bidirectional Relationship



Diabetes \longleftrightarrow Periodontal Disease: A Bidirectional Relationship

Impact of Periodontal Disease On Diabetes

Inflammatory Response To Periodontal Pathogens



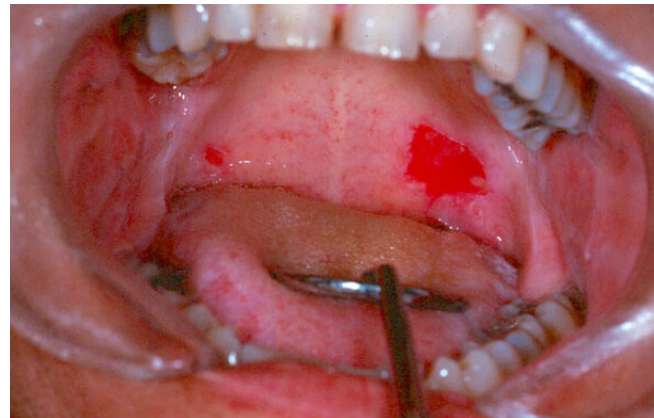
- **Elevated levels pro-inflammatory cytokines in the gingival sulcus.**
- **Cytokines from the gingival sulcus released into systemic circulation.**
- **Cytokines stimulate release of CRP from liver.**
- **Cytokines/CRP involved with insulin resistance.**



Hyperglycemia

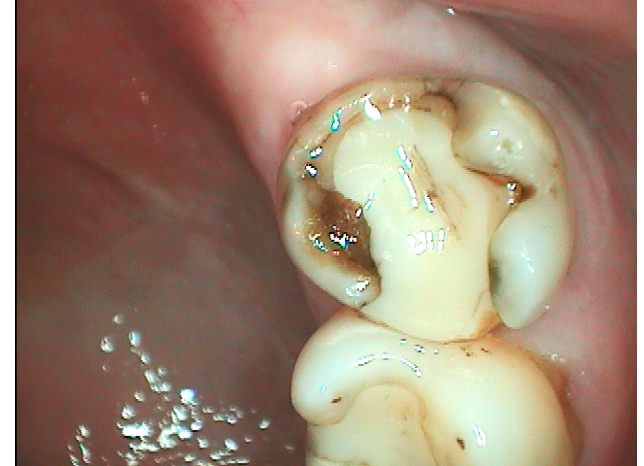
Things To Look For In A Basic Oral Evaluation

- Film around the teeth (Plaque).
- Redness around gums (with or without swelling).
- Spontaneous bleeding or pus around the gums.
- Does the tongue, cheek, palate, or floor of the mouth appear red?
- Are there any missing teeth?
- Are the roots of the teeth showing (Gum Recession)?



Things To Look For In A Basic Oral Evaluation

- Do any of the teeth have holes in them?
- Do the biting surfaces, or sides of the teeth appear: Broken? Brown/Black?
- Do any of the teeth feel loose (mobile)?
- Is there any complaint of pain/burning/swelling?
- Are there any white/red patches on tongue, cheeks, floor of the mouth, or palate?
- Does the patient have bad breath?
- Is the mucous membrane surface dry?



What Do I Ask???

- **When was the last time you visited your dentist to have your teeth cleaned/examined?**
- **Was there any treatment recommended?**
- **Was the treatment completed? If “No”- “Why not?”**
- **If teeth are missing explain the necessity for replacement.**
- **Are any of your teeth loose, hurting, or do you notice your gums bleeding?**
- **Does your mouth feel dry, and do you have difficulty swallowing?**

When should physicians refer PWD to dentists?

