

Improving Racial and Health Equity: Integrating Oral Health Innovations in Cancer, Diabetes & Childhood Tooth Decay

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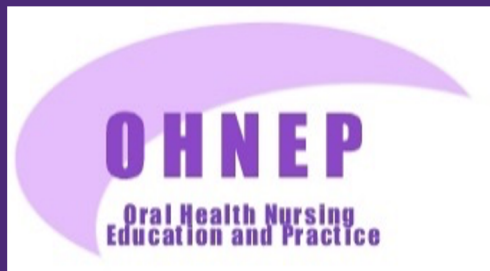
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Special Thanks:



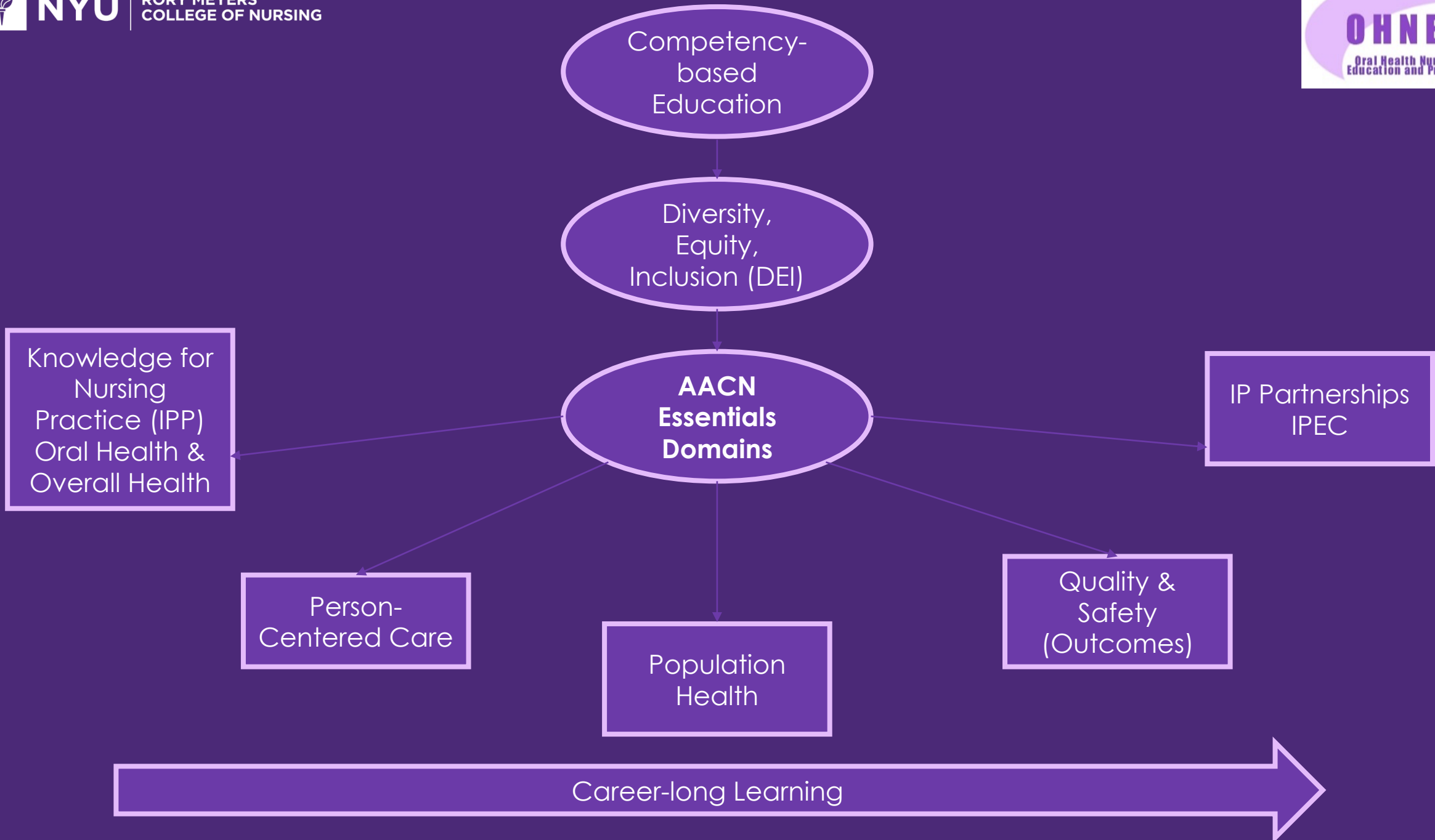
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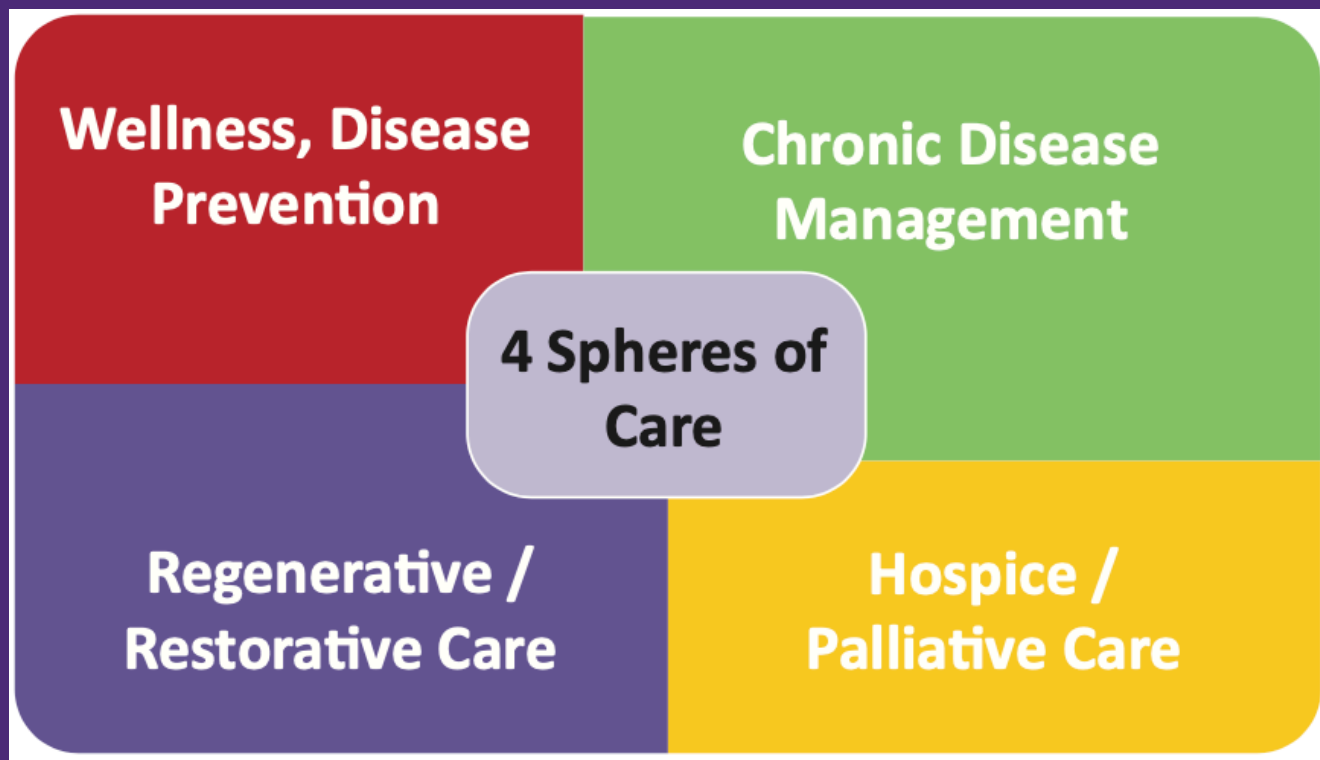
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OHNEP Program Aims

- Advance a national oral health agenda for the nursing profession
- Build interprofessional oral health workforce capacity
- Integrate oral-systemic health into undergraduate and graduate nursing programs nationwide.
 - Faculty development
 - Curriculum integration
 - Establishment of “Best Practices” in clinical settings







Management of Oral-Systemic Conditions Calls for an *Interprofessional Team*



- 4.2 million RNs
- 290,000 NPs
- 11,800 MWs
- 1 million MD/DO
- 115,000 PAs
- 200,000 DDS/DMD
- 185,000 dental hygienists
- 150 dental therapists



