Cooperative Education: A Transprofessional Education Model for Oral Health and Primary Care Practice Integration

Northeastern

2015 Clinical Connections Summit
Integration Oral Health and Primary Care
Westborough, MA
November 5, 2015
Authors

Northeastern University:
Maria Dolce, PhD, RN, CNE
Jessica Holloman, MS, BSDH
Dierdre Jordan, MS
Jacki Diani, MEd

Boston Health Care for the Homeless Program:
Melinda Thomas, PA
Colleen Anderson, DDS
Pooja Bhalla, MSN
Learning Outcomes

• Describe a cooperative (Co-op) education model for integrating oral health and primary care.
• Apply innovative interprofessional practice and education strategies to promote oral health integration.
Northeastern University

Founded 1898
1,157 full-time faculty
30,000 students
Bouvé College of Health Sciences
2,800 students
205 full-time faculty
3 Schools
Innovations in Oral Health: Technology, Instruction, Practice, Service

Innovations in Oral Health has been established at Northeastern University to advance innovations in research, education and practice for optimal oral health.
Improve Workforce Training and Capacity Building

- Primary care
- Rural and medically underserved areas
- Preventive medicine
- Public health
- Behavioral health
- Oral health
- Team management of chronic disease
Co-operative Education

Grow. Adapt. Thrive.

Our distinctive educational approach integrates rigorous classroom study with real world experiences to create a powerful way to learn. As a result, Northeastern’s graduates excel at managing their lives and careers, and contribute to the world.

[Learn More](http://www.northeastern.edu/coop/)
Welcome to the PCMH Resource Center

The Agency for Healthcare Research and Quality recognizes that revitalizing the Nation’s primary care system is foundational to achieving high-quality, accessible, efficient health care for all Americans. The primary care medical home, also referred to as the patient centered medical home (PCMH), advanced primary care, and the healthcare home, is a promising model for transforming the organization and delivery of primary care. This web site provides policymakers and researchers with access to evidence-based resources about the medical home and its potential to transform primary care and improve the quality, safety, efficiency, and effectiveness of U.S. health care.
BHCHP Mission

Access to the highest quality health care for Boston’s homeless men, women & children

Photos courtesy of J O’Connell
Care Model

Patient

Quality

Comprehensive

Cultural Competence

Collaboration
Homeless Health

- Trust & hope
- Acute & chronic health conditions
- Morbidity & mortality
- Access to care
- Premature aging
- Delayed treatment & reliance on ED
Oral Health in the Homeless Population

- Homeless people have poorer oral health than the general population. (IOM, 2011)
- Dental care is the most commonly reported unmet need. (Baggett et al., 2010)
- Conditions are more often severe when diagnosed
- More likely to engage in behaviors detrimental to oral health such as:
  - Smoking and using other types of tobacco products (Conte et al., 2006; Gibson et al., 2003),
  - Heavy alcohol use (Gibson et al., 2003), and substance abuse (Chi and Milgrom, 2008).
Dental sees less than 25% of the overall patient population.

“How do we provide oral health care to the rest of our patients?”
- Dr. Colleen Anderson, Dentist at BHCHP
Medical and Dental Integration

Multidisciplinary Integration Team

Goal: Increase access to oral health care for primary care patients and family teams

• Oral exams
• Oral health education
• Identify acute conditions for immediate referral
• Connect patients with dental providers
Initial Integration Steps
Changes to EMR medical notes

Review of Systems
- General
- Eyes
- Ears/Nose/Throat
- Cardiovascular
- Respiratory
- Gastrointestinal
- Genitourinary
- Breast
- Musculoskeletal
- Skin
- Neurologic
- Psychiatric
- Endocrine
- Home/Lymphatic
- Allergic/Immunologic

Mouth
Patient complains of:
- mouth pain: recent/current
- jaw pain
- loose teeth
- pain when chewing
- bleeding gums
- mouth aches

Patient denies:
- mouth pain: recent/current
- jaw pain
- loose teeth
- pain when chewing
- bleeding gums
- mouth aches

Observation for "ROS Mouth":

Oral Exam Guide
- Oral health assessment including cancer screening performed
  - WNL
  - Good dentition
  - No erythema
  - No exudates
  - No lesions

Oral Health Screen