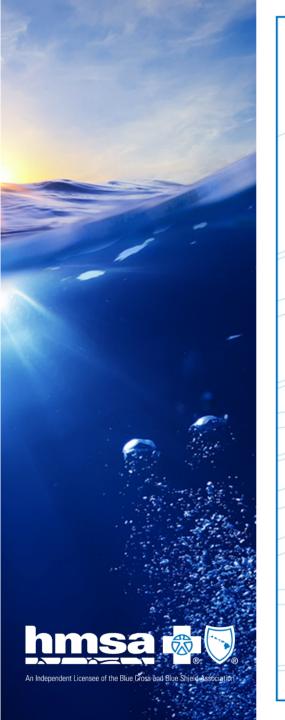
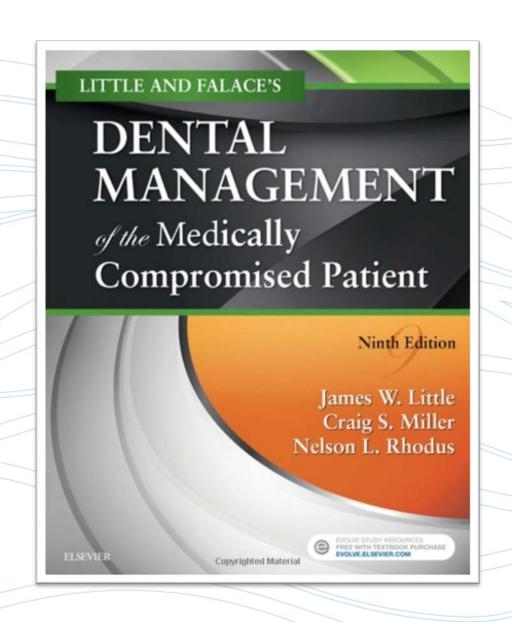


Dental Management of Medically Compromised Patients

Sol G. Brotman, DDS, MAGD







Why is a medical history important in dentistry?

A patient's medical history is a vital part of his or her dental history and increases the dentist's awareness of diseases and medication which might interfere with the patient's dental treatment.

ncbi.nlm.nih.gov/m/pubmed/16729560



Medical/Dental Health History

Health history form

The health history form is the starting point for the practice's relationship with the patient. It's valuable, because it provides appropriate staff members with information that they need in order to fulfill their professional obligations.

Patient interaction

Keep in mind that the patient's interaction with the staff and the dentist during the health history collection process is at least as important as the information detailed on the form itself. This process sets the tone for a positive patient experience for both new patients and active dental patients of record.

https://success.ada.org/en/practice-management/guidelines-for-practice-success/gps-managing-professional-risks/medical-dental-health-history



Medical/Dental Health History

An accurate medical/dental health history is vital since:

- It may provide valuable information for the dentist prior to beginning treatment, especially since certain medications can influence treatment decisions or may impact post-operative care instructions.
- It's also important to recognize that patients who are current or recovered opioid users may be reluctant to reveal that aspect of their medical history.

https://success.ada.org/en/practice-management/guidelines-for-practice-success/gps-managing-professional-risks/medical-dental-health-history



Medical/Dental Health History: Updates

Be sure to make a notation in the patient's record that indicates the patient was asked about recent health and medication changes. That notation should include the date of the discussion and indicate which staff member(s) initiated the conversation. The record should then be updated to reflect the new information.

https://success.ada.org/en/practice-management/guidelines-for-practice-success/gps-managing-professional-risks/medical-dental-health-history



Do dentists have access to medical records?

If Dentists don't comply with HIPAA rules then they are audited, they get penalized. Dental records, in paper or electronic format, are considered Protected Health Information and are subject to the same federal scrutiny for privacy and security as full medical records.

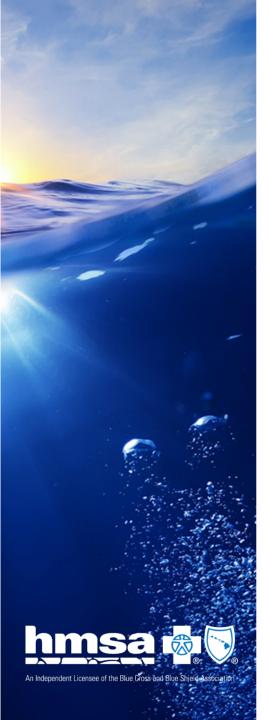
https://www.hipaaone.com/2014/07/01/dentists-concerned-hipaa-laws-security-patient-records/



Medical and Dental Electronic Health Record Reporting Discrepancies in Integrated Patient Care

S. Adibi, M. Li, N. Salazar, D. Seferovic, K. Kookal, J.N. Holland, M. Walji, M.C. Farach-Carson

Journal of Dental Research



Introduction

Oral health mirrors systemic health; yet, few clinics worldwide provide dental care as part of primary medical care, nor are dental records commonly integrated with medical records.



Results

Of those patients with diabetes,15.1% misreported their diabetes condition to their dental clinicians, while 29% of patients with hypertension also misreported. There was no relationship between sex and misreporting of hypertension or diabetes, but age significantly affected reporting of hypertension, with misreporting decreasing with age.



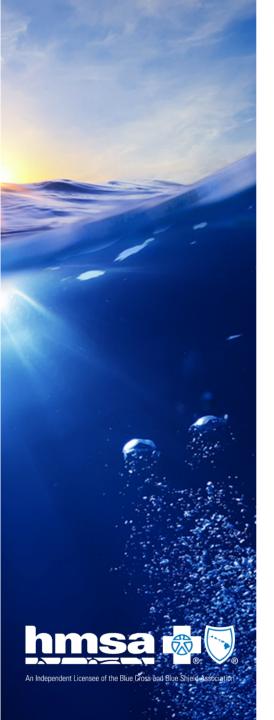
Conclusions

Because these conditions affect treatment planning in the dental clinic, misreporting of underlying medical conditions can have negative outcomes for dental patients. We conclude that policies that support the integration of medical and dental records would meaningfully increase the quality of health care delivered to patients, particularly those dental patients with underlying medical conditions.



Knowledge transfer statement

Our study illustrates an urgent need for policy innovation within a currently fragmented health care delivery system. Dental clinicians rely on the accuracy of health information provided by patients, which we found was misreported in ~15% to 30% of dental patient records. An integrated health care system can close these misreporting gaps. Policies that support the integration of medical and dental records can improve the quality of health care delivered, particularly for dental patients with underlying medical conditions.



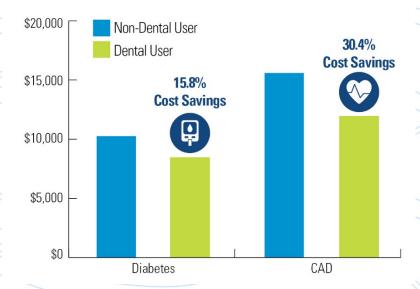
The Effects of Oral Health on Systemic Health

Over the course of a five-year study⁶, we've seen significantly lower medical costs for members who use their preventive or periodontal dental services versus those who do not.

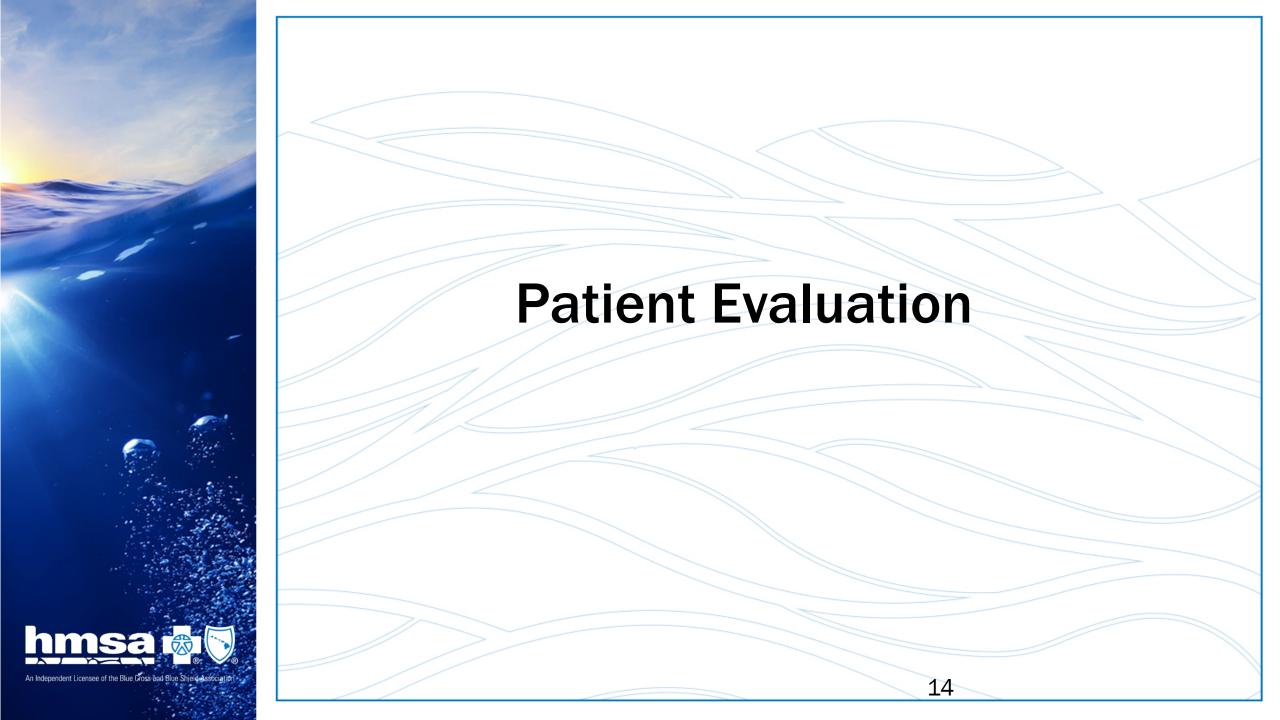
Book of business study concluded medical cost differences between dental utilizers versus non-utilizers:

- \$4,649 PMPY CAD, 30% difference
- \$1,459 PMPY Diabetes, 16% difference





NOTE: For a member to be considered a 'dental utilizer,' they must have used one preventive or periodontal CDT in the previous 12 months.





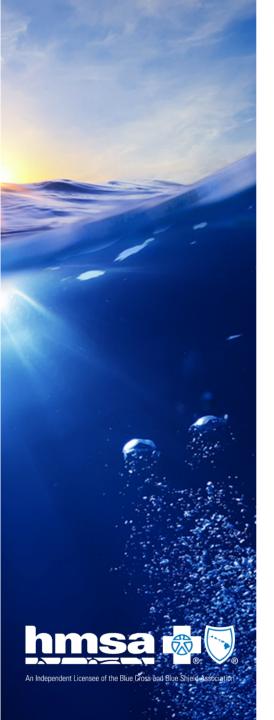
Patient Evaluation

Medical History

Clinical Evaluation

Head & Neck Examination

Physician Consultation



Medical History

Current medical conditions

Past medical conditions

Allergies



Medical History

Medications

- Length of time of treatment
- Changes in dosages
- OTC or alternative medications
- Patches or other non-oral routes of administration

Treatment for current or past medical conditions

e.g., radiation, chemotherapy



Clinical Evaluation

General appearance

- Posture
- Asymmetries
- Bruising
- Skin lesions
- Swelling



Clinical Evaluation

Patient responsiveness

- Timing and delays
- Appropriateness
- Voice
- Facial movement and activity
- Pain cues



Clinical Evaluation

Vital signs

- Blood pressure
- Pulse
- Body temperature



Head and Neck Examination

Cervical nodes or swelling

TM joint evaluation

- Jaw sounds
- Deviation of mandible on opening
- Range of motion

Oropharyngeal cancer examination

Include upper pharynx – tonsillar region



Head and Neck Examination

Salivary glands

Periodontal

Dental

Radiographic



Physician Consultation

Written versus oral clearances

Referrals for specific concerns

Closing care gaps



Coronary Artery Disease and Stroke (Artherosclerosis)



Demographics

- Most common cause of death in the US (33%)
- Incidence has been reduced by 50-60% in past 50 years