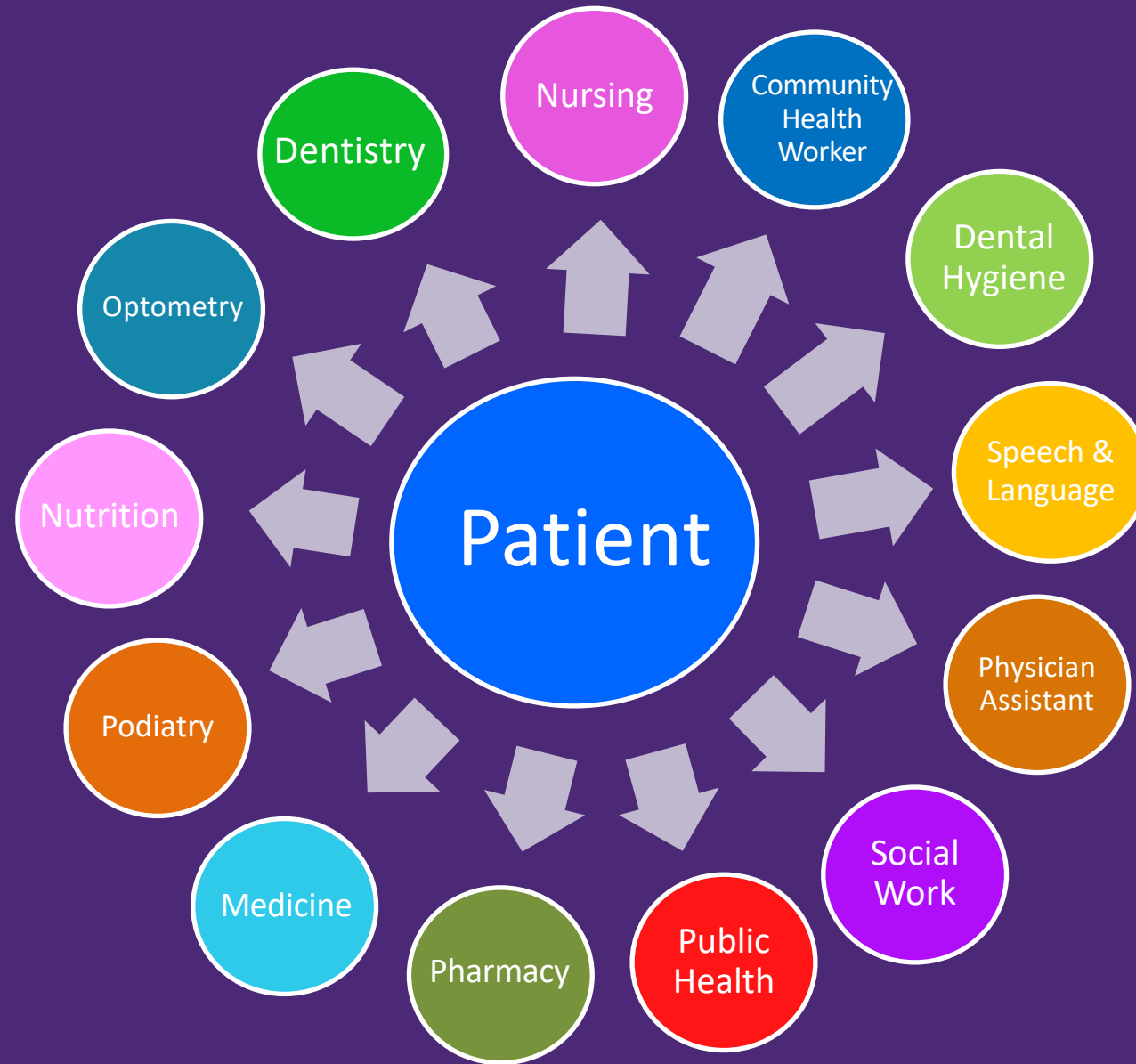
Why do we need the whole IP team?

- 89 million patients seek urgent care per year
- 84% of adults have an annual medical visit
- 64% of adults have an annual dental checkup
- 85% of all U.S. children ages 2-17 in 2017 had an annual dental checkup
- Children have \cong 12 pediatric well-child visits to their PCP by age 3



Images: Getty Images

Whole Person Care

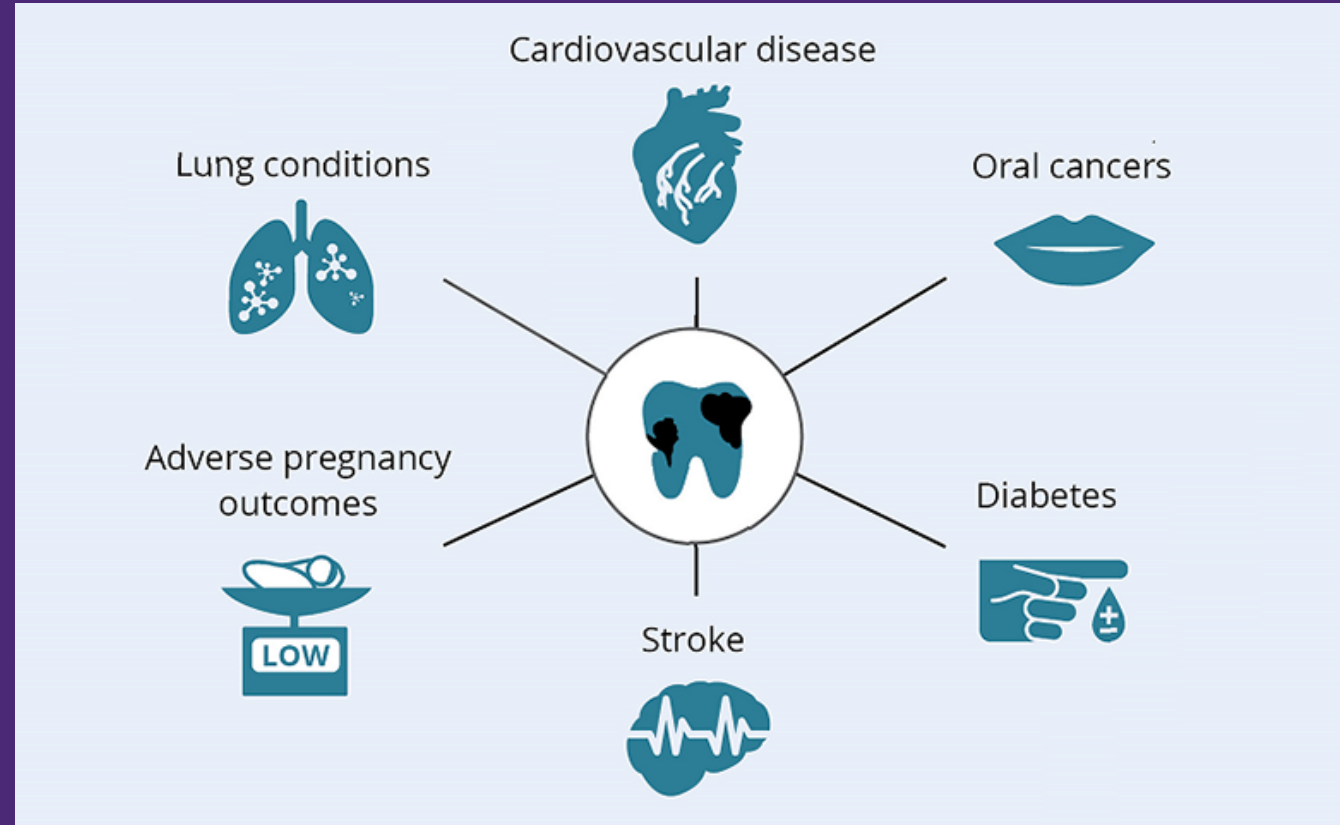


Medical and Dental Teams Contribute to Improving Oral Health and Overall Health Outcomes

- Prevention
- Screening
- Health Literacy
- Counseling
- Vaccination

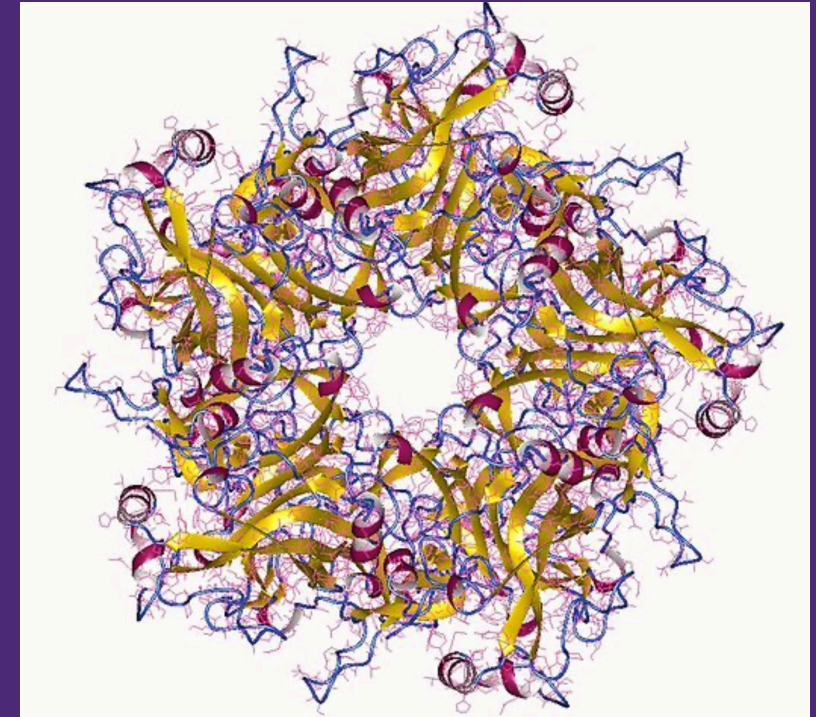


Oral Health & Overall Health: The Oral-Systemic Connection



Cancer Facts

- In the US, there are 1.8 million cancer diagnoses each year
- National expenditures for cancer care \cong \$150 billion
- Approximately 53,000 oral cancer cases
- Causes: Human papillomavirus (HPV), tobacco use, alcohol use
- HPV is the leading cause of oropharyngeal carcinoma and a very small number of front of the mouth, oral cavity cancers
- HPV is thought to cause 70% of oral cancers in the U.S.
- White, non-smoking males age 35 to 55 are most at risk for oral cancer, 4 to 1 over females
- Regular oral cancer screenings can provide early detection of oral cancer, and early diagnosis can double chance of survival

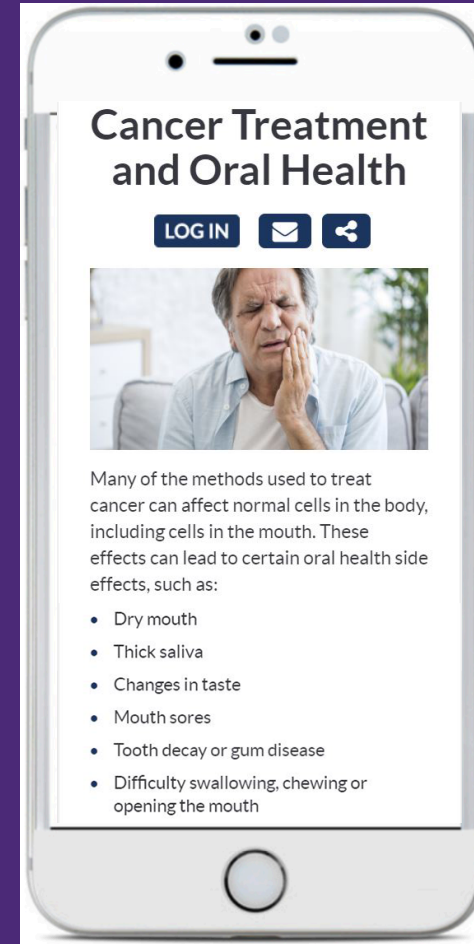


The major capsid protein L1 of HPV 11

Collaborative Management of Oncology Patients



- All oncology patients, especially those with multiple co-morbidities having an oral-systemic connection, need to be referred to a usual source of dental care for dental assessment, treatment, and clearance prior to surgical and/or adjuvant therapy.
- Chief complaint of a dental problem presenting in a dental or primary care setting, like bleeding gums, adenitis, or sore in the oral cavity, may be the first potential assessment for a cancer diagnosis.
- Surgery, Chemotherapy, Radiation, bone-modifying agents (bisphosphonates) and Immunotherapy have multiple side effects that impact oral health and overall health.



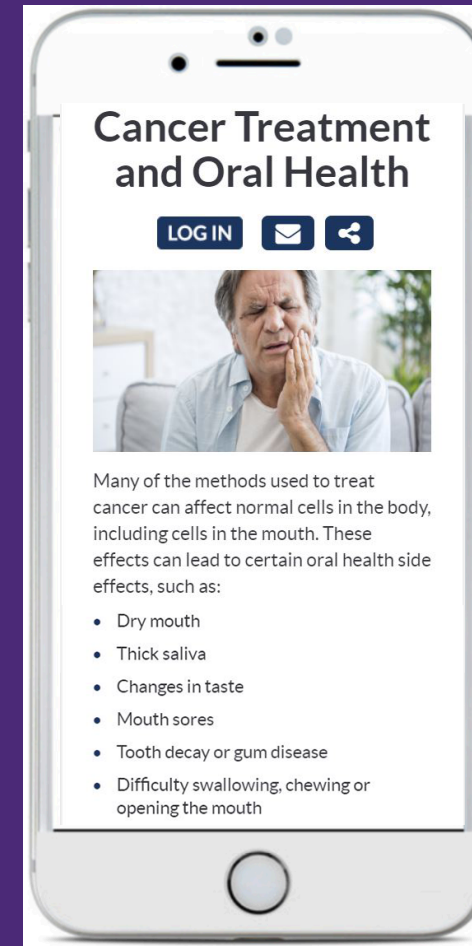
Collaborative Management of Oncology Patients



Treatments target the cancer, but can also affect normal tissues including oral mucosa, facial bones, and teeth

Side Effects-

- Suppression of immune system → risk of infection → sepsis
- Mucositis/Candida
- Dysphagia
- Osteonecrosis
- Taste Disorders
- Xerostomia
- Tooth decay/abscesses
- Pain
- Anorexia
- Nausea

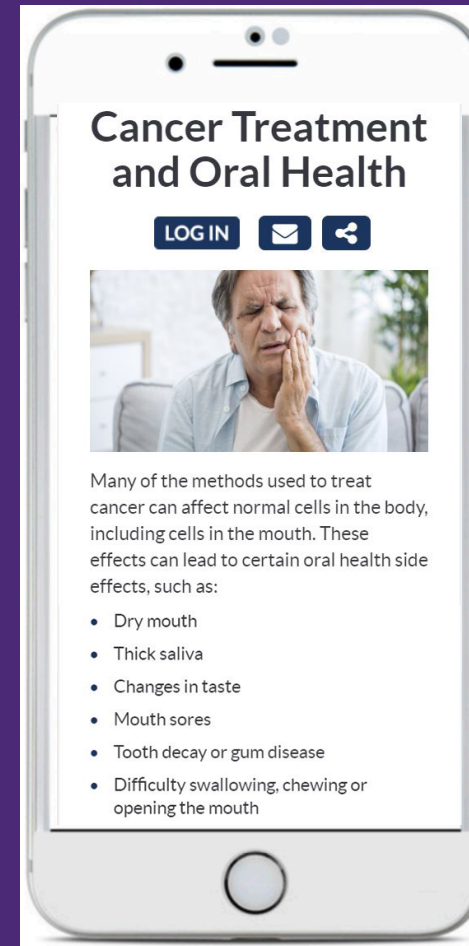


Collaborative Management of Oncology Patients



Collaborate to manage treatment-related symptoms-

- Use topical medications (Lidocaine, Fluconazole, Biotene Dry Mouth or Magic Mouthwash)
- Rinse mouth q. 4h & before and after meals with gentle mouth rinses- H₂O+1 tsp. salt+1 tsp. baking soda
- Diet Modifications – choose soft moist foods at room temperature
- Hydrating fluids 8-12 cups of H₂O/day
- Brush with a soft tooth brush & fluoride toothpaste made with baking soda
- Referrals for dysphagia, anorexia, oral pain



It Takes an *Interprofessional Team* to Promote Effective Cancer Care!



Tooth Decay, Trismus, Osteonecrosis	Dentist, Dental Hygienist, Medical Oncology Team (MD, NP, RN, PA)
Dysphagia, Taste & Smell Disorders	Speech & Language Therapist, Nutritionist, Psychologist
Burning Mouth Syndrome Xerostomia	Physician, Nurse, Nurse Practitioner, Pharmacist, Dentist, Dental Hygienist
Mucositis	Medical Oncology Team (MD, NP, RN, PA), Dentist, Dental Hygienist
Limited Hand Mobility	Physical & Occupational Therapists
Pain	Dentist, Pain Management Team
Periodontal Disease	Dentist, Dental Hygienist, Physician, Nurse Practitioner, Nurse, CDE, Social Worker

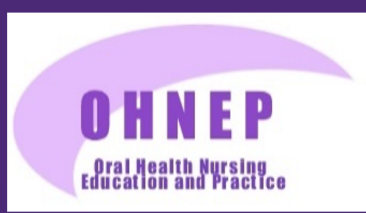


Oral Cancer Screening



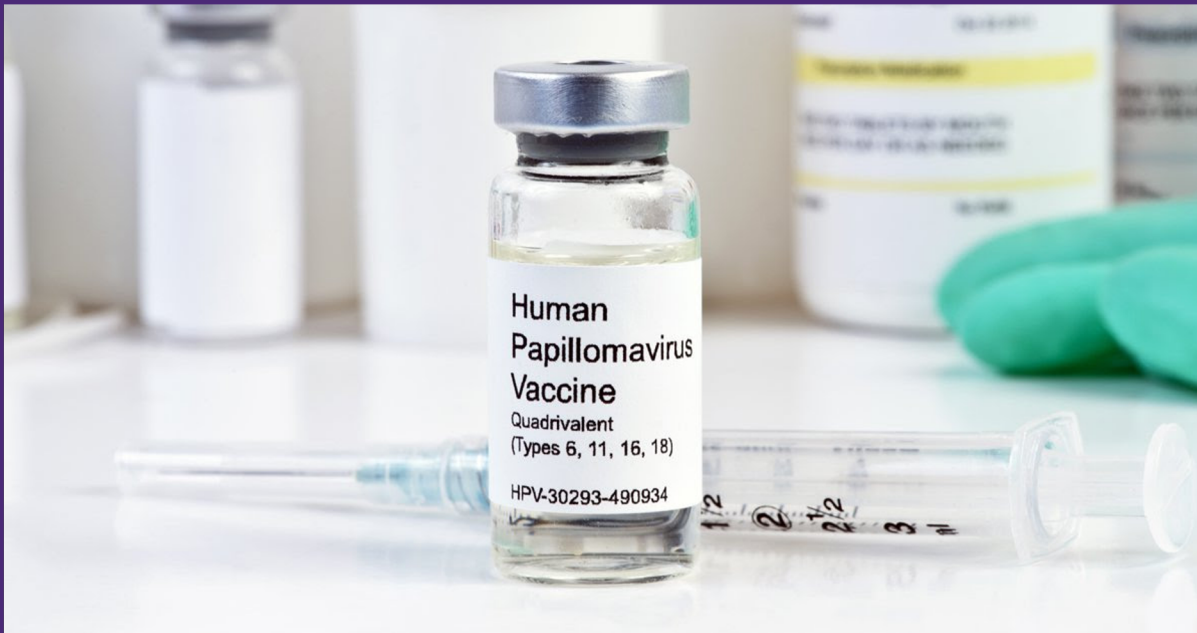
- Nurses, nurse practitioners and nurse-midwives can perform oral cancer screening.
- Visual examination of all the soft tissues of the mouth, the tongue, and the lymph nodes surrounding the oral cavity and in the neck

HPV-related Cancer Prevention



- Collaborate with dental and medical colleagues about a coordinated HPV prevention strategy
- Conduct patient and parent HPV education
- Discuss oral cancer prevention
 - Vaccine
 - Oral sex risk factors
 - Use of condoms and dental dams

“FDA expands Gardasil 9 approval for head and neck cancer prevention”



- Vaccine Recommendation
 - Gardasil protects against HPV16 associated with oral cancers
 - Girls and boys ages 9-14, 2 doses 6-12 months apart (0, 6-12)
 - If started at age 15 or later, 3 doses are needed: first 2 doses 1 month apart and third dose at 6 months (0, 1-2, 6)
 - Immunocompromised children and adults require 3 doses
 - Catch-up for females and males through age 45 now!

