

Say AHHH!

Lessons Learned on Oral Health Integration throughout the
Didactic Curriculum

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Disclosures

I received a grant from the NCCPA Health Foundation to study the impact of longitudinal outreach activities on PA knowledge, skills and attitudes of oral health.

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Objectives

- Review the eight oral health competencies for PAs
- Discuss the 2014 Program Director survey *Adoption of Oral Health Curriculum by PA Education Programs*
- Delineate the hypotheses of the NAU Oral Health Grant Project
- List the project activities
- Analyze the post-project data

50% of children under four have never visited a dentist

Tooth decay and gum disease are the most common oral diseases.

Why Focus on Oral Health?

Especially for: Low income children, Hispanic and Native American children

Burden of oral and dental disease has economic, social and personal cost to society and the citizens of Arizona.

AZ: 30% untreated tooth decay in children 2-4 years vs. 16% nationally

Eight General Oral Health Competencies for PAs and NPs*

1. Have the ability to do a thorough and competent oral examination
2. Be able to discern between normal and abnormal structures
3. Be able to discern obvious pathology and conditions of the oral cavity

* Danielsen R, Dillenberg J, Bay C. Oral Health Competencies for Physician Assistants and Nurse Practitioners. JPAE 2006; 17(4):12-16.

Eight General Oral Health Competencies for PAs and NPs*

4. Be able to inform adults and parents of young children what to expect in eruption patterns of primary and permanent teeth
5. Be able to recognize symptoms and manifestations of common diseases of the oral cavity
6. Be able to recognize oral symptoms of systemic diseases

* Danielsen R, Dillenberg J, Bay C. Oral Health Competencies for Physician Assistants and Nurse Practitioners. JPAE 2006; 17(4):12-16.

Eight General Oral Health Competencies for PAs and NPs*

7. Understand what various dental specialties can do for your patient
8. Improve PA/NP–dental interface and referrals

* Danielsen R, Dillenberg J, Bay C. Oral Health Competencies for Physician Assistants and Nurse Practitioners. *JPAE* 2006; 17(4):12-16.

2014 Survey of PA Program Directors

- 78.4% (98 of 125 survey respondents):
 - Specific curriculum on oral health and oral disease

Langelier M, Glick A, Surdu S. Adoption of Oral Health Curriculum by Physician Assistant Education Programs in 2014. *JPAE* 2015;26(2):60–69