- **Right after the initial diagnosis of Diabetes Mellitus.**
- **When the gums, tongue, cheeks, or floor of mouth appear red.**
- **When spontaneous bleeding/pus is noticed around gums.**
- **After determining that more than 3-4 months has elapsed since last dental maintenance visit.**
- **When there are loose, or missing teeth.**
- **When there are complaints of pain, burning, or swelling.**
- **When you are able to see the root surfaces of many teeth.**
- **When the biting surfaces/sides of teeth appear broken, brown, or black.**

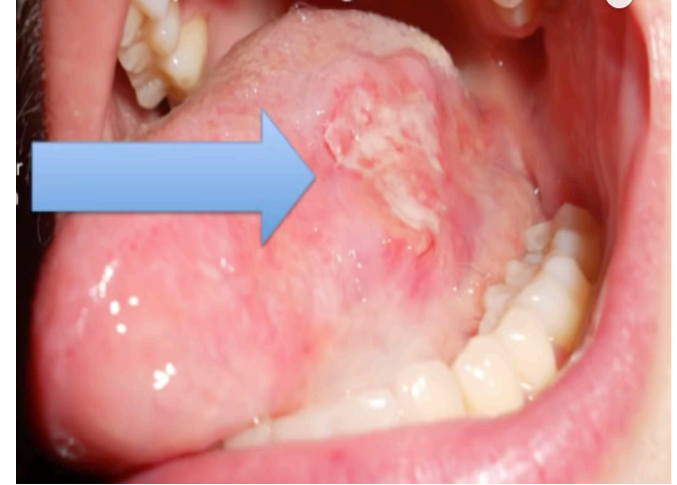
Role of Medical Professionals As Oral Health Partners

Should include visual oral cancer screening and basic oral exam as part of routine physical.

Remember that dental referrals are included in the American Diabetes Association “Standards of Care.”

Educate PWD on the importance of oral health for optimal BG levels.

Recommend prostheses to replace missing teeth when necessary.



Clinical Implications Of Treating PWD

- Obstructive Sleep Apnea-
Commonly with ↑BMI
↓
Oral Appliance Therapy



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Diabetes Referral Form for Oral Health Care

Reason for Referral:

Routine Care: ☐ Urgent Issues:

Diabetes Information—

Date of Diagnosis _____ Type of Diabetes: Type 1 ☐ Type 2 ☐ Gestational ☐

Hemoglobin A1C: _____ Date: _____ Height _____ Weight _____ BMI _____

Co-Medical Conditions: Hypertension ☐ Cardiac Disease ☐ Hyperlipidemia ☐ Kidney Disease ☐

Complications: Peripheral Neuropathy ☐ Renal Insufficiency ☐ Retinopathy ☐

Diabetes Medications:

Dentist Update

Diagnosis: _____

Management Plan: _____

Follow up Appointment: _____

Dentist Name: _____ Signature: _____ Date: _____

Case History

A 43 year-old female was seen for treatment of pain and swelling in her lower left molar region. Examination revealed swelling and purulence from the periodontal pocket adjacent to the facial aspect of tooth #19. Patient reported that she had experienced the same symptoms about 1 month ago but they resolved spontaneously after a few days. When questioned about her last routine dental visit she had difficulty remembering but thought it was about 10 years ago before she moved from her native home in Puerto Rico. A radiograph taken at this visit confirmed the diagnosis of a periodontal abscess. The abscess was drained, irrigated, and the patient was placed on antibiotics to resolve the acute episode.

Her blood pressure was recorded at 147/90, and she reported having been prescribed antihypertensive medication previously but had not taken it for several months. A review of her family history revealed that her father had a history of Diabetes, and her mother had passed several years earlier as a result of an MI-which concerned her because she had been told that “her cholesterol was high.” Patient also communicated her concern about having a kidney infection since she found it necessary to repeatedly frequent the restroom over the past few weeks.

The patient returned for her follow-up appointment 1 week later. A full mouth series of radiographs was taken and the dental hygienist performed full mouth debridement of calculus. Thorough oral hygiene instruction was also provided and strongly reinforced.

Her blood pressure was again elevated at 152/92.

A review of her x-rays revealed generalized moderate to severe alveolar bone loss and she was missing all of the second molar teeth in each quadrant.

- Periodontal Disease
- Hispanic American
- Hypertension
- Family Hx of Diabetes
- Family Hx of ❤ Disease
- Hx of ↑ Cholesterol
- Polyuria
- Missing Teeth

Things For Dental Healthcare Professionals To Consider

- Be cognizant of patient's risk factors for Prediabetes/Diabetes.
- Support visits to PCP for your patients and be diligent about follow-up.
- Ask PWD if they have had a dilated eye-exam or foot exam in past year.
- Ask PWD about their faithfulness to their DSM behaviors.
- Ask results of most recent HbA1C **before** treatment planning.
- Always record blood pressure for PWD. (Should be for all patients)
- Provide HbA1C screening for at-risk patients and refer if necessary.
- Consider appliance therapy (or referral for OSA).

16 year-old female with Type 1 DM



Diabulimia

When should dentists refer to physicians?

When patients tell you:

- They have not had a physicians visit in the past 3-4 months.
- They don't remember when their most recent HbA1C was taken.
- They have not had a dilated eye exam in the past year.
- They have not had a foot examination in the past year.
- Their self-monitoring test results are usually elevated.
- They have stopped taking some/all of their medications.
- They no longer self-monitor their BG.
- They have classic symptoms of Diabetes.

When patients have:

- Elevated blood pressure.
- Elevated BMI.
- Elevated HbA1C after screening.
- A positive biopsy of a suspicious oral lesion.

Opportunistic Screening Protocols

✧ Lalla et al.,-first prospective study testing the notion that oral findings may identify patients with diabetes mellitus.

- 1) Cohort: 535 patients with at least one of these self-reported risk factors:
 - a) History of DM in first-degree blood relative?
 - b) History of Hypertension?
 - c) History of High Cholesterol?
 - d) Overweight, or Obese? (Previously told, or $\text{BMI} \geq 25$)
- 2) Dental Evaluation: Probe Depths, Bleeding, and Missing Teeth.
- 3) Point-of-Care HbA1c.

Identified optimal predictive “cut-offs” for the above.

Lalla et al., continued

Optimal “cutoffs:

- 1) Answer “Yes” to at least one of four risk factors.
- 2) 26% of teeth with at least one deep pocket($\geq 5\text{mm}$).
or
- 3) 4 or more missing teeth.

Optional:

- 4) Point-of-care HbA1c result increases correct id.

92%
Sensitivity

73%
Sensitivity

D0411

Code Maintenance Committee

March 2017 Meeting

“HbA1c in-office point of service testing.

This code is to be used when drawing a blood sample and performing point of service analysis of the sample by a dentist.”

Effective January 1, 2018

Dental Referral to Medical Provider

Patient Information

Medical Provider Referred to: _____

Referring Dental Provider: _____ Phone: _____ Fax: _____

Email: _____

Reason for Referral

Polvuria ☐ Polydipsia ☐ Fatigue ☐ Blurred Vision ☐ Periodontitis ☐ Unexplained Weight Loss ☐

Dental Risks:

Periodontal Disease:

Gingivitis (Type I) ☐ Early Periodontitis (Type II) ☐ Moderate Periodontitis (Type III) ☐ Severe Periodontitis (Type IV) ☐

Missing Teeth: _____ Caries Index _____ Bleeding Gums _____ Dry Mouth _____

Frequency of Recall Visits _____ Home Compliance _____

Relevant Oral History:

Next Appointment _____

Health Provider Update

Diagnosis: _____

Proposed Treatment Plan: _____

Next Appointment: _____

Dentist Name: _____ Signature: _____ Date: _____

Rationale for including specific fields of information in both forms.

- Facilitate communication between the professions.
- Provide for the sharing of critical information to avoid errors and omissions.
- Provide a quick way to alert the dentist of the reason for making a referral.
- Makes the referral process fast and convenient which can only help to improve outcomes.

Advantages of the exchange of information by professionals with patients.

- Consistent messaging from all healthcare professionals can reinforce behavior change.
- Knowledge empowers patients to self-manage their chronic diseases.
- We can no longer afford to assume that everybody fully understands what may, or may not impact their health.
- Patients that are fully involved in their healthcare are more likely to be part of a successful outcome.