“Manage Late Effects From HPV-Positive Oropharyngeal Cancers”



- Dental Decay
- Dysphagia
- Lymphedema
- Osteonecrosis
- Ototoxicity
- Mucositis
- Taste Disorders
- Thyroid Dysfunction
- Trismus
- Xerostomia

Oral Health: The Sixth Complication of Diabetes

1. Neuropathy
2. Nephropathy
3. Retinopathy
4. Microvascular Diseases
5. Macrovascular Diseases
6. *Oral Health Problems*



Diabetes & Oral Health

- Diabetes is the 7th leading cause of death nationwide
- 34 million US adults have Type 2 Diabetes (T2D)
 - 7.3 million are unaware that they are living with T2D
- 88 million adults 18 and older have prediabetes
 - 22% will develop T2D within 5 years if untreated
- Patients with poorly controlled diabetes have a 3-fold greater risk of developing gingivitis and periodontitis
- Patients with diabetes whose gum disease is treated, have improved glycemic control, fewer complications, and improved quality of life
- Underlying pathophysiology focuses on inflammation and infection



Oral Health Complications

People who are at risk for diabetes or who are diabetic may experience more challenges to keeping their mouth healthy and may experience more oral health problems

- Increased risk for...
 - Gingivitis & Periodontal disease
 - Tooth loss
 - Thrush
- Medications reduce saliva → dry mouth, tooth decay
- High blood sugar helps bacteria grow → tooth decay
- High blood sugar can also interfere with normal healing in your mouth

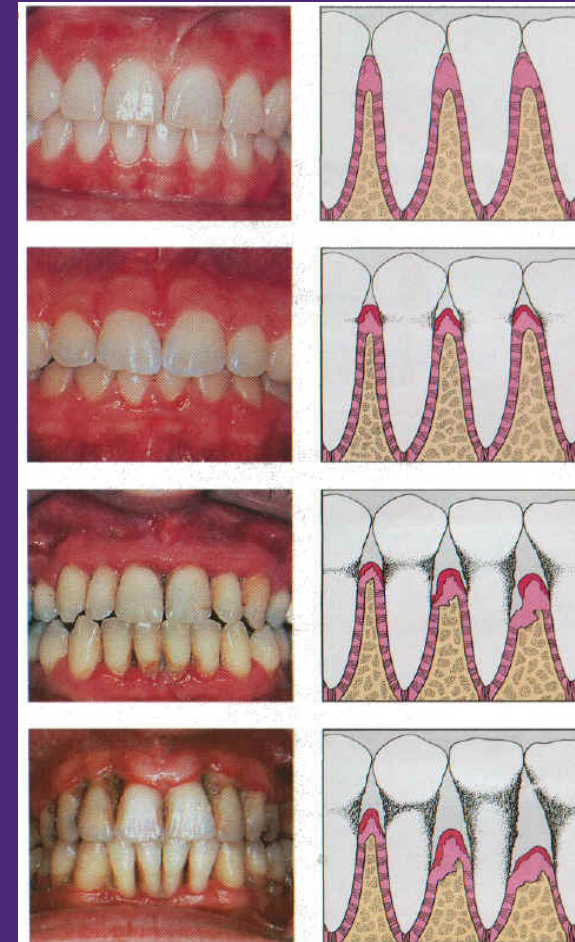
Periodontal Disease

1. Gingivitis

- The early state of periodontal disease
- Swollen gums due to inflammation

2. Periodontitis

- The most serious form of periodontal disease
- Gums pull away from the tooth
- Supporting gum tissues are destroyed



Signs & Symptoms of Periodontal Disease

- Bad breath (halitosis) or bad taste that won't go away (strong odor)
- Red, sore, or swollen gums
- Tender or bleeding gums
- Receding gums (gums pulling away from teeth)
- Painful chewing
- Loose teeth or teeth that have moved or separated
- Food that gets stuck between the teeth more than before
- Sensitive teeth
- Any change in the way teeth fit together when biting down
- Any change in the fit of partial dentures
- History of periodontal abscess

Patient Education

- ❑ Keep gums as healthy as possible to control diabetes and lower risk of complications (blindness, kidney disease)
- ❑ Brush teeth gently twice per day with a soft-bristle toothbrush and fluoride toothpaste
- ❑ Clean between teeth with floss or another interdental cleaner daily
- ❑ Visit dentist for regular check-ups and cleanings
 - Have gums checked – dentist/dental hygienist should measure the space between teeth and gums to check for periodontal disease



When Diabetes is the Diagnosis... Collaboration Among Primary Care and Dental Teams is Essential!



Include Comprehensive & Oral Health History Approach with ALL Patients

- Monitor HgbA1c
- BP Monitoring
- Assess Risk
- Explore Facilitators & Barriers to Diabetic and Oral Health Goals
- Partner with trusted community leaders & frontline team members (CHWs, PCAs)
- Symptom Management
- Oral Health Literacy Coaching
- Vaccine Advocacy and Administration
- Use Motivational Interviewing to Promote Lifestyle Change
 - Diet
 - Exercise
 - Weight Loss
 - Oral Hygiene
- Referral to Obtain or Continue with Usual Source of Dental or Primary Care & Other Referrals (Podiatrist, Ophthalmologist, SW, Meals on Wheels)



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Interprofessional Oral-Systemic Health Experience at NYSIM

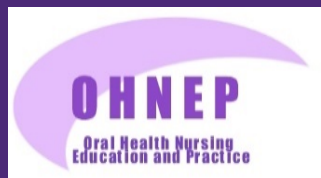
Standardized Patient Experience

- I. Team Brief (5 min):
- II. History and physical exam (45 min)
- III. Debriefing (10 min)



Case Study Discussion

- I. Team Brief (5 min)
- II. Case Study Discussion (40 min)
- III. Debriefing (15 min)



Oral health and diabetes

Gain the confidence to discuss this important topic with your patients.

By Cynthia S. Darling-Fisher, PhD, FNP-BC; Wenche S. Borgnakke, DDS, MPH, PhD; and Judith Haber, PhD, APRN-BC, FAAN

MOST ADULTS with diabetes don't know they're at high risk for oral complications, such as periodontitis. They don't realize how important practicing good oral care at home—brushing twice a day and flossing regularly—and getting routine professional dental check-ups are.

Patients with diabetes visit their

dentist less frequently than their peers without diabetes, perhaps because they're already overburdened by managing their diabetes and comorbidities. Currently, few of these patients receive information about the significance of oral health and its potential impact on their overall health from healthcare providers. Many providers say they

don't address oral health issues because they're not confident in their knowledge of the subject.

In this article, we address this lack of confidence by discussing common oral health issues associated with diabetes, suggesting simple approaches for improving patient assessment and education, and recommending resources.

American Nurse Today, 2017



Oral Health: An Untapped Resource in Managing Glycemic Control in Diabetes and Promoting Overall Health

Cynthia S. Darling-Fisher, PhD, FNP-BC, Preetha P. Kanjirath, BDS, MS, Mathilde C. Peters, DMD, PhD, and Wenche S. Borgnakke, DDS, PhD

ABSTRACT

Periodontitis was declared the sixth complication of diabetes in 1993, and it is the sixth most common disease globally. Nonetheless, its 2-way relationship with diabetes is largely ignored by primary care providers. Poorly controlled diabetes predisposes to periodontitis. Periodontitis contributes to both the worsening of diabetes control and development of diabetes. Routine nonsurgical periodontal treatment improves glycemic control. In this article we describe simple, efficient ways for nurse practitioners to enhance oral health history-taking and examination, educate diabetes patients about their oral health needs, and promote collaborative relationships with dentists. This proactive approach can positively impact glycemic control and improve patients' health.

Keywords: diabetes mellitus, gingivitis, oral health, periodontitis, primary health care

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INTRODUCTION

Periodontal diseases (gum diseases) are a greatly underemphasized complication of poorly controlled diabetes mellitus that all health care providers need to be aware of and address when assessing and counseling their patients. Prevention, early diagnosis, and intervention can reduce the impact of this "sixth complication of diabetes"¹ and greatly improve diabetes management.^{2,3} The American Diabetes Association recommends providers ask about "dental disease" as part of a patient's medical history as well as refer for comprehensive periodontal examination.⁴ Nonetheless, oral health is not routinely addressed in patients with diabetes. Traditionally, nursing and medical providers have perceived oral health issues like periodontitis as outside of their realm and, at best, advise patients to see a dentist without further explanation or attention.⁵ Unfortunately, patients often do not follow through for multiple

reasons, including lack of access to dental care or understanding its significance.^{2,3} Reports by the Institute of Medicine,^{2,3} as well as nursing, medical, and dental organizations, call for integration of oral and primary care to prevent disease and improve health, particularly for the chronically ill.⁵⁻⁸

The purpose of this study is to provide nurse practitioners and other primary care providers with information needed to efficiently and effectively address oral health issues during routine care of diabetes patients. Diabetes, the oral-systemic relationship, and the development of periodontal problems and their treatment are reviewed. We describe some brief additions to the medical history that can clue the provider to risks for periodontitis, common conditions in the mouth seen in patients with diabetes, and related common physical exam findings. Finally, we present recommendations to facilitate referral to dental health professionals as well as resources for patients and providers.

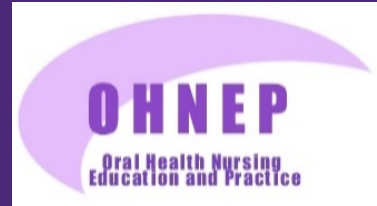
ORAL-SYSTEMIC RELATIONSHIP IN DIABETES

Diabetes

The prevalence of diabetes is increasing worldwide. By 2030, diabetes is projected to be the seventh

American Association of Nurse Practitioners (AANP) members may receive 0.69 continuing education contact hours, approved by AANP, by reading this article and completing the online posttest and evaluation at cecenter.aanp.org/program/arec-jnp.