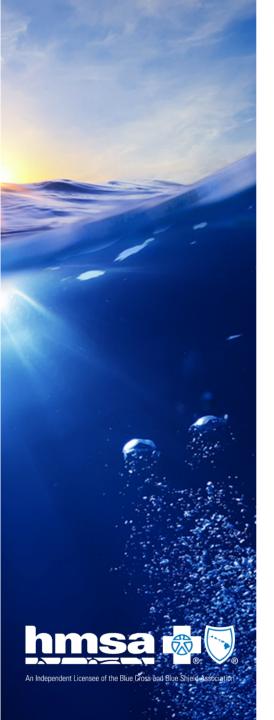
Risk Factors

- Male gender
- Age
- Family history
- Hyperlipidemia
- Diet: Total calories, saturated fats, cholesterol, sugars and salts



Risk Factors

- Hypertension
- Smoking and other tobacco use
- Physical inactivity
- Obesity
- Insulin resistance and diabetes mellitus
- Mental stress and depression



Markers of Inflammation

- C-reactive protein (CRP)
- Homocysteine
- Fibrinogen
- Lipoproteins (serum lipids)



Conditions (ICD-10)

- Myocardial infarction
- Angina pectoris
- Atherosclerosis
- Cardiac ischemia
- Cerebral infarction
- Arterial occlusion and stenosis
- Embolism and thrombosis



Nitrates

- Nitroglycerin and long-acting nitrates
- Side effects: Dry mouth, orthostatic hypotension, headache



Beta Blockers

- Propranalol (Inderal), Nadolol (Corgard), Metoprolol (Lopressor), Atenolol (Tenormin)
- Side effects: taste changes, orthostatic hypotension
- Dental consideration: reaction with vasoconstrictors (maximum of 2 carpules with 1:100,000 epinephrine)



Calcium Channel Blockers

- Diltiazem (Cardizem), Verapamil (Calan), Amlodipine (Norvasc)
- Side effects: gingival hyperplasia, dry mouth
- Dental consideration avoid prolonged use of NSAIDs



Journal of Human Hypertension 28, 10-14 (2014) R Livada & J Shiloah https://www.nature.com/articles/jhh201347





ACE inhibitors

- Used for heart failure
- All of the ...prils



Angiotensin Receptor Blockers

- Used for heart failure and high blood pressure
- Irbesartan (Avapro), Losartan (Cozaar), Valsartan (Diovan)



Anticoagulants

- Aspirin
- Clopidogrel (Plavix)
- Warfarin (Coumadin) Requires INR testing for range of 2.0 to 3.0
- Dabigatran (Pradaxa)
- Rivaroxaban (Xarelto)
- Aprixaban (Eliquis)



Medication Formulary

Anticoagulants

Dental consideration: bleeding.
 Positive history of excessive
 bleeding should have pre-op
 testing of PT, aPTT, TT and platelet
 counts.



Medication Formulary

Statins

- All of thestatins
- Dental consideration: increased risk of organ damage and rhabdomyositis in conjunction with Erythromcin or Biaxin
- Many statins interact with certain antifungals



Antibiotic Prophylaxis Prior to Dental Procedures

- Compared with previous recommendations, there are currently relatively few patient subpopulations for whom antibiotic prophylaxis may be indicated prior to certain dental procedures.
- Infective endocarditis prophylaxis for dental procedures should be recommended only for patients with underlying cardiac conditions associated with the highest risk of adverse outcome from infective endocarditis. For patients with these underlying cardiac conditions, prophylaxis is recommended for all dental procedures that involve manipulation of gingival tissue or the periapical region of teeth or perforation of the oral mucosa.



https://www.ada.org/en/member-center/oral-healthtopics/antibiotic-prophylaxis

The current infective endocarditis/valvular heart disease guidelines state that use of preventive antibiotics before certain dental procedures is reasonable for patients with:

- Prosthetic cardiac valves, including transcatheterimplanted prostheses and homografts
- Prosthetic material used for cardiac valve repair, such as annuloplasty rings and chords
- A history of infective endocarditis



https://www.ada.org/en/member-center/oral-healthtopics/antibiotic-prophylaxis

- A cardiac transplant with valve regurgitation due to a structurally abnormal valve
- Specific congenital (present from birth) heart disease
- Unrepaired cyanotic congenital heart disease, including palliative shunts and conduits
- Any repaired congenital heart defect with residual shunts or valvular regurgitation at the site of or adjacent to the site of a prosthetic patch or a prosthetic device



JADA – January , 2015 Volume 146, Issue 1, Pages 11–16.e8

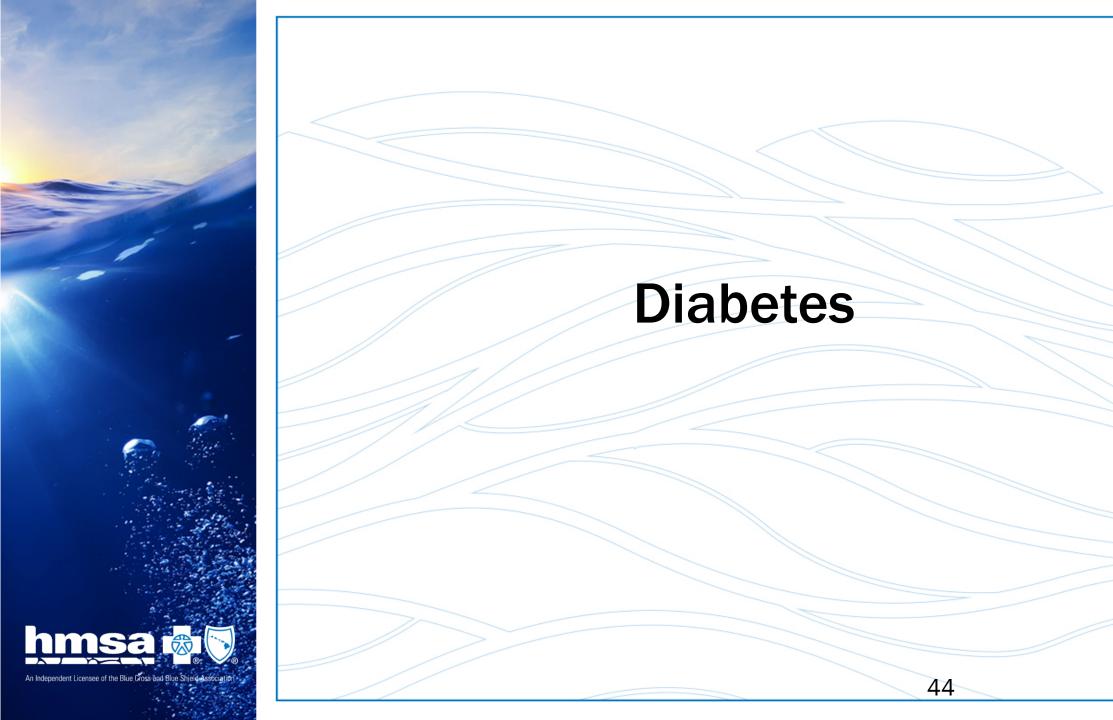
The Use of Prophylactic Antibiotics
Prior to Dental Procedures in
Patients with Prosthetic Joints



JADA – January , 2015 Volume 146, Issue 1, Pages 11–16.e8

Conclusions

Evidence fails to demonstrate an association between dental procedures and PJI or any effectiveness for antibiotic prophylaxis. Given this information in conjunction with the potential harm from antibiotic use, using antibiotics before dental procedures is not recommended to prevent PJI. Additional case-control studies are needed to increase the level of certainty in the evidence to a level higher than moderate.