Dental & Medical Screens

- **Dentists willing to screen for:**
 - Hypertension (85.8%)
 - CVD (76.8%)
 - DM (76.6%)
 - Hepatitis (71.5%)
 - HIV (68.8%)
- **Respondents willing to refer for consultation with physicians (96.4%)**



Medical Acceptance

- **Dentists should screen:**
 - **CAD, HTN DM, HIV (61-77%)**
- **Willing to discuss results with dentist (76%)**
- **Accept patient referrals (89%)**

J Pub Health Dent 2015; 75(3):225-233



Patients Acceptance

- 55-90% approve screening by dentist for:
 - Heart disease
 - Hypertension
 - HIV
 - Diabetes
 - Hepatitis
- 48-77% of respondents opinion of the dentist would improve regarding:
 - Professionalism
 - Competence
 - Knowledge
 - Compassion

Effect of Periodontal Therapy On Glycemic Stability

“...non-surgical periodontal treatment results in a mean reduction in HbA1C of 0.36%.”

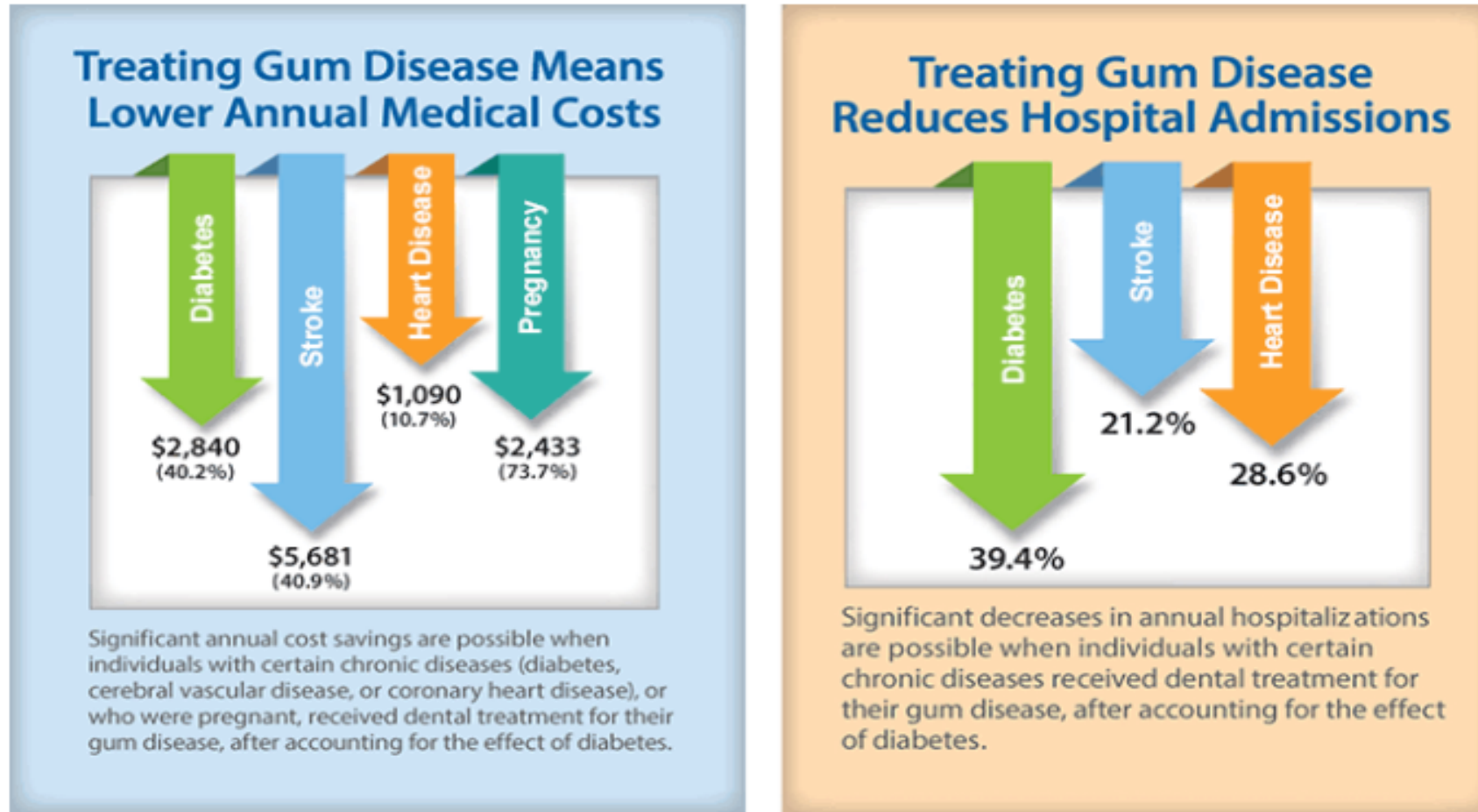
Engelbrechtson & Kocher, *J Clin Periodontol* 2013.

