

Oral Health Education for Physician Assistant Students: An Interprofessional Curriculum

Beth Buyea DHS, PA-C Kevin Campbell, DMD'18; Zuhair S. Natto, BDS, MS, MPH, DrPH;
Jinny Park, MPH'18; Ellen Patterson, MD, MA

Background

In the decade and a half since the landmark report, Oral Health in America (USDHHS, 2000), it has become widely recognized that improving the oral health status of vulnerable and underserved populations will require expanding the number of primary care providers that are trained to identify and manage oral health issues as well as the systemic health problems associated with poor oral health (USDHHS, 2014). To achieve this goal, primary care providers, such as PA's, need training that includes identification and management of common oral health issues. Co-location of primary care training programs and dental schools offers an opportunity for interprofessional collaboration to bring this goal to fruition.

Aim

The research team developed and implemented curriculum designed to integrate oral health knowledge across the PA didactic curriculum and provide interprofessional opportunities for dental and PA students to work together.

Goals of the study included:

- Evaluate PA student oral health knowledge development through validated questions
- Evaluate both dental and PA student participants regarding their understanding of the roles of each other's professions in healthcare and the value of interprofessional collaboration to promote oral health in patient populations at higher risk for oral diseases.

Methods

Relying upon published oral health competencies for non-dental providers (USDHHS, 2014), key domains were identified for didactic content and skill development to be integrated into the existing PA curriculum. This included:

- knowledge of oral health screening and risk assessment
- physical examination
- patient education
- when to refer to a dentist

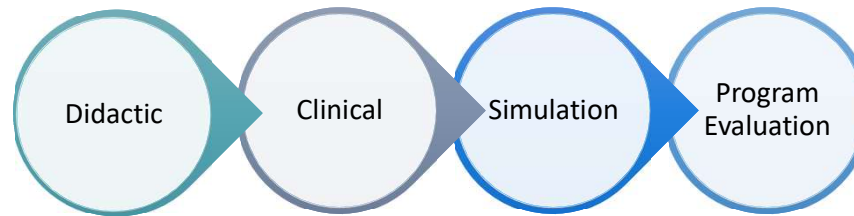
PA students (n = 50) were also paired with DMD candidates for two interprofessional clinic sessions (acute and non-acute care) to reinforce oral examination and risk assessment as well as mutual exploration of their respective professional roles and training.

An additional simulation exercise with pediatric dental residents trained PA students to identify early-childhood caries, provide anticipatory guidance, and apply fluoride varnish.

Using a pretest-posttest design, changes in oral health knowledge were assessed using validated questions from the Smiles for Life online curriculum (Clark et al, 2010). PA students were additionally surveyed about their beliefs and attitudes regarding their role in oral health care, and participating DMD candidates were surveyed regarding their experiences teaching PA students in a dental setting.

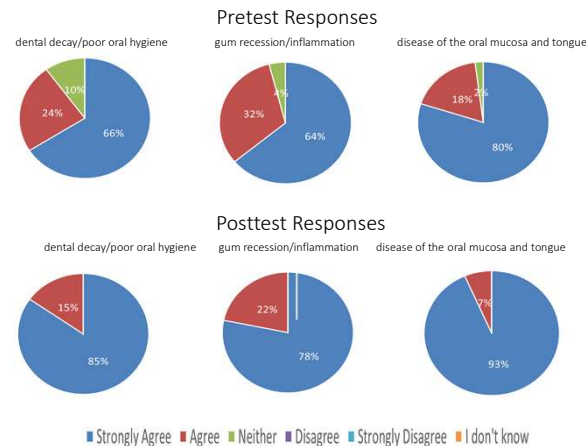
This protocol was approved for IRB Exempt status, study #1701008.

Physician Assistant Oral Health Curriculum Overview



- Key oral health content areas integrated across six existing PA courses
- Supplementary online modules
- Two paired interprofessional clinic sessions
- Acute and non-acute settings
- Hands-on workshop on applying fluoride varnish
- Knee-to-knee infant oral exam on manikins
- Post-experience survey for DMD candidates
- Focus group feedback

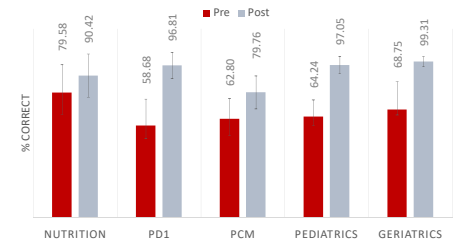
“When performing the HEENT physical examination, physician assistants should routinely check for signs of:”



Bibliography

- US Department of Health and Human Services. (2000). Oral Health in America: A Report of the Surgeon General-- Executive Summary. Rockville, MD.
- US Department of Health and Human Services, Health Resources and Services Administration. (2014). Integration of Oral Health and Primary Care Practice. Rockville, MD.
- Clark MB, Douglass AB, Maier R, Deutchman M, Douglass JM, Gonsalves W, Silk H, Tysinger JW, Wrightson AS, Quinonez R, Dolce M, Bowser J. (2010). Smiles for Life: A National Oral Health Curriculum. 3rd Ed. Society of Teachers of Family Medicine.
- U.S. Dental Schools. (2017). American Student Dental Association.
- PAEA Program Directory. (2018). Physician Assistant Education Association.

Pretest-posttest Assessment



Pretest-posttest content area question responses. The horizontal axis indicates the PA courses in which relevant content areas were included. PD1 = Physical Diagnosis I. PCM = Primary Care Medicine.

Results

Pre- and posttest differences for the content area questions were evaluated using McNemar's and Wilcoxon signed-rank tests.

- Significant gains were observed in all knowledge post-tests analyzed ($p < 0.0001$).
- A positive shift in attitudes and beliefs of PA students toward interprofessional collaboration was also observed across all survey questions.
- Dental students' feedback regarding paired clinic experiences was strongly positive and reflected a desire to have more extensive collaborative training with primary care students in the future.

Conclusion

This study's findings build upon existing work demonstrating that positive gains in oral health knowledge among primary care providers can be achieved through an integrated curriculum. It further demonstrates that a **program incorporating didactic and peer-to-peer clinical experiences can positively shift attitudes and beliefs among future primary care providers regarding the importance of oral health and interprofessional oral health care**, while also being well-received by both PA and DMD candidate participants.

As nearly half of the dental schools in the United States are part of a university that also offers a PA training program, this interprofessional model represents a viable and replicable curriculum for integration of oral health knowledge and assessment skills into PA training.^{4,5} This study evaluates the 2016-2017 iteration of an ongoing program that was initially piloted in 2015. Each year, the collective feedback of participants is analyzed to make changes and improvements in the overall program, which has become a permanent addition to the PA curriculum at Tufts University.

Future Research

With additional grant support, the team is now investigating the impact of this curriculum on the clinical year for the PA students