Oral Health Integration into Curriculum

Oral health topics integrated into one or several other curriculum topics

72.40%

Oral health topics are stand alone lectures

53.10%

Students use online curriculum to learn about oral health

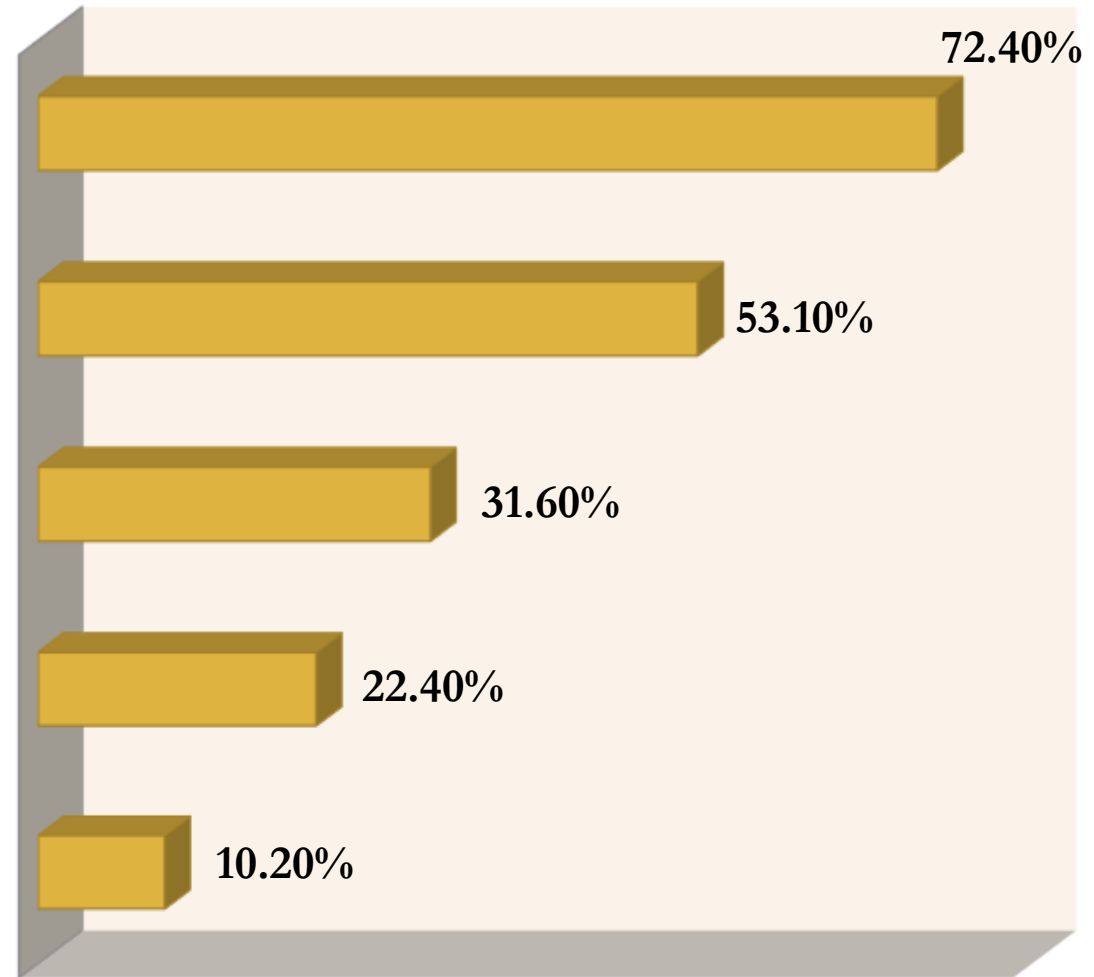
31.60%

Students participating in interprofessional training about oral health

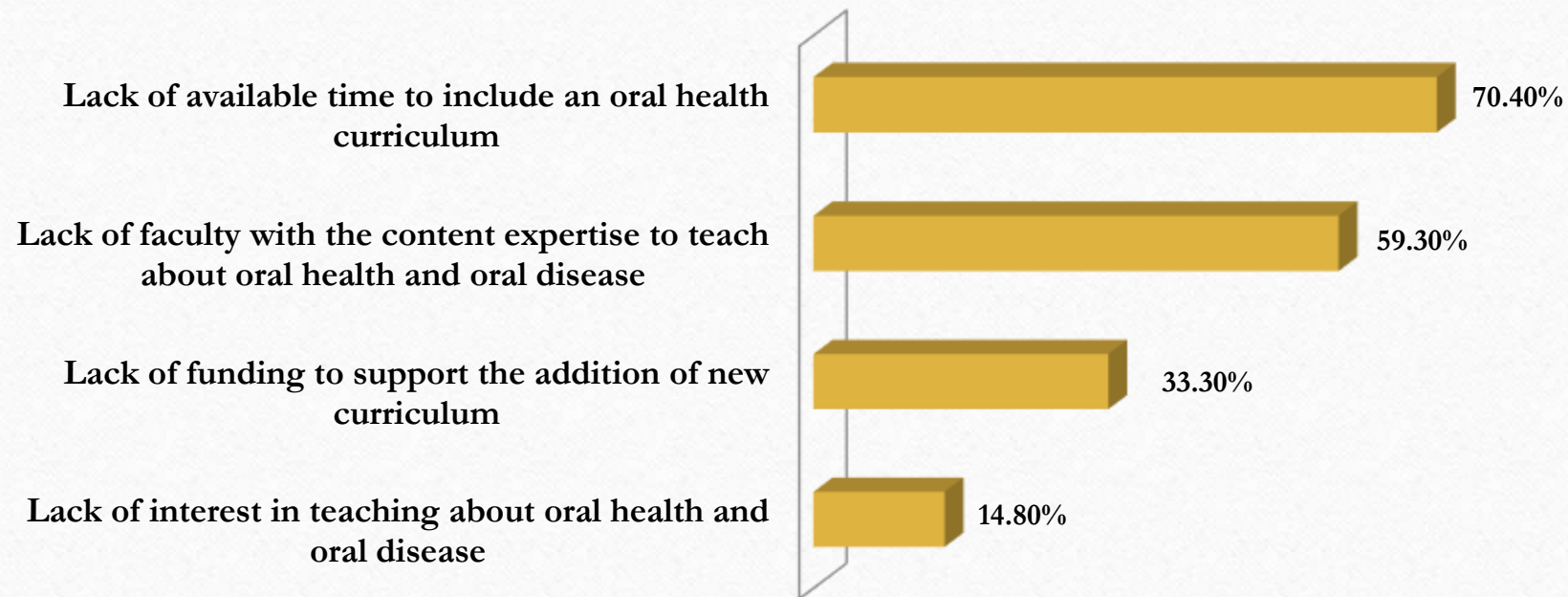
22.40%

Other

10.20%



Challenges to Not Integrating Oral Health into PA Curriculum



NAU Oral Health Project

- Hypotheses:

1. Integrating oral health curriculum will increase the student's core knowledge of the 8 oral health competencies.
2. Utilizing IPE outreach experiences in the area of oral health will improve the student's Interdisciplinary Education Perception Scale (IEPS).
3. Utilizing IPE outreach experiences in the area of oral health will improve the student's skills in examination, diagnosis and care of the patient.

What Did We Do?

- Pre-test survey covering the four hypotheses
- Emphasis on the Oral Exam
- Fluoride Varnish application
- Smiles for Life Curriculum integration
- Hands on application in an IPE setting
- Education to children and adults in an IPE setting

Pre-/Post-Test Survey

Orientation

Survey Instrument

- Section 1
 - 19 questions – covering oral health knowledge
- Section 2
 - 21 questions – validated IEPS survey
- Section 3
 - 12 declarative statements about what PAs or Dentists should do in a patient encounter
- Section 4
 - 8 declarative statements about what the PA feels they would be able to recognize or perform

The Oral Exam

Fall Semester

HEENOT? I Say Why Not?

- Why not, HEENOT:

- Head
- Eyes
- Ears
- Nose
- Oral cavity
- Throat



- Other curriculum in the Fall:

- Healthcare disparities in Ethics and Professionalism
 - Highlight access to dental care
 - Lack of dental insurance

Foundations of Clinical Medicine II

Spring Semester

HEENOT Block



- Dentist provides the lecture on the oral exam
 - Normal and Abnormal structures
 - Disease states
 - Approach to pathology
 - When to refer

Fluoride Varnish

Spring Semester

Dental hygienist provides lecture on fluoride varnish application.