Non-surgical Perio Tx Group 6 months post-treatment:

- **0.51% Reduction in HbA1C**
- **FPG Reduced by almost 19mg/dL**
- **Statistically significant improvements in perio/gingival index**

Mauri-Obrados, et al. *J Clin Periodontol*. 2018.

When we work together...

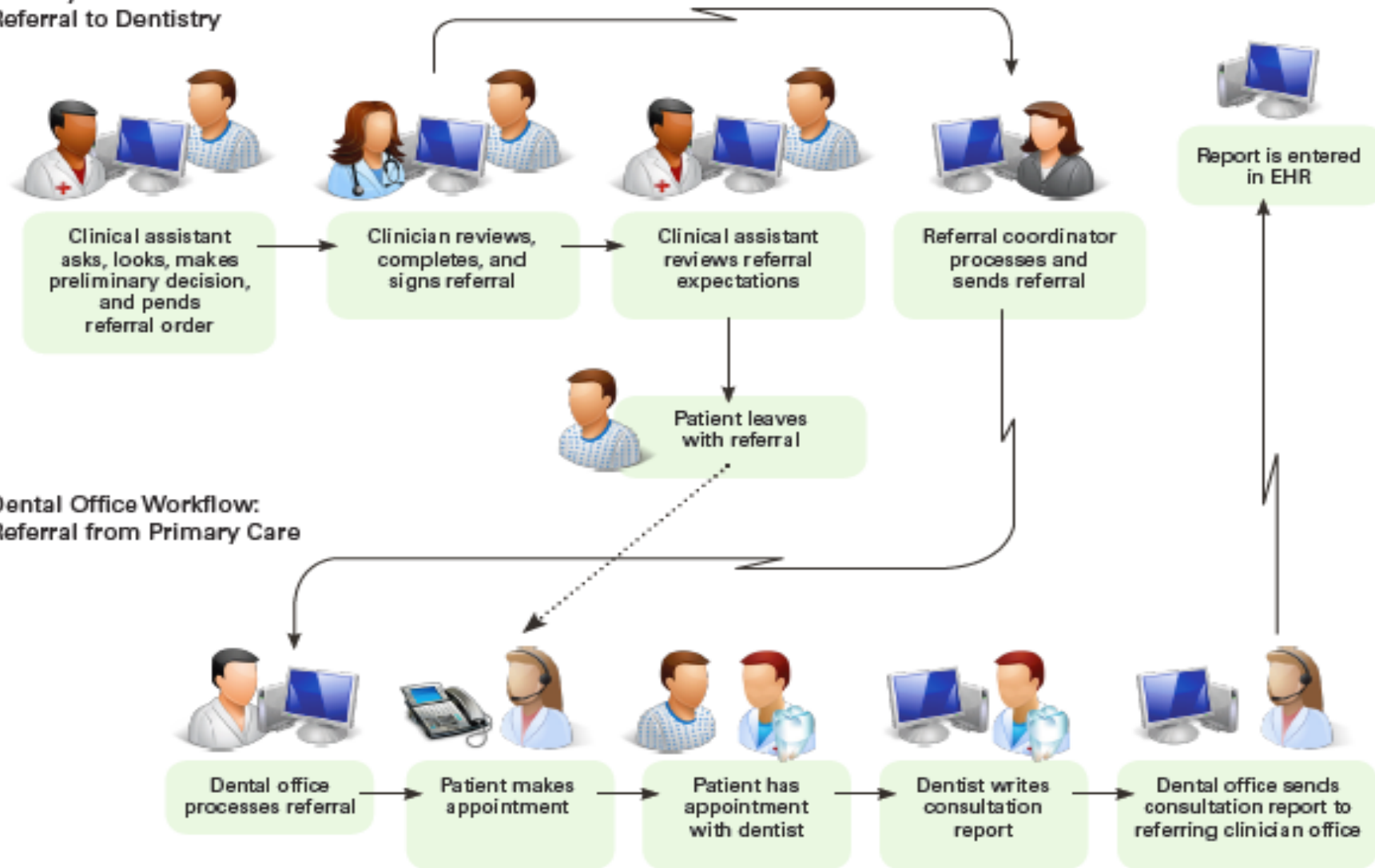


Jeffcoat MK, Jeffcoat RL, Gladkowski PA, Bramson JB, Blum JJ. Impact of Periodontal Therapy on General Health: Evidence

from Insurance Data for Five Systemic Conditions, Am J Prev Med 2014;47(2):166-174.

Figure 6.1: Referral workflow from a primary care practice to a dental practice

**Primary Care Workflow:
Referral to Dentistry**





Smiles for Life: A National Oral Health Curriculum ^{3rd edition}

Smiles For Life produces educational resources to ensure the integration of oral health and primary care



LEARN ONLINE



TEACH CURRICULUM

Answering the Call: Joinin...



Answering the Call: Joining the Fight for Oral Health

Watch this informative and inspiring video which outlines both the challenge and progress in improving oral health as a vital component of effective primary care. Click the full screen icon in the bottom right hand corner of the video thumbnail to view it full-sized. This video is approximately seven minutes in length.

An [extended version](#) (21 minutes) of this documentary is also available.

A Product of:



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ADA American Dental Association®
America's leading advocate for oral health

COURSES COMPLETED FOR CE CREDIT: 170985



Smiles for Life

A national oral health curriculum