The Journal for Nurse Practitioners, 2015



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Early Childhood Caries

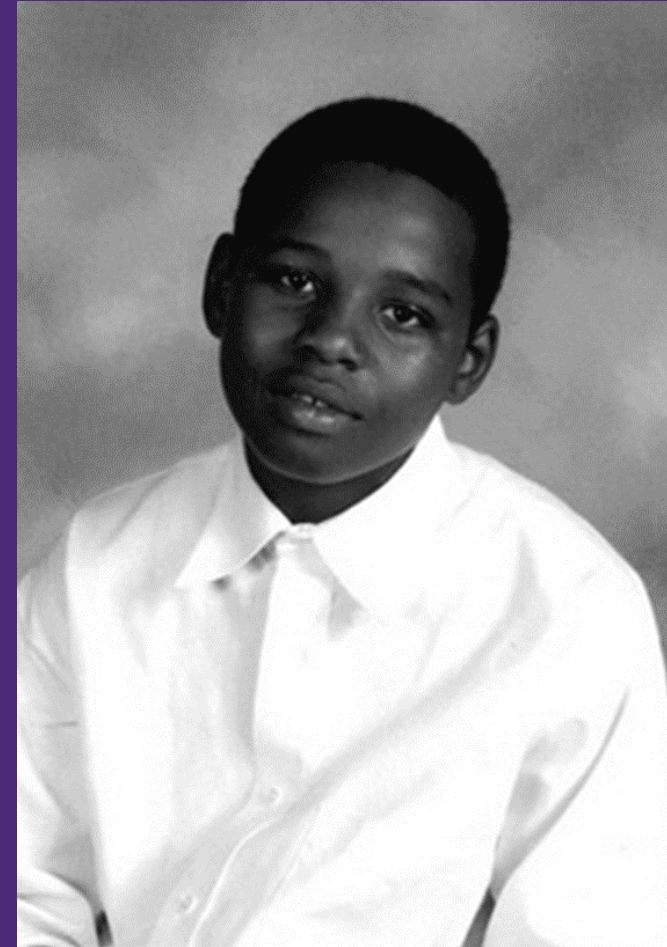
- Major public health problem
- Most common chronic childhood disease
- **5 times** more common than asthma
- **16 million** children have untreated decay
- **80% of ECC** found in only 20% of children
- The **#1 unmet health care need** among pre-school children
- **51 million hours of school** missed in US due to poor oral health



Social Determinants of Health



- Poor nutrition related to...
 - low SES
 - food insecurity
 - insufficient fluoride exposure
 - poor oral hygiene home care
 - limited availability and accessibility of oral health services
- Poor oral health in children is reported to be related to school problems and low self-esteem
- Prevalence of tooth decay is higher among Hispanic (13%) and Black children (17%)
- Prevalence of treated and untreated dental caries in 56.3% of youth from families living below the federal poverty level



Consequences of ECC

- Higher risk of new carious lesions in primary and permanent dentition
- Risk for delayed physical growth and development
- Loss of school days and increase in days with restricted activity
- Diminished oral health-related quality of life
- Hospitalizations and emergency room visits for advanced disease
- Increased treatment costs



What's a Nurse to Do?

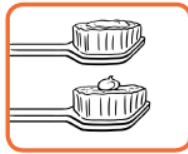


- Perform the **HEENOT** exam
- Apply *fluoride varnish*
- Conduct patient and parent oral care education
- Provide ongoing nutritional support
- Dental referral as needed



Oral Health Literacy for Parents and Caregivers

How To Brush



Use a soft bristle toothbrush and fluoridated toothpaste.

Use a smear of toothpaste from the first tooth up to age 3, a pea-sized amount after that.



Hold your brush at an angle where the gum meets the tooth.

Food and germs like to stick there.



Move the toothbrush in small circles.

Count to 5 before moving the brush to another spot.



Remember the biting surfaces.

That is where the food gets stuck and germs hide.



Brush the tongue.

Germs hide there.

Brush after breakfast and before bed.



A smear when they appear and
at 3 the size of a pea!

Faculty Preceptor eLearning Modules



- Designed to enhance **Knowledge, Skills and Attitudes (KSA)** of Nurse Practitioner Preceptors
- Nine interactive modules that cover NP clinical education topics including oral health, social determinants of health, and interprofessional collaborative practice

>>

Oral Health: Why is Oral Health Important?

This module describes the importance of Oral Health. Its content covers oral health within the context of public health, risks associated with childhood caries (ECC), and symptoms and treatment.

Length: 5 minutes

[Start](#)

This CE program was developed for the following grant:
Primary Care Nurse Practitioner Preceptor Development Program (PC-NP-PDP)
HRSA GRANT # D09HP29976
Principal Investigator: D. Hallas PhD, CPNP, PMHS, FAANP



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Pediatric Oral Health Interprofessional Clerkship at Bellevue



Patient 1	Patient 2	Patient 3
NP reviews chart	MD reviews chart	DDS reviews chart
NP takes history	MD takes history	DDS takes history
DDS does HEENOT exam and FV	NP does HEENOT exam and FV	MD does HEENOT exam and FV
All collaborate for plan	All collaborate for plan	All collaborate for plan
MD gives patient education, prevention, anticipatory guidance, handouts, referral and follow-up	DDS gives patient education, prevention, anticipatory guidance, handouts, referral and follow-up	NP gives patient education, prevention, anticipatory guidance, handouts, referral and follow-up



Prenatal Oral Health Interprofessional Experience at Bellevue

Family Nurse Practitioner (FNP), Nurse Midwifery (MW) and Dental (DDS) students build a collaborative care plan to meet the oral health needs of pregnant patients at the Bellevue prenatal clinic.

- FNP and MW students develop oral health competencies to screen pregnant women for oral health
- Dental students develop oral health competencies to educate pregnant women

Patient 1	Patient 2
DDS/NMW/FNP students will review screening form together	DDS/NMW/FNP students will review screening form together
NMW/FNP student will review prenatal chart in EPIC	NMW/FNP student will review prenatal chart in EPIC
DDS student does HEENOT exam and shows NMW student	NMW/FNP student does HEENOT exam with DDS student mentoring
HUDDLE: DDS and NMW/FNP students discuss plan	HUDDLE: DDS and NMW/FNP students discuss plan
NMW/FNP student gives patient education, prevention, anticipatory guidance, handouts, referral and follow-up	DDS gives patient education, prevention, anticipatory guidance, handouts, referral and follow-up

Oral Health Nursing Education and Practice (OHNEP)



The screenshot shows the OHNEP website homepage. At the top left is the OHNEP logo with the text "Oral Health Nursing Education and Practice". To the right are social media icons for Facebook, LinkedIn, Twitter, YouTube, and WordPress, along with a search bar. Below this is a purple navigation menu with links for Home, About, Education, Faculty Toolkit, Resources, Practice, News, Events, and Contact Us. The main banner features a photograph of a smiling young girl and a male dentist, with the text "Reducing Oral Health Disparities Across The Lifespan". Below the banner is a "News" section with a list of articles and a featured article titled "OHNEP LEADS THE WAY". The featured article discusses the importance of oral health integration and includes a sub-section "OHNEP is changing that." with a stethoscope icon.

OHNEP
Oral Health Nursing
Education and Practice

Home About Education Faculty Toolkit Resources Practice News Events Contact Us

Reducing Oral Health Disparities Across The Lifespan

News

- Interprofessional Education and Practice- Future of Nursing Summit 2017
- The Midwifery Profession: Frontline Providers of Oral Health Care for Women and Newborns- ACNM 2017 Presentation
- OHNEP Program Director, Erin Hartnett, DNP, APRN-BC, CPNP, received the Georgetown University Outstanding Alumna Award!
- OHNEP Executive Director, Judith Haber, PhD, APRN-BC, FAAN, named Health Equity Hero by DentaQuest!

OHNEP LEADS THE WAY

OHNEP is at the vanguard of helping nurse practitioners, nurse-midwives, nurses, and other health professionals incorporate oral health into patient care.

Why? Oral health and general health are interconnected. Research evidence links poor oral health like periodontal disease with diabetes, cancer, heart and lung diseases, and progression of dementia and Alzheimer's, among others. Yet, few health professionals integrate oral health in their clinical practice.

OHNEP is changing that.

As a national voice promoting interprofessional oral health integration, OHNEP advocates, educates, creates and promotes resources that educators and clinicians can use to improve the quality of oral health care in their patients. The OHNEP website serves as a knowledge center and portal for best practices.



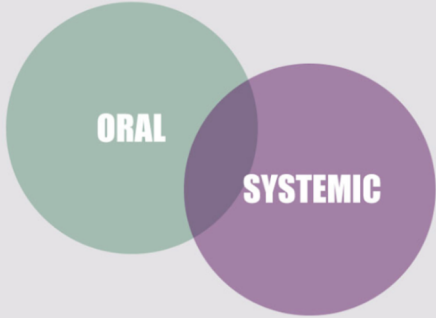
www.ohnep.org

Smiles for Life: A National Oral Health Curriculum

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HEENT to HEENOT – Putting the Mouth Back in the Head



COMMENTARIES

attendance at healthcare appointments. *Diabetes Diabetes Care* 2012;35:1507-1511.

74. Gay R, Harding J, Wood H, Sutt S, Akl H, Kibiki J. How effective are short message service reminders at increasing clinic attendance? A meta-analysis and systematic review. *Health Serv Res* 2012;47(2):614-632.

80. Liang X, Wang Q, Yang X, et al. Effect of mobile phone information for diabetes on glycosylated hemoglobin levels in a non-urban city. *Diabet Med* 2011;28(4):455-462.

81. Fren C, Knight R, Robinson S, et al. Smoking cessation support delivered via mobile phone text messaging (e2209): a single-blind, randomised trial. *Lancet* 2011;377(9755):949-55.

82. Potho JI, Mwachiro-Venkova HJ, Mbitia BC, Lange J, Fajana R. Access to mobile communication technology and willingness to participate in automated telephone calls among the generally ill patients in Tanzania. *Tropical J Health* 2010;10(10):1030-1041.

83. Potho JI, Mwachiro-Venkova HJ, Gausse M, Mshamri M, Mutare N, Kankasa S. A preliminary study of

a short-consulting model for chronic illness advice support in an under-served country. *Am J Prev Med* 2011; 46(3):20-22.

Putting the Mouth Back in the Head: HEENT to HEENOT

Improving oral health is a leading population health goal; however, curricula preparing health professionals have a dearth of oral health content and clinical experiences. We detail an educational and clinical innovation transitioning the traditional head, ears, eyes, nose, and throat (HEENT) examination to the addition of the teeth, gums, mucosa, tongue, and palate examination (HEENOT) for assessment, diagnosis, and treatment of oral-systemic health. Many New York University nursing, dental, and medical faculty and students have been exposed to interprofessional oral health HEENOT classrooms, simulation, and clinical experiences. This was associated with increased dental-primary care referrals.

This innovation has potential to build interprofessional oral health workforce capacity that addresses a significant public health issue, increases oral health care access, and improves oral-systemic health across the lifespan. (*Am J Public Health*. 2015;105:K32-K41. doi:10.2196/AJPH.2014.300499)

Judith Haber, PhD, APRN, BC, Erin Harvett, DNP, CFNP, BC, Kenneth Allen, DDS, MBA, Dora Hallak, PhD, CFNP, BC, Caroline Dorsen, MSN, FNP, BC, Julia Lange-Kessler, DNP, CM, RN, Macielene Lloyd, MS, FNP, BC, PMHNP, BC, Edelidge Thomas, DNP, ANP, BC, and Dorothy Wohlman, DNP, ANP, BC, CFNP, BC

DURING THE DECADE FOLLOWING publication of the Surgeon General's Report, *Oral Health in America*, health professionals, physicians (MDs), nurse practitioners (NPs), nurse-midwives (NMs), and physician assistants (PAs) began to align with the dental profession to heed Satcher's call to "view the mouth as a window to the body."¹ The most significant interprofessional movement that followed this report occurred with family practice and pediatric physicians coming together to work on preventive oral health initiatives for children in which those professionals would provide screenings, fluoride varnish, and referrals for children to find dental homes.