Smiles for Life

Spring and Summer Semesters

Smiles for Life Modules

- Integrated into:
 - Pediatrics
 - Geriatrics
 - Emergency medicine

The screenshot shows the homepage of the Smiles for Life website. At the top, there is a banner with the text "Smiles for Life A national oral health curriculum" and a collage of diverse people. Below the banner is a navigation menu with links: Home, Online Courses, Downloadable Modules, State Varnish Programs, Resources, Links, and Contact Us. A secondary menu includes Welcome, Steering Committee, Endorsers, Index, History, Citation, and Sharing Our Websites. The main content area features the title "Smiles for Life: A National Oral Health Curriculum" and a brief description: "Smiles for Life is the nation's only comprehensive oral health curriculum. Developed by the Society of Teachers of Family Medicine Group on Oral Health and now in its third edition, this curriculum is designed to enhance the role of primary care clinicians in the promotion of oral health for all age groups through the development and dissemination of high-quality educational resources." There are two columns of text: "For Individual Clinicians" and "For Educators". The "For Individual Clinicians" section includes an image of a woman in a white lab coat and text stating: "We've made it easy for individual physicians, physician assistants, nurse practitioners, students, and other clinicians to access the curriculum and learn on their own time and at their own pace. Each of the courses is available online. Free CME credit is available." The "For Educators" section includes an image of a group of people in a meeting and text stating: "The curriculum is available in a presentation format easily implemented in an academic setting. Included is a comprehensive set of educational objectives based on the Accreditation Council for Graduate Medical Education (ACGME) competencies, test questions, resources for further learning, oral health web links, an implementation guide, and detailed outlines of the modules." On the right side, there is a "Course Quick Links" section with a list of courses: Course 1: The Relationship of Oral to Systemic Health, Course 2: Child Oral Health, Course 3: Adult Oral Health, Course 4: Acute Dental Problems, Course 5: Oral Health & the Pregnant Patient, Course 6: fluoride Varnish, Course 7: The Oral Examination, and Course 8: Geriatric Oral Health. At the bottom, there are logos for "A Product of: STFM SOCIETY OF TEACHERS OF FAMILY MEDICINE", "Endorsed by: National Interprofessional Initiative on Oral Health", "American Academy of Physician Assistants", and "PAEA NATIONAL ASSOCIATION OF PHYSICIAN ASSISTANT EDUCATORS/ASSOCIATION".

Hands-on IPE Outreach

Spring and Summer Semesters

Oral Health Exams, Fluoride Varnish, and Education



Tonopah Smiles





Student Health Outreach for Wellness S.H.O.W.



Partners with Public Health Program



- Mobile van
 - Providing oral health exams
 - Free toothbrushes and toothpaste
 - Oral health education
 - Poor and undocumented Hispanic children

Segunda Mano: Papel, Lapis o Tijera?



Elementary School Education

Spring Semester

Project Box

- With the NCCPA Health Foundation Grant
 - Compiled 5 Project Boxes
- Five Title I elementary schools
- Free toothbrushes, toothpaste, and floss
- Required outreach for PA students partnered with dental hygiene students
- PDF of activities and project box left with the school nurse

Education



- Education through craft play
 - How much sugar?
 - Germ puppet play
 - Everyday foods and party foods
 - Feeling comfortable with the dentist
 - And more...

But Did It Work?

- Paired samples 2-tailed T-test
 - Comparing the Class of 2017 Pre-test to the Post-test by each student
 - $t=6.452, df=36, p=.000$
 - Comparing the Class of 2017 Pre-test to the Post-test by each question
 - $t=6.439, df=59, p=.000$
 - Comparing the Class of 2016 post-test with the Class of 2017 post-test by each question
 - $t=3.418, df=59, p=.001$

Question Analysis by Section

Class of 2017 Pre to Post-Test

- Section 1:
 - Avg improvement an increase of .52 points**
- Section 2:
 - Avg improvement an increase of .10 points*
- Section 3:
 - Avg improvement an increase of .54 points**
- Section 4:
 - Avg improvement an increase of 1.36 points**

Class of 2016 compared to Class of 2017

- Section 1:
 - Avg improvement an increase of .25 points*
- Section 2:
 - Avg improvement an increase of .07 points
- Section 3:
 - Avg improvement an increase of .1 points
- Section 4:
 - Avg improvement an increase of .22 points**