Demographics

US: 30,000,000 diabetics and 70,000,000 prediabetics in 2017.

https://www.cdc.gov/media/releases/2017/p0 718-diabetes-report.html

 Incidence 9% in US and worldwide. Hawaii 11.5%

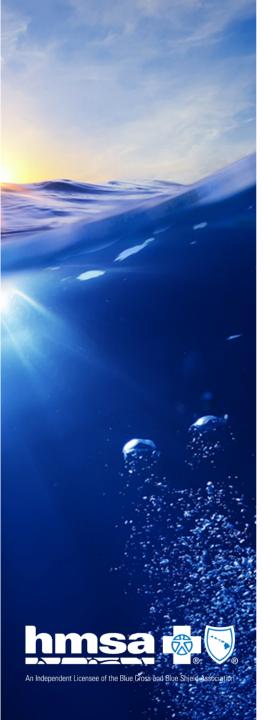
https://www.stateofobesity.org/diabetes/

Seventh leading cause of death in US



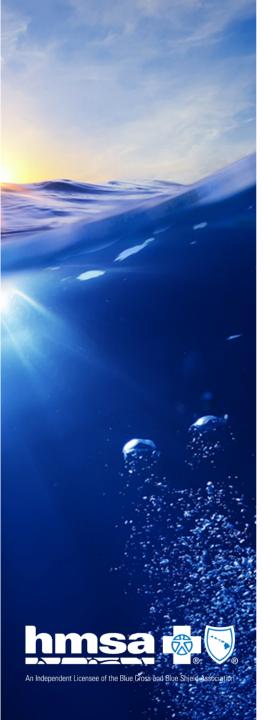
A₁C

Result	A1C		
Normal	less than 5.7%		
Prediabetes	5.7% to 6.4%		
Diabetes	6.5% or higher		



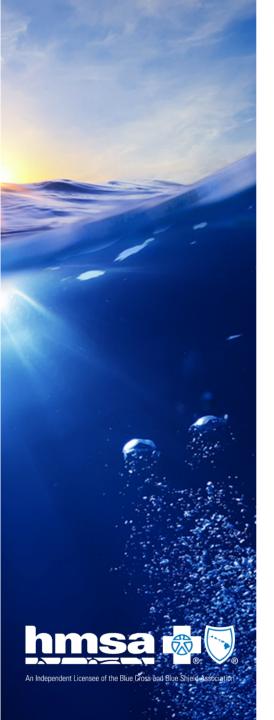
Oral Glucose Tolerance Test

Result	Oral Glucose Tolerance Test (OGTT)		
Normal	less than 140 mg/dl		
Prediabetes	140 mg/dl to 199 mg/dl		
Diabetes	200 mg/dl or higher		



Fasting Plasma Glucose

Result	Fasting Plasma Glucose (FPG)			
Normal	less than 100 mg/dl			
Prediabetes	100 mg/dl to 125 mg/dl			
Diabetes	126 mg/dl or higher			

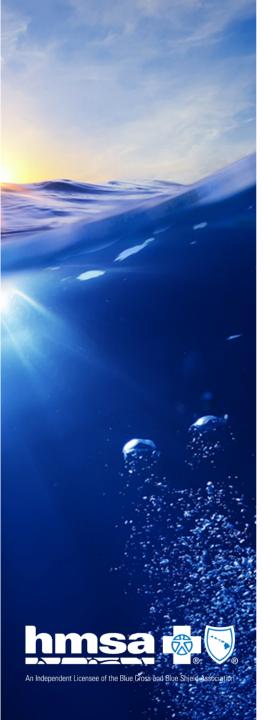


Random Plasma Glucose Test
Diabetes is diagnosed at blood
sugar of greater than or equal to 200
mg/dL



Dental Considerations

- Epinephrine can cause blood glucose to rise
- Steroids will cause blood glucose to rise
- Gingival and periodontal infections
- Delayed wound healing



Patient DP. Non smoker age 53





Head and Neck Cancers



Estimated New Cancer Cases in US

	2005					
	Both Sexes	Male	Female	Both Sexes	Male	Female
All Sites	1,372,910	710,040	662,870	1,762,450	870,970	891,480
Oral cavity & pharynx	29,370	19,100	10,270	53,000	38,140	14,860
Tongue	7,660	5,050	2,610	17,060	12,550	4,510
Mouth	10,070	5,370	4,700	14,310	8,430	5,880
Pharynx	8,590	6,520	2,070	17,870	14,450	3,420
Other oral cavity	3,050	2,160	890	3,760	2,710	1,050



Estimated New Cancer Deaths in US

	2005					
	Both Sexes	Male	Female	Both Sexes	Male	Female
All Sites	570,280	295,280	275,000	606,880	321,670	285,210
Oral cavity & pharynx	7,320	4,910	2,410	10,860	7,970	2,890
Tongue	1,730	1,120	610	3,020	2,220	800
Mouth	1,890	1,100	790	2,740	1,800	940
Pharynx	2,130	1,490	640	3,450	2,660	790
Other oral cavity	1,570	1,200	370	1,650	1,290	360



Oral Cancers

- 90% are squamous cell (SCC)
 - √ 80% of SCC are related to tobacco, alcohol and paan (Betel nuts) 2010
 - √ 66% are due to degradation of the p53 protein on Chromosome 9
 - 25% are white, 60% white/red, 33% red, 2% other
 - ✓ Recurrence rates Smokers 30%, Nonsmokers 13%