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The Smiles for Life curriculum consists of eight 45-minute modules covering core areas of oral health relevant to health professionals. User competencies are measured through assessments at course completion. Users must score an 80% or higher to receive credit for each course.

Relationship of Oral & Systemic Health



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Child Oral Health



COURSE 2

Adult Oral Health



COURSE 3

Acute Dental Problems



COURSE 4

Pregnancy & Woman's Oral Health



COURSE 5

**Caries Risk Assessment
Fluoride Varnish & Counseling**



COURSE 6

The Oral Exam



COURSE 7

Geriatric Oral Health



COURSE 8

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Endorsed By

Each course in the Smiles for Life suite is endorsed by the following healthcare organizations who support the role of primary care clinicians in promoting good oral health:

American Academy of Family Physicians



National Association of Community Health Centers



Society of Teachers of Family Medicine



American Academy of Physician Assistants



American Dental Association



American Dental Hygienists' Association



Physician Assistant Education Association



American Association of Public Health Dentistry



The Association of State and Territorial Dental Directors



American College of Nurse-Midwives



Association of Faculties of Pediatric Nurse Practitioners



National Association of Pediatric Nurse Practitioners



The National Organization of Nurse Practitioner Faculties



National Association of School Nurses



American Academy of Pediatric Dentistry



American Association of Colleges of Osteopathic Medicine



Academy of General Dentistry



Course 2: Child Oral Health and Course 6: Caries Risk Assessment, Fluoride Varnish and Counseling are also endorsed by:

American Academy of Pediatrics

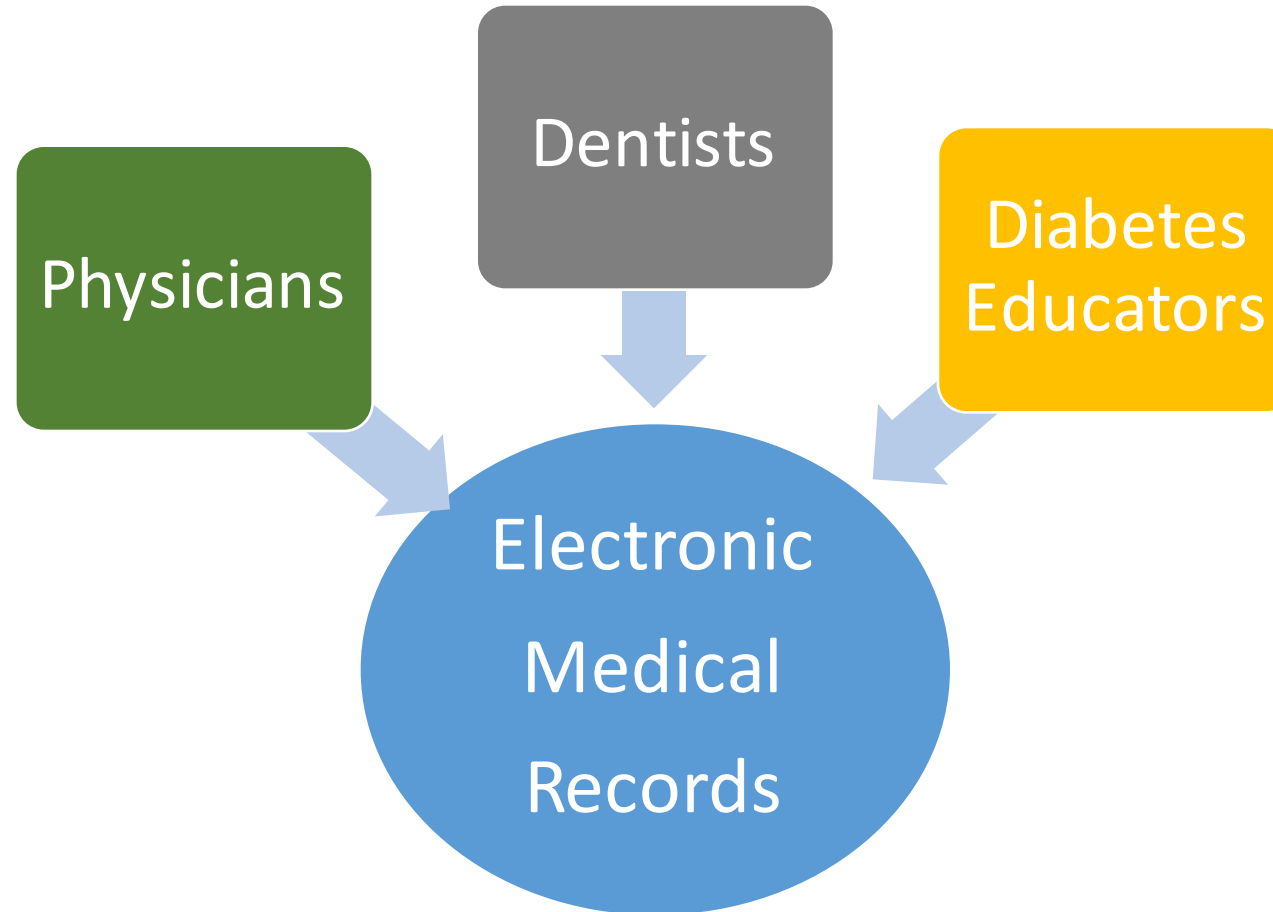
American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN™



DTF Next Steps

1. In the process of creating a public service message campaign using professional marketing consultants/vendors.
2. Explore the possibility of collaborating with other healthcare professions to create an all-inclusive EHR.
3. Submitting a letter to the US Surgeon General to gain support for our efforts with our public service campaign.
4. Undertaking a campaign to improve Medicaid reimbursement/coverage for adult oral health services.

The Ultimate Goal



The Sharing of Information to Benefit Patients

Diabetes: Interprofessional Management of A Public Health Crisis

A Collaborative Effort of Dentists, Physicians, and Diabetes Educators

Thank You!!