*p<0.05, **p<0.01

Biggest areas of improvement

- Section 1:
 - Putting infants to sleep with a bottle of milk can cause tooth decay. (+1.24)
 - There is an increased risk of tooth decay in patients on medications that dry your mouth. (+1.08)
 - Infants usually acquire bacteria from their mothers that cause caries (+1)
 - The most common chronic disease of childhood is caries. (+0.97)
 - Gum disease is associated with cardiovascular disease. (+0.84)
 - Fluoride decreases risk of tooth decay in adults (+0.76)

Biggest areas of decrease

- Section 1:
 - About the same number of people who lack medical insurance also lack dental insurance. (-0.59)
 - Tooth brushing alone will prevent tooth decay (-0.49)

Biggest areas of improvement

- Section 2:
 - Individuals in my profession make every effort to understand the capabilities and contributions of other professions. (+0.41)
 - Individuals in my profession are willing to share information and resources with other professionals. (+0.41)
 - Individuals in my profession have good relations with people in other professions. (+0.32)
 - The function of nurses and therapists is mainly to provide support for PAs. (+0.24)
 - Individuals in other professions often seek the advice of people in my profession. (+0.24)

Biggest areas of decrease

- Section 2:
 - Individuals in my profession have a higher status than individuals in other professions.
(-0.41)

Biggest areas of improvement

- Section 3:
 - PAs should assess patients' intake of fluoride. (+1.08)
 - Dentists should assess their patients' vital signs. (+0.86)
 - Dentists should screen for substance abuse problems. (+0.78)
 - PAs should examine the mouth and teeth of their patients for oral disease. (+0.62)
 - As a PA it is important that I work with dentists in caring for my patients. (+0.59)

Biggest areas of decrease

- Section 3:
 - None

Biggest areas of improvement

- Section 4:
 - I would be able to apply fluoride varnish. (+2.41)
 - I would be able to perform an appropriate oral health exam. (+1.78)
 - I would be able to recognize oral cancer in a patient. (+1.62)
 - I would be able to recognize gum disease in a patient. (+1.27)
 - I would be able to recognize signs and symptoms of cardiovascular disease. (+1.08)
 - I would be able to recognize a patient at risk for diabetes. (+1.05)

Biggest areas of decrease

- Section 4:
 - None

Demographics: Gender by Test

		Class of 2016 Post Test	Class of 2017 PreTest	Class of 2017 Post Test
What is your gender?	Male	16	19	13
	Female	30	30	24
Total		46	49	37

Demographics: Age by Test

		Class of 2016 Post Test	Class of 2017 PreTest	Class of 2017 Post Test
What is your age?	20 - 25 years	11	24	15
	26-30 years	17	19	16
	31-35 years	10	4	5
	36-40 years	3	1	1
	41 years and older	5	0	0
Total		46	48	37

Summary

- Integrating oral health curriculum in the didactic year will increase the student's core knowledge of the 8 oral health competencies.
- Requiring students to apply oral health core knowledge and skills through hands-on outreach activities can improve acquisition and mastery of the 8 oral health competencies when compared to the lecture format alone.
- Utilizing IPE outreach experiences in the area of oral health may improve the student's Interdisciplinary Education Perception Scale (IEPS).
- Outreach experiences in the area of oral health improve the student's skills in examination, diagnosis and care of the patient.

nccPA Health Foundation Video

- <http://www.nccpa.net/oral-health>
- Be the Change Campaign

Thanks to

- NCCPA Health Foundation
- Arizona Department of Health Services Office of Oral Health
- Fortis College Dental Hygiene Program
- Henry Schein
- Title I Elementary Schools:
 - Kenilworth Elementary
 - Magnet Traditional
 - Bethune Elementary
 - Heard Elementary
 - ASU Preparatory School

References

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- National Center for Interprofessional Practice and Education. IEPS: Interdisciplinary Education Perception Scale. NEXUSIPE 2013, retrieved from <https://nexusipe.org/informing/resource-center/ieps-interdisciplinary-education-perception-scale>.

Questions?