Pretreatment Oral Evaluation

- Discuss your role and expectations with the patient:
 - a. Nausea and vomiting may lead to tooth erosion
 - b. Mucositis and ulcerations
 - c. Taste alterations
 - d. Fungal, bacterial or viral infections



Pretreatment Oral Evaluation

2. Rule out oral conditions that may worsen during cancer therapy

3. Provide baseline for oral conditions

4. Identify other lesions, including metastasis



Pretreatment Oral Evaluation

5. Minimize intraoperative discomfort with rinses

6. Reduce risk for radiation or other caries and tooth sensitivity with fluoride varnish, gel or rinses

7. Xerostomia management



Management on Non-Restorable Teeth

1. Extractions three weeks prior to radiation, one week prior to chemotherapy

2. Submerging roots or root banking

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4556801/

3. Bisphophonates in chemotherapeutic protocols

An Independent Licensee of the Blue Cross and Blue Shield Association

Anatomy of the Pharynx Nasal cavity Nasopharynx-Oral cavity Pharynx— Oropharynx-_Hypopharynx-Hyoid bone Larynx Esophagus-Trachea-© 2012 Terese Winslow LLC 60



- Incidence of oropharyngeal HPV:
 10% of men, 3.6% women
- HPV is present in 70% of oropharyngeal cancers

https://www.cdc.gov/cancer/hpv/basic_info/hpv_oropharyngeal.htm



 Variants 16 and 18 are found most often in oropharyngeal cancers

https://oralcancerfoundation.org/understanding/hpv/hpv-oral-cancer-facts/

 White, non-smoking males age 35 to 55 are most at risk, 4 to 1 over females

https://www.cancer.gov/types/head-and-neck/patient/adult/oropharyngeal-treatment-pdg

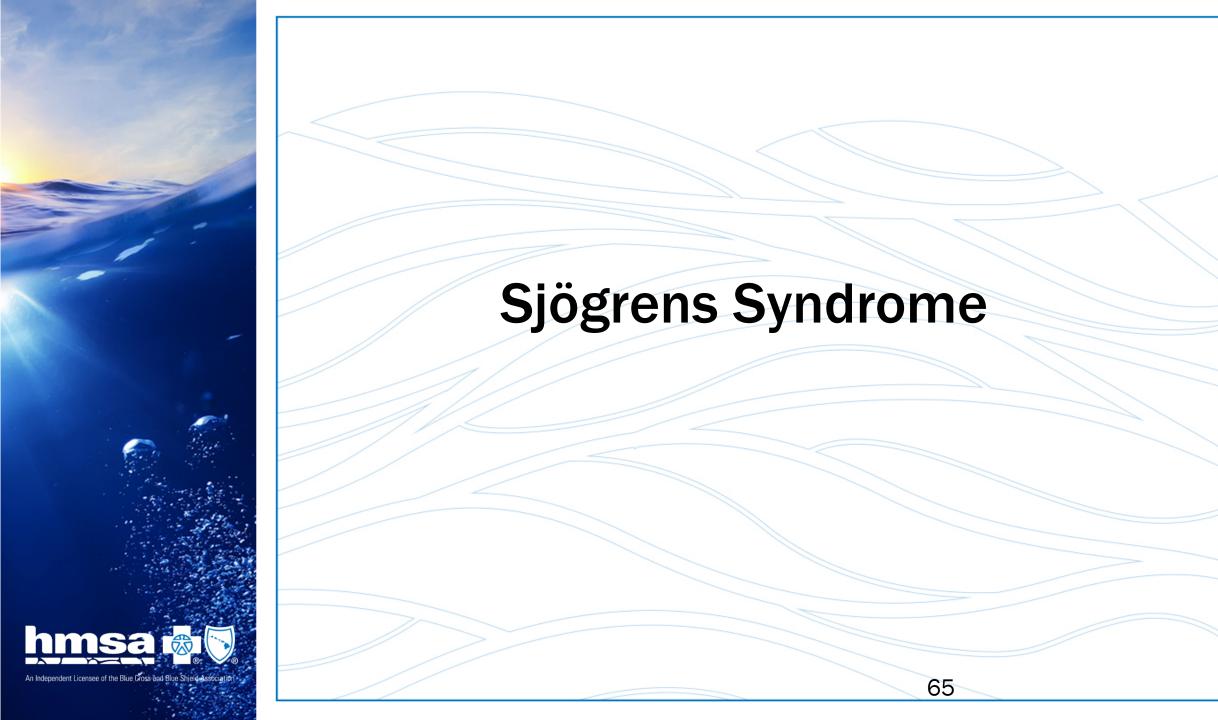


- Stages 0 IVC
- Four types of standard treatment are used:
 - ✓ Surgery
 - Radiation therapy
 - Chemotherapy
 - ✓ Targeted therapy



New types of treatment are being tested in clinical and other trials:

- Immunotherapy
- Radiochemical therapy
- Cryogenics





Demographics

- 3% of adult population
- 90% are women
- Second most common rheumatoid disorder
- 5% or less of normal salivary flow



Most Common Clinical Manifestations

- Dental caries
- Candidiasis
- Angular cheilitis
- Dyseusia (distortion of taste)



Moisture and Lubrication

Artificial saliva (Salivart, Biotene, Pilocarpine)



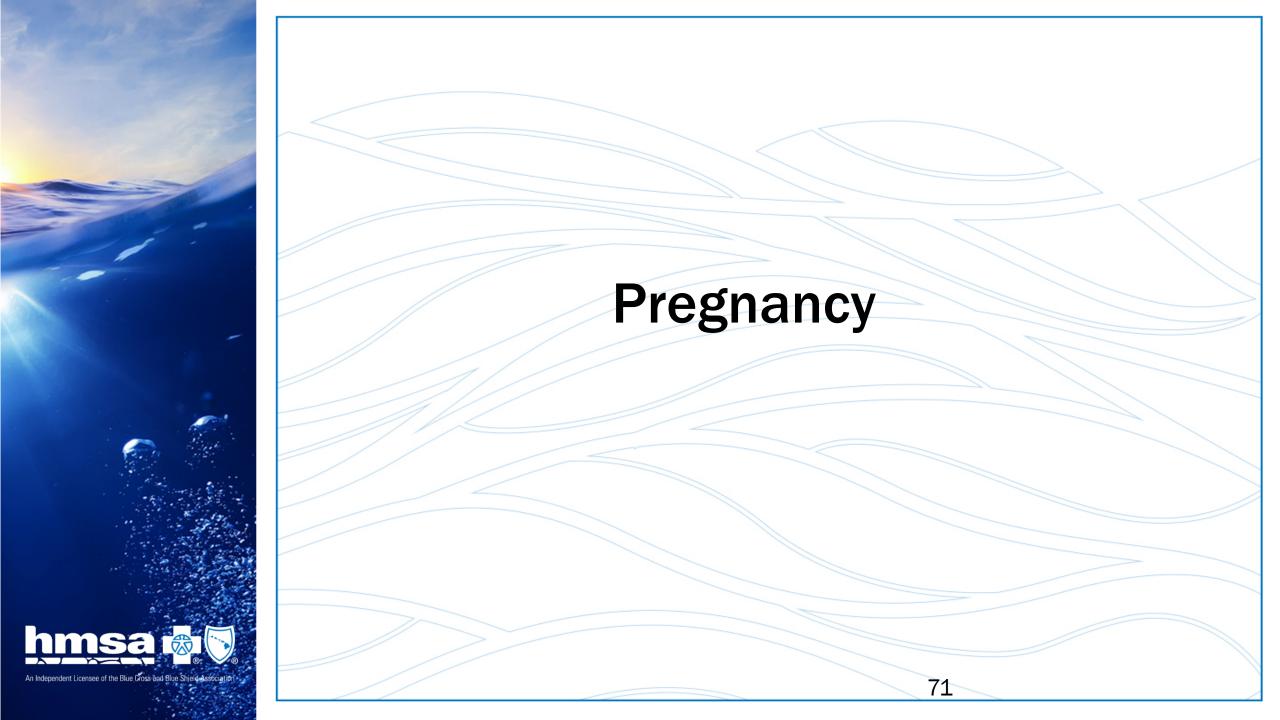
Soft Tissue Level and Discomfort

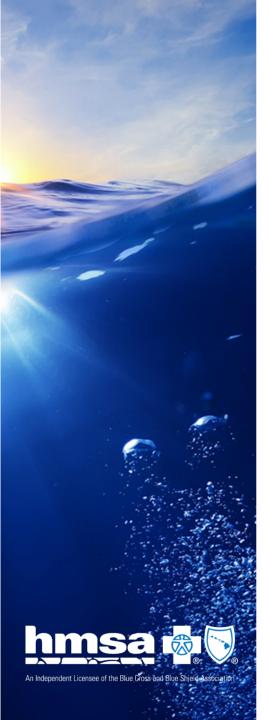
- Benedryl
- Maalox or Milk of Magnesia
- Decadron elixir
- Mycelex troches



Caries Prevention

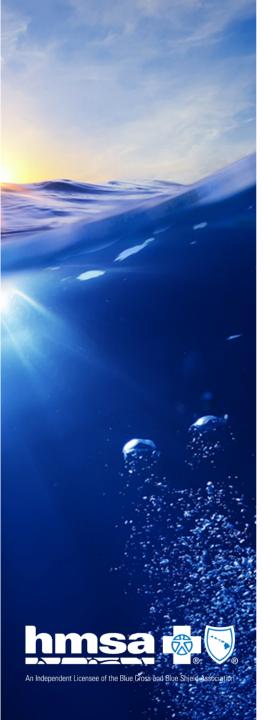
- More frequent dental exams
- Fluoride varnish, gel and 5000 ppm toothpaste





Demographics

- 100% women
- Leading cause of childbirth



Oral Conditions

Pregnancy Gingivitis



https://images.app.goo.gl/qpQxhyRnW6bgeV8y8



Oral Conditions

Pyogenic Granuloma



https://images.app.goo.gl/4nSKskRgUohGMouA8



Oral Conditions

- Increased dental erosion due to regurgitation
- Increased dental decay due to poor diet



Medical Correlation

"In this population-based study, women who did not receive dental care or have a teeth cleaning during pregnancy were at slightly higher risk for preterm delivery after adjustment for pertinent confounders."

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4561173/



The Future is Now

- On May 6, Oregon House Bill 2220 was signed into law, enabling licensed dentists to prescribe and administer vaccines.
- The policy is scheduled for implementation in 2020 pending review and protocol design by the Oregon State Dental Board.
- With its passage, Oregon joins Minnesota and Illinois as the third state to permit vaccinations in dental offices. Minnesota and Illinois allow flu vaccines to be administered.



Hawaii Medical and Dental Statistics

- Hawaii has the highest rate of childhood dental caries in the US.
- In 2016 there were approximately 3,000 ED visits for preventable oral health related pathology.
 Total cost was \$17M or \$5,600 per visit.



Oral Health for Total Health and HMSA Connected CareSM

Stephanie J Dvoroznak, Program Director



Oral Health for Total Health



Overview

Oral Health for Total Health focuses on the *HMSA medical and dental integration*. It offers clinically significant enhanced dental benefits to enrolled members with certain medical conditions that systemically impact the overall health of those enrolled.

Enhanced dental benefits have demonstrated better health outcomes and can potentially lower medical and dental costs.

Enhanced dental benefits remove financial barriers, making it easier than ever to put one's health first.

- No waiting periods
- No copays or coinsurance: paid at 100% when visiting a participating provider
- Is not applied towards calendar-year maximum (CYM)
- Benefits are valued over \$1,000 per year

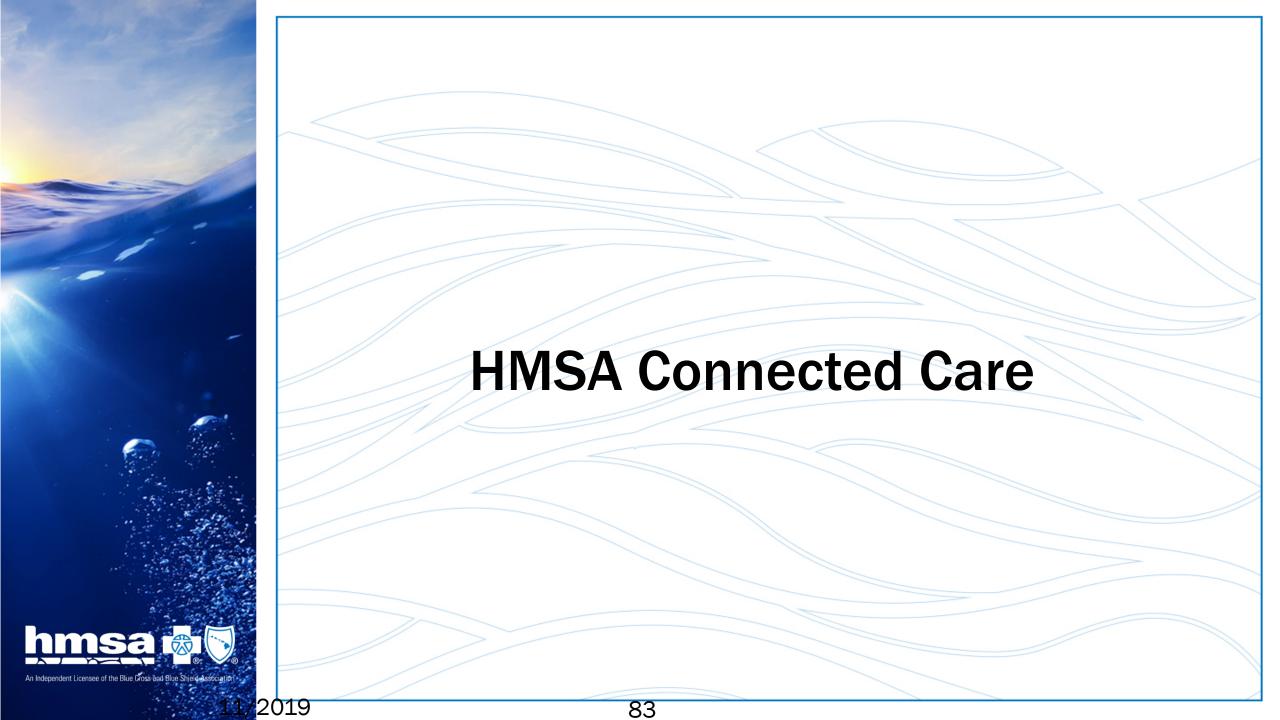


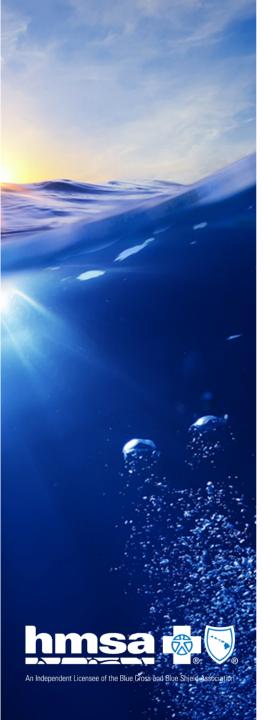
Benefits Overview

Oral Health for Total Health Enhanced Dental Benefits Overview

Covered Medical Conditions and Enhanced Dental Benefits	Automatic Program Enrollment	Two Additional Cleanings or Periodontal Maintenance Visits per Year	Oral Cancer Screenings Once Every 6 Months & Fluoride Treatments Once Every 3 Months	Periodontal Scaling* Covered 100% with No Out-of-Pocket Expense
Diabetes	1	✓		✓
Coronary Artery Disease	1	1		✓
Stroke	1	/		/
Pregnancy		/		✓
Oral Cancer	1	/	/	
Head & Neck Cancers (As of January 1, 2020)	1	1	1	
Sjögren's Syndrome	✓	✓	✓	

^{*}A member's plan must include periodontal coverage to receive this benefit.





Overview

HMSA Connected Care

- Innovative healthcare management platform
- Designed for patient care management that enhances our Oral Health for Total Health program
- Real-time system uses information from our primary care physicians' patient medical records to deliver a comprehensive view of each patient's health status
- Specifically noting the medical and dental measures that show where attributed patients are healthy vs. deficient in care – alerting the provider who then can coordinate outreach and consultation to promote compliance



Dental Measures

HMSA Connected Care Dental Measures

- Preventive Dental Care (Non-OHTH Members)
 - ✓ Identifies members who have not had a cleaning in the current calendar year. Obtaining regular cleanings helps to control oral inflammation and allows the dentist to check for developing oral health problems that could affect total health.
- Oral health for Total Health Dental Care (OHTH Population)
 - ✓ Identifies enrolled OHTH members who have not had a dental cleaning or non-surgical periodontal treatment in the current calendar year. Obtaining regular treatment helps control oral inflammation, which is a known risk factor in the control of diabetes, CAD & stroke, and allows the dentist to check for developing oral health problems that could affect total health.

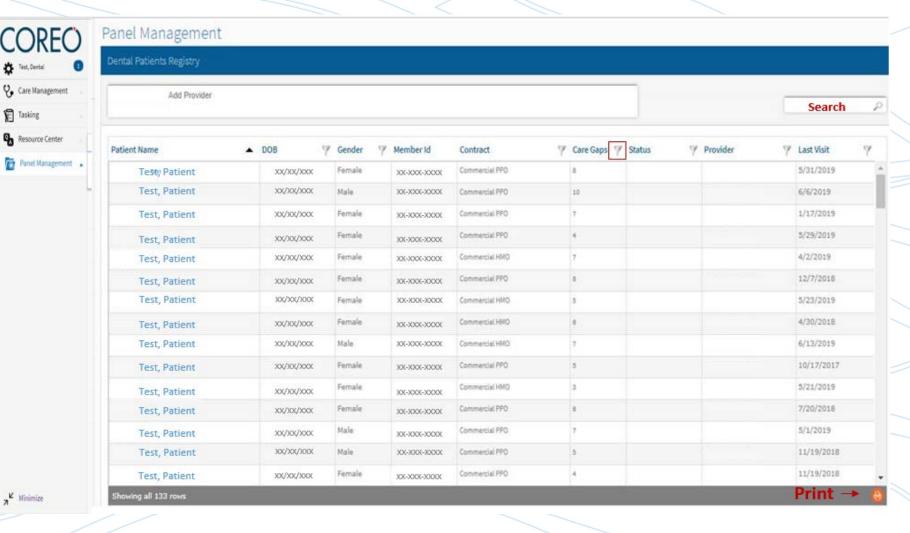


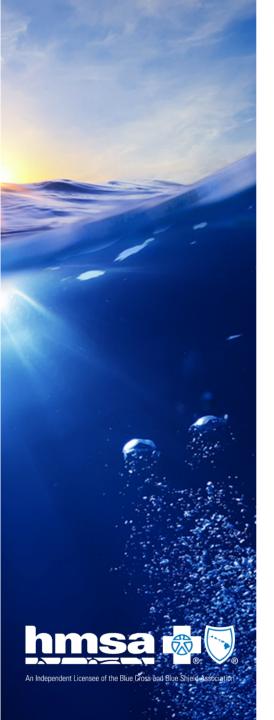
Implementation Timeline

- 9/30/2019: Dental Measures released to PCPs within PTM
- 10/1/2019: Dental Measures pilot begins
- 11/1/2019: Dental Measures pilot ends
- 1/2/2020: Dental measures go-live for all dentists

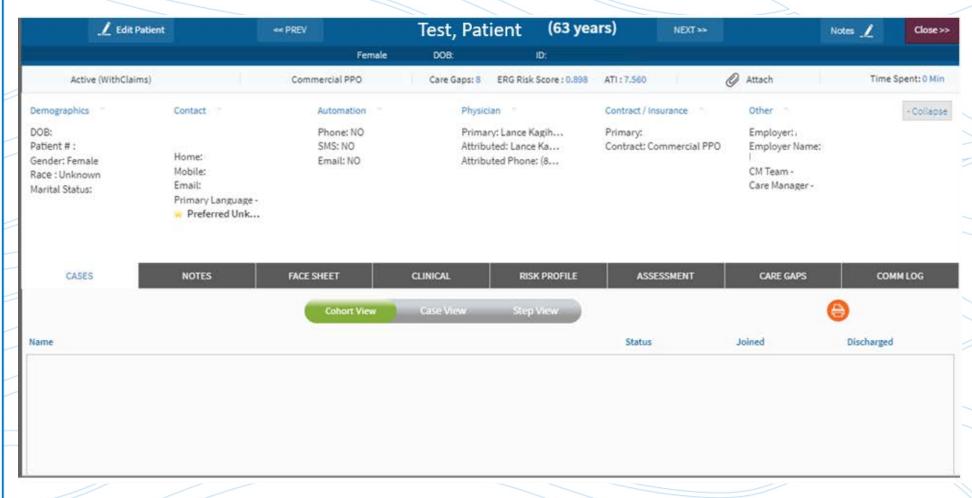


Dental Patient Registry





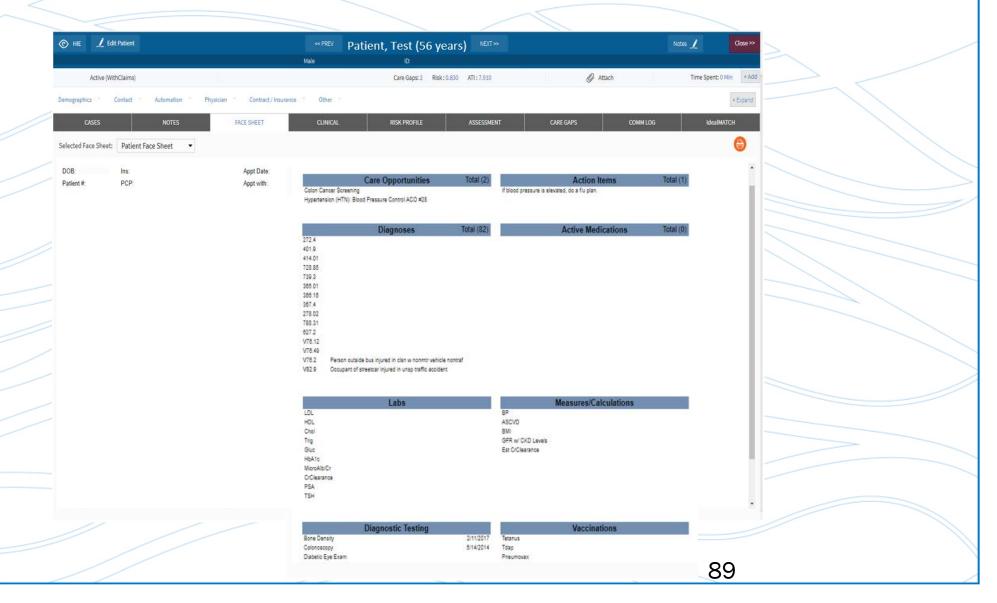
Viewing Patient Demographics



88



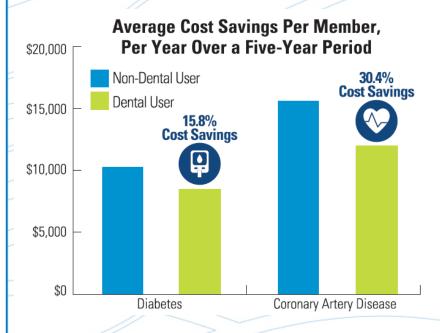
Face Sheet





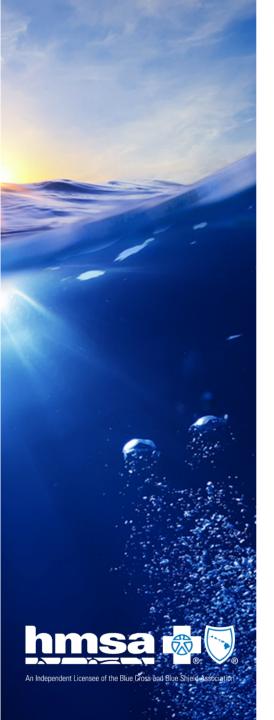
Cost Containment

Cost containment is an important consideration for the insurer, provider and patient. With Connected Care, we can help reduce the cost of care by offering and rendering enhanced dental benefits to members who need them most, and promote dental utilization by dental providers versus the department.



Over the course of a five-year study, 1 there are significantly lower medical costs for members who use their preventive or periodontal dental services versus those who do not use them. The average medical cost difference between users versus non-users is \$4,649.10 per member with CAD and \$1,459.07 per diabetic member. This equates to a 30% difference in medical costs for members with CAD, and 16% for members with diabetes.

¹HMSA Dental User Medical Cost Trend Average (2013-2017)



Treating the Whole Patient

Integrated care, incorporating medical and dental transparency between physician and dentist, allows for a more comprehensive approach in addressing the dental health disparity and facilitating appropriate dental care versus a medical referral to the Emergency Department. Facilitating appropriate dental care is possible through HMSA Connected Care and your commitment to treating the whole patient.



Questions?