Mobilization of the overall health community to work collaboratively has been slower. Development of "Bridges for Life: A National Oral Health Curriculum"² represented an important interprofessional "tipping point" for engaging health professionals focused on treating populations across the lifespan in considering oral health and its relationship to overall health as an integral component of their practice.

Yet, evidence from national databases monitoring oral health data continue to reveal a high

incidence and prevalence of dental caries, especially in lower socioeconomic and minority group populations.^{3,4} Data from the 2009–2012 National Health and Nutrition Examination Survey⁵ reveal that approximately one in four children (1.9%) aged 3 to 5 years living at the poverty level have untreated dental caries. The survey data further reveal that 19% of non-Hispanic Black children aged 3 to 5 years and 20% of Hispanic children aged 6 to 9 years had untreated dental caries compared with non-Hispanic White children aged 3 to 5 years (1.1%) and 6 to 9 years (1.4%).⁶ Although national statistics show an improvement in access to oral health care for children aged 5 years and older, the data reveal significant disparities in access to care for children aged 2 to 4 years.⁷

In the adult population, oral cancer morbidity and mortality rates have not declined over the past 10 years, at least in part related to absent or inadequate oral examinations,⁸ and human papillomavirus is associated with the recent rise in the incidence of oropharyngeal cancer.⁹ Among adults aged 65 years and older, only 30% have a dental benefit.¹⁰ Primary care providers have been

challenged by the Institute of Medicine to play a significant role in improving those oral health disparities by building interprofessional oral health workforce capacity.¹¹


One important component of the problem is that the majority of curricula for preparing health professionals have a dearth of oral health content and clinical experiences. Approximately 70% of medical schools include 4 hours or less on oral health in their curricula; 10% have no oral health content at all.¹² Similarly, NPs and NMs have also not had a defined oral health curricular knowledge base nor a set of oral health clinical competencies.^{13,14} The PA programs have generally followed medical school curricula and have not required dental oral health content or competencies.¹⁵

The recent publication of several important national reports, two oral health reports by the Institute of Medicine,^{16,17} the listing of oral health as one of the Healthy People 2020 Leading Health Indicators,¹⁸ the release of the Health Resources and Services Administration document "Integration of Oral Health and Primary Care Practice,"¹⁹ and the dissemination of "Oral Health Care During Pregnancy: A

Oral Health Care for Children NLN ACE.P Framework



ACE.P A+ Print



ACEP
ADVANCING CARE EXCELLENCE
PEDIATRICS

With generous funding from the Hearst Foundations , the NLN has developed ACE.P unfolding cases to focus on the increasing impact of environment, housing, and access to care for children in vulnerable populations. The cases focus on the special needs of vulnerable children in the areas of nutrition/obesity, oral health, preventive care, immunizations, mental health, and autism. The ACE.P cases follow the format of NLN's highly regarded and successful Advancing Care Excellence for Vulnerable Populations (ACE) series.

Unfolding Cases	Teaching Strategies
NLN ACE.P Framework	Additional Resources

Mia Jones Unfolding Case

- Katrina's Introductory Monologue
- Simulation Scenario 1 – Primary Care
- Simulation Scenario 2 - PACU
- Simulation Scenario 3 - ER
- Finish the Story Assignment

Teaching Strategies

- Nutrition Education Program
- Oral Health in Childhood

Available at: <http://www.nln.org/professional-development-programs/teaching-resources/ace-p>

Patient FACTS www.acponline.org/patient_ed

Oral Health and You

What Is Oral Health?
Oral health is not only about keeping teeth clean. It also refers to the jaw, lips, gums, teeth, tongue, and glands that make saliva. Good oral health is important to your overall health. Many health problems, like diabetes, heart disease, and other conditions, are linked with oral health. It's important to talk to both your dentist and primary health care professional (physician, nurse practitioner, physician assistant) about oral health.

What Are Some Common Oral Health Problems?

- A Cavity is a hole in your tooth caused by bacteria from plaque buildup. Eating sugary foods and drinks can make plaque worse. When plaque is not cleaned off the teeth, cavities can form.
- Gingivitis happens when plaque stays on your teeth for too long. Gingivitis can cause gums to be swollen and tender and bleed more easily. It can also cause bad breath. This is the beginning stage of gum disease.
- Gum Disease (Periodontitis) occurs when tartar builds up and contributes to infections deep in your gums. It can lead to loss of tissue, bone, and teeth and can increase your risk for other serious problems, like diabetes, heart attack, or stroke.
- Dry Mouth can be caused by medicines for high blood pressure, depression, or other health problems.

What Are the Warning Signs of Poor Oral Health?

- Red, swollen, tender, or bleeding gums
- Bad breath that won't go away
- Loose teeth
- Sensitive or sore teeth
- Receding gums (gums that pull away from the teeth)
- Dry mouth
- Long-lasting mouth sores



How Are Oral Health Problems Diagnosed?
Most oral health problems are diagnosed after your mouth, teeth, gums, and tongue are examined. Your dentist may also use X-rays to help diagnose oral health problems.

How Are Oral Health Problems Treated?

- Cavities can be treated by filling or covering the holes in teeth. If a cavity or tooth decay is more serious, nerves in the tooth or the entire tooth may need to be removed.
- Gingivitis can be treated by a professional cleaning at your dentist's office. Good oral hygiene will keep plaque and tartar from building up again.
- Gum disease is treated by removing tartar and bacteria from your teeth and gums. If gum disease is more serious, you may need prescription antibiotic medicines or dental surgery.




National Interprofessional Initiative on Oral Health

Patient FACTS www.acponline.org/patient_ed

Oral Health and HPV

What Is HPV?
Human papillomavirus (HPV) is a virus that can infect your skin, mouth, penis, vagina, cervix, and anus. If HPV infects your mouth, it could put you at risk for mouth or throat cancer. Some research suggest that smoking and heavy drinking can increase the risk that oral HPV will turn into cancer. It is important to discuss your risk of HPV and oral health with both your dentist and primary health care professional (physician, nurse practitioner, physician assistant).

How Are Oral Health and HPV Linked?

- HPV is spread through oral sex. If your partner is infected with genital HPV and you perform oral sex, you risk getting HPV.

How Can I Prevent Oral HPV?

- Having oral sex with many partners increases your risk for oral HPV.

What Are the Warning Signs of HPV?
Many times, the HPV virus does not cause any symptoms. The virus could cause warts or sores in the mouth. Mouth or throat cancer could also develop because of HPV infection. The symptoms of mouth or throat cancer can include:

- Ulcers or sores in the mouth that don't heal
- Difficult or painful swallowing
- Pain when chewing
- A sore throat or hoarse voice that doesn't go away
- A swelling or lump in the mouth or neck
- A numb feeling in the mouth or lips
- Constant coughing
- An earache on one side that lasts for more than a few days

How Are Oral Health and HPV Linked?

- HPV can be spread even when an infected person has no signs or symptoms. The best way to protect yourself is to always use condoms and dental dams with all partners. A dental dam is a small, thin piece of latex that can be used for protection during oral sex.
- The HPV vaccine protects you against several types of HPV. It is recommended for most people, both male and female, ages 11 through 26. Talk to your health care professional about the HPV vaccine.
- It's possible that the HPV vaccine will help protect you from oral HPV, but more studies need to be done. For more information on the HPV vaccine, go to: www.cdc.gov/vaccines/vpd-vac/hpv/





National Interprofessional Initiative on Oral Health

Patient FACTS www.acponline.org/patient_ed

Oral Health and Diabetes

How Are Diabetes and Oral Health Linked?
People with diabetes are at greater risk for oral health problems, like gum disease and tooth decay. Gum disease can also be a warning sign for diabetes. To lower risk for oral health problems, it is important to control blood sugar and practice good oral health habits. If you have diabetes, discuss any special care you may need with both your dentist and primary health care professional (physician, nurse practitioner, physician assistant).

What Are Common Oral Health Problems Related to Diabetes?
Diabetes can make it hard for your body to fight off infection. This means you may be at higher risk for some of these problems:

- Gum Disease (Periodontitis) occurs when tartar builds up and contributes to infections deep in your gums. It can lead to loss of tissue, bone, and teeth and increases your risk for other serious health problems, like heart attack or stroke.
- Oral Thrush can cause uncomfortable creamy white patches in your mouth or small white cracks at the corners of your mouth.
- Dry Mouth can cause soreness, ulcers, infections, and cavities. Dry mouth may be caused by medicines for high blood pressure, depression, or other health problems.

What Are Warning Signs of Oral Health Problems Related to Diabetes?

- Red, swollen, or tender gums or other pain in your mouth
- Bleeding while brushing, flossing, or eating
- Loose or separating teeth
- Sores in your mouth
- Bad breath, bad taste in mouth, or loss of taste
- White patches in the mouth
- A sticky, dry feeling in the mouth

How Are Oral Health Problems Diagnosed?
Oral health problems may be diagnosed after your mouth, teeth, gums, and tongue are examined. X-rays of your mouth may also help diagnose problems. If you are having any other problems related to your diabetes, talk with your primary health care professional.





National Interprofessional Initiative on Oral Health

Patient FACTS www.acponline.org/patient_ed

Oral Health and Older Adults

What Is Oral Health?
Oral health is not only about keeping teeth clean. It refers to the jaws, lips, gums, teeth, tongue, and glands that make saliva. As you age, you become more prone to certain oral health problems. Oral health is important to discuss with both your dentist and primary health care professional (physician, nurse practitioner, physician assistant).

What Are Common Oral Health Problems for Older Adults?




- Gum disease (periodontitis) occurs when tartar builds up and contributes to infections deep in your gums. This can lead to loss of tissue, bone, and teeth. It can also increase your risk for other serious health problems, like diabetes, heart attack, or stroke.
- Tooth decay
- Mouth and throat cancers
- Dry mouth, which can be caused by medicines for high blood pressure, depression, or other health problems

What Are the Warning Signs of Oral Health Problems?

- Red, swollen, or tender gums or other pain in your mouth or teeth
- Bleeding while brushing, flossing, or eating
- Loose or separating teeth
- Dry mouth
- Sores in your mouth
- Lasting bad breath
- A change in the way your teeth or dentures fit together when you bite
- A lump or thickening inside the mouth
- A sore throat or a feeling that something is caught in the throat that doesn't go away
- Trouble chewing, swallowing, or moving certain parts of your mouth

How Are These Problems Treated?

- Gum disease can be treated by removing all plaque and tartar buildup from your teeth and gums through a deep cleaning. If gum disease is more serious, surgery may be needed.
- Certain medicines may be used, including prescription mouthwash, gel, or oral antibiotics for infections.
- Medicines that cause dry mouth may be changed. Special mouthwashes and sugarless candies or gum may also help with dry mouth.
- Oral and throat cancers may require different types of treatment, including surgery, radiation, or chemotherapy.

National Interprofessional Initiative on Oral Health

Available at: <http://ohnep.org/interprofessional-resources>

Health Literacy: HPV Oral Health Facts

Patient FACTS www.acponline.org/patient_ed

Oral Health and HPV

What Is HPV?
Human papillomavirus (HPV) is a virus that can infect your skin, mouth, penis, vagina, cervix, and anus. If HPV infects your mouth, it could put you at risk for mouth or throat cancer. Some research suggest that smoking and heavy drinking can increase the risk that oral HPV will turn into cancer. It is important to discuss your risk of HPV and oral health with both your dentist and primary health care professional (physician, nurse practitioner, physician assistant).



How Are Oral Health and HPV Linked?

- HPV is spread through oral sex. If your partner is infected with genital HPV and you perform oral sex, you risk getting HPV.
- Having oral sex with many partners increases your risk for oral HPV.

How Can I Prevent Oral HPV?

- HPV can be spread even when an infected person has no signs or symptoms. The best way to protect yourself is to always use condoms and dental dams with all partners. A dental dam is a small, thin piece of latex that can be used for protection during oral sex.
- The HPV vaccine protects you against other types of HPV. It is recommended for most people, both male and female, ages 11 through 26. Talk to your health care professional about the HPV vaccine.
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Many times, the HPV virus does not cause any symptoms. The virus could cause warts or sores in the mouth. Mouth or throat cancer could also develop because of HPV infection. The symptoms of mouth or throat cancer can include:

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- Difficult or painful swallowing
- Pain when chewing
- A sore throat or hoarse voice that doesn't go away
- A swelling or lump in the mouth or neck
- A numb feeling in the mouth or lips
- Constant coughing
- An earache on one side that lasts for more than a few days

in partnership with



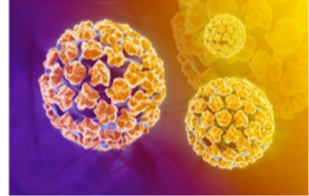

National *Interprofessional Initiative*
on Oral Health

Safe and Sound: The HPV Vaccine

The HPV vaccine is the most effective form of prevention against HPV-associated cancers and illnesses, and is highly effective in preventing most serious types of HPV. There are many misconceptions surrounding HPV transmission and the HPV vaccine, and it is important to know that the HPV vaccine can be safely administered to teen children starting between ages 9-12.

HPV affects both men and women.

- Most common sexually transmitted virus in the U.S.
- **80% of people** will get an HPV infection in their lifetime.
- Spread through vaginal, anal or oral sex.
- Mostly undetectable and asymptomatic.
- Can often disappear on its own in healthy people, but if not resolved can cause serious health problems like warts and cancer.



Cancer	Cases in Women	Cases in Men
Back of the Throat	2,200	11,800
Cervical	11,000	0
Anus	4,400	2,100
Vulva	2,800	0
Penis	0	800
Vagina	700	0
Total	21,100	14,700

Rates of HPV-Associated Cancers in U.S. per Year
Source: CDC
Data as of August 2020

HPV causes 6 types of cancer.

- Most common HPV-associated cancer is oropharyngeal cancers (mouth and throat).
- HPV is believed to cause about 70% of all oropharyngeal cancers.
- Cervical cancer rates have decreased over the past ten years, but **rates of oral cancers** have dramatically increased.
- Highly preventable with screenings and administration of the Gardasil® vaccine.

Common HPV Vaccine Myths DEBUNKED

Myth: The HPV vaccine has many harmful side effects.
The Truth: Studies show the HPV vaccine to be incredibly safe with minor side effects.

Myth: A referral from a physician is required to receive the HPV vaccine.
The Truth: Many health professionals can administer the HPV vaccine, including nurses, nurse practitioners, physician assistants, midwives, pharmacists and dentists.

Myth: Teens will be more likely to engage in sexual activity if they have the HPV vaccine.
The Truth: Experts have confirmed that HPV vaccine does not promote sexual activity in teens.

Myth: Boys do not need the HPV vaccine since they are not at risk for cervical cancer.
The Truth: Although cervical cancer is only a concern for women, men can still get oral cancer which is the most prevalent HPV-associated cancer.

Available under Oral Health Literacy at: <http://ohnep.org/interprofessional-resources>

Graduate Interprofessional Oral Health Faculty Tool Kits

Second Edition

The OHNEP Interprofessional Oral Health Faculty Toolkit

Pediatric Nurse Practitioner Program

CURRICULUM INTEGRATION OF INTERPROFESSIONAL ORAL HEALTH CORE COMPETENCIES:

- Pediatric Health Promotion
- Pediatric Health Assessment
- Pediatric Primary Care
- Resources

The OHNEP Interprofessional Oral Health Faculty Toolkit

Family Nurse Practitioner Program

CURRICULUM INTEGRATION OF INTERPROFESSIONAL ORAL HEALTH CORE COMPETENCIES:

- Health Assessment of Families
- Health Promotion in Families
- Primary Care
- Resources

The OHNEP Interprofessional Oral Health Faculty Toolkit

Adult Gerontology Primary Care Nurse Practitioner Program

CURRICULUM INTEGRATION OF INTERPROFESSIONAL ORAL HEALTH CORE COMPETENCIES:

- Adult Gerontology Health Assessment
- Adult Gerontology Health Promotion
- Adult Gerontology Primary Care
- Resources

The OHNEP Interprofessional Oral Health Faculty Toolkit

Psychiatric-Mental Health Nurse Practitioner Program

CURRICULUM INTEGRATION OF INTERPROFESSIONAL ORAL HEALTH CORE COMPETENCIES:

- Health Assessment Across the Lifespan
- Health Promotion in Children & Adolescents
- Health Promotion in Adults & Older Adults
- Resources

The OHNEP Interprofessional Oral Health Faculty Toolkit

Nurse Midwifery Program

CURRICULUM INTEGRATION OF INTERPROFESSIONAL ORAL HEALTH CORE COMPETENCIES:

- Midwifery Health Assessment of Women & Gynecology
- Midwifery Care During Pregnancy
- Midwifery Care of Women During Labor, Birth, Postpartum & Care of Newborns
- Resources

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Adult Gerontology Acute Care Nurse Practitioner Program

CURRICULUM INTEGRATION OF INTERPROFESSIONAL ORAL HEALTH CORE COMPETENCIES:

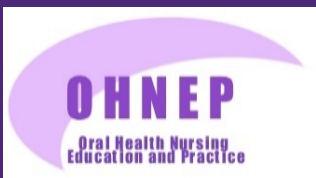
- Advanced Physical Assessment Across the Lifespan
- Principles of Adult Gerontology Acute Care I-II
- Principles of Adult Gerontology Acute Care III
- Resources

The OHNEP Interprofessional Oral Health Faculty Toolkit

Women's Health Nurse Practitioner Program

CURRICULUM INTEGRATION OF INTERPROFESSIONAL ORAL HEALTH CORE COMPETENCIES:

- Introduction to Reproductive Healthcare of Women
- Ambulatory Care of Women
- Integrated Care of Women
- Resources



Available at <http://ohnep.org/faculty-toolkit>



NYU

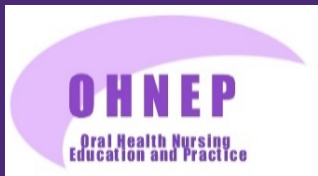
RORY MEYERS
COLLEGE OF NURSING

NEW! Undergraduate Interprofessional Oral Health Faculty Tool Kit

- ✓ Microbiology
- ✓ Anatomy & Physiology
- ✓ Pathophysiology
- ✓ Research Methods
- ✓ Pharmacology
- ✓ Health Assessment & Promotion
- ✓ Fundamentals



- ✓ Nursing Care of Adults & Older Adults
- ✓ Nursing Care of Children
- ✓ Maternity & Women's Health
- ✓ Community
- ✓ Psychiatric-Mental Health
- ✓ Leadership in Nursing
- ✓ Professional Nursing



Available at <http://ohnep.org/faculty-toolkit>

OHNEP Oral Health Case Study Resource Kit

Judith Haber, PhD, APRN, FAAN

Erin Hartnett, DNP, PPCNP-BC, CPNP, FAAN

Jessamin Cipollina, MA



OrALL in the FAMILY

Oral health has a significant impact on the overall health and well-being of individuals across their lifespan. The Oral Health Across the Lifespan Module was created and funded by the Oral Health Nursing Education & Practice (OHNEP) program and the National Interprofessional Initiative on Oral Health (NIOH).

You are the RN in the OB clinic.

Ms. Jones is 24 weeks pregnant and tells you that her gums have been bleeding and she has a “lump” above one of her teeth. She is on Medicaid and does not have a dental home. During your HEENOT exam you notice that Ms. Jones gums look red and swollen and there is a 1 cm. raised red nodule on the gum above the right lateral incisor. You want to give her the correct information on what she is experiencing.

- **eResource:** Download and install *Smiles for Life (SFL)* app on your mobile phone
 - [SEL Oral Health App](http://www.smilesforlifeoralhealth.org/apps.html) (www.smilesforlifeoralhealth.org/apps.html)
- In the SFL app, select **Diagnostic Modules** and then select **Prenatal**
- Answer the 2 questions under **Prenatal**
- Follow the app as you answer the questions for Ms. Jones
 - Is she having any problems with her mouth?
 - What do you recommended for her bleeding gums
- Find the photo of the **Soft Tissue Enlargement**
 - What is this called?
 - What do you recommended Ms. Jones do for this?
 - Does Medicaid cover dental care for pregnant women in your state?

You are the RN in the Postpartum Clinic.

Ms. Jones returns for her 6 week postpartum check-up. She says her gums no longer bleed, but the lump in her mouth has gotten larger and interferes with chewing. During your HEENOT exam you notice that the 1 cm. raised red nodule on the gum above the right lateral incisor is now is now extending to the posterior aspect of the gum behind the tooth.

- Return to the photo of the **Soft Tissue Enlargement** on the SFL app.
 - What are your recommendations for her?
 - Does Medicaid cover dental care at 6 weeks postpartum?

You are the RN in the Well-Child Clinic.

Newborn

Ms. Jones brings her baby Eliza to the clinic for her 1 week newborn check-up. She is breastfeeding well.



OHNEP COVID-19: OrAll in the Family Case Study

COVID-19 risk increases for individuals, families and communities disproportionately affected by chronic diseases and the social determinants of health. These same populations are at higher risk for oral disease. Common risk factors include obesity, poverty, stress, poor diet, alcohol and tobacco use, substance misuse, mental health issues and domestic violence. Many of these factors have been heightened during the pandemic. These and other social determinants of health contribute increased risk of COVID-19, exacerbation of chronic disease and poor oral health.

- ◊ **The Collins family is a multi-generational African-American family living in the Bronx.**
- ◊ The family wanted to gather for Grandma Collins’ 90th birthday. She resides in assisted living and is fully vaccinated. The Collins family discussed how to gather as safely as possible.
- ◊ Grandma and Carla are fully vaccinated. Joe is reluctant to get the vaccine even though he is qualified for it. Laurette, Mike and their children Tanisha and Troy are not. **What would you consider their risk level for COVID-19 for having an indoor family dinner?**

Collins Family Members

- ✓ **Grandma Collins, age 90** – mother of **Carla** and **Joe**
- ✓ **Carla, age 68** – daughter of Grandma Collins; widow; mother of **Laurette**
- ✓ **Joe, age 69** – son of **Grandma Collins**; single
- ✓ **Laurette, age 42** and **Mike, age 44** - parents to **Tanisha, age 13** and **Troy, age 5**

Grandma Collins has mild dementia, has poor oral health, and requires assistance for all activities of daily living (ADL) including oral hygiene.

Read: [Edahiro, A., Okamura, T., Motohashi, Y., Takahashi, C., Sugiyama, M., Miyamae, F. ... & Awata, S. \(2020\). Oral health as an opportunity to support isolated people with dementia: useful information during coronavirus disease 2019 pandemic. *Psychogeriatrics*, 21\(1\), 140-141. doi: 10.1111/psyg.12621.](#)





References

- American Academy of Nurse Practitioners. (2019). NP Fact Sheet. Retrieved from: <https://www.aanp.org/about/all-about-nps/np-fact-sheet>
- American Academy of Pediatric Dentistry. (2020). Policy on Human Papilloma Virus Vaccinations. Reference Manual of Pediatric Dentistry, 102-103. Retrieved from <https://www.aapd.org/research/oral-health-policies--recommendations/human-papilloma-virus-vaccinations/>
- American Association of Colleges of Nursing. (2020). The Essentials: Core Competencies for Professional Nursing Education. Retrieved from <https://www.aacnnursing.org/Portals/42/AcademicNursing/pdf/Essentials-2021.pdf>
- American College of Nurse-Midwives (ACNM). (2019) Midwives & birth in the United States. Retrieved from <https://www.midwife.org/acnm/files/cclibraryfiles/filename/000000007531/EssentialFactsAboutMidwives-UPDATED.pdf>.
- American Dental Association. (2020a). Supply and Profile of Dentists. Retrieved from <https://www.ada.org/en/science-research/health-policy-institute/data-center/supply-and-profile-of-dentists>.
- American Dental Hygienists Association. ADHA Fact Sheet. Retrieved from https://www.adha.org/resources-docs/72210_Oral_Health_Fast_Facts_&_Stats.pdf.
- American Diabetes Association. (2021). Statistics About Diabetes. Retrieved from <https://www.diabetes.org/resources/statistics/statistics-about-diabetes>
- Becze, E. (2020). Manage Late Effects From HPV-Positive Oropharyngeal Cancers. ONS Voice. Retrieved from <https://voice.ons.org/news-and-views/manage-late-effects-from-hpv-positive-oropharyngeal-cancers>
- Cavity Free Kids. Retrieved from <http://cavityfreekids.org/>
- Centers for Disease Control and Prevention. (2019a). Ambulatory Care Use and Physician office visits. Retrieved from <https://www.cdc.gov/nchs/fastats/physician-visits.htm>.
- Centers for Disease Control and Prevention (CDC). (2019b). Children's Oral Health. Retrieved from <https://www.cdc.gov/oralhealth/basics/childrens-oral-health/index.html>.
- Centers for Disease Control and Prevention. (2020b). How Many Cancers Are Linked with HPV Each Year? Retrieved from <https://www.cdc.gov/cancer/hpv/statistics/cases.htm>.
- Centers for Disease Control and Prevention (CDC). (2019c). HPV Vaccine Safety. Retrieved from <https://www.cdc.gov/hpv/parents/vaccinesafety.html>.
- Centers for Disease Control and Prevention. (2019d). Human Papillomavirus. Retrieved from <https://www.cdc.gov/hpv/index.html>.
- Centers for Disease Control and Prevention. (2020a). Oral and Dental Health. Retrieved from <https://www.cdc.gov/nchs/fastats/dental.htm>.
- Centers for Disease Control and Prevention. (2021). Type 2 Diabetes. Retrieved from <https://www.cdc.gov/diabetes/basics/type2.html>.
- Centers for Disease Control and Prevention. (2020c). Prevalence of Prediabetes Among Adults. Retrieved from <https://www.cdc.gov/diabetes/data/statistics-report/prevalence-of-prediabetes.html>
- Cerar, J, Bryant, K.B., Shoemaker, S.E., Battiato, L., Wood, G. (2020). HPV-Positive Oropharyngeal Cancer: The Nurse's Role in Patient Management of Treatment-Related Sequelae. *Clinical Journal of Oncology Nursing*, 24(2), 153-159. doi: 10.1188/20.CJON.153-159.
- Clark M.B, Douglass A.B., Maier R., Deutchman, M., Douglass, J.M., Gonsalves, W., Silk, H., Tysinger, J.W., Wrightson, A.S., Quinonez, R. (2010). Smiles for Life: A National Oral Health Curriculum. 3rd Edition. Society of Teachers and Family Medicine. Available on Smilesforlifeoralhealth.org

References

- Darling-Fisher, C., Borgnakke, W., & Haber, J. (2017). Oral health and diabetes. *American Nurse Today*, 12(8):22–25. <https://www.americannursetoday.com/ana-journal-august-2017/>
- Darling-Fisher, C.S., Kanjirath, P.P., Peters, M.C., & Borgnakke, W.S. (2015). Oral health: An untapped resource in managing glycemic control in diabetes and promoting overall health. *The Journal for Nurse Practitioners*, 11(9):889-896. DOI: 10.1016/j.nurpra.2015.08.001.
- Haber, J., Hartnett E., Hallas D., Dorsen, C., Lange-Kessler J., Lloyd, M., Thomas E., Wholihan D. (2015). Putting the Mouth Back in the Head: HEENT to HEENOT. *American Journal of Public Health*. March 2015, Vol. 105, No. 3, pp. 437-441.
- Haber, J., Hartnett, E., Hille, A. & Cipollina, J. (2020). Promoting oral health for mothers and children: A nurse home visitor education program. *Pediatric Nursing*, 46(2), 70-76.
- Hallas, D., Fernandez, J., Lim, L., & Carobene, M. (2011). Nursing Strategies to Reduce the Incidence of Early Childhood Caries in Culturally Diverse Populations. *Journal of Pediatric Nursing*, 26(3), 248-256. doi: 10.1016/j.pedn.2009.07.010.
- Hartnett, E., Haber, J., Catapano, P., Dougherty, N., Moursi, A., ... & Bella, A. (2019). The impact of an interprofessional pediatric oral health clerkship on advancing interprofessional education outcomes. *Journal of Dental Education*. Published online ahead of print, April 2019. doi: 10.21815/JDE.019.088.
- Hill, B.J., Meyer, B.D., Baker, S.D., Meeske, J., Lee, J.Y., Cashion, S., ... Litch, C.S. (2019). State of little teeth report. 2nd ed. Chicago, IL: Pediatric Oral Health Research and Policy Center, American Academy of Pediatric Dentistry. Retrieved from <http://mouthmonsters.mychildrensteeth.org/wpcontent/uploads/2019/02/StateofLittleTeeth.2ndEdition.pdf>.
- Lebrun-Harris L.A., Canto M.T. & Vodicka P. (2019). Preventive oral health care use and oral health status among US children: 2016 National Survey of Children’s Health. *JADA*, 150, 246-258. doi: 10.1016/j.adaj.2018.11.023.
- Medical Economics. (2018). What’s behind the growth of urgent care clinics?. Retrieved from <https://www.medicaleconomics.com/view/whats-behind-growth-urgent-care-clinics>.
- Mehra, S. (2020). FDA expands Gardasil 9 approval for head and neck cancer prevention. *HemOnc Today*. Retrieved from <https://www.healio.com/news/hematology-oncology/20200615/fda-expands-gardasil-9-approval-for-head-and-neck-cancer-prevention>.
- National Cancer Institute. (2020). Cancer Statistics. Retrieved from <https://www.cancer.gov/about-cancer/understanding/statistics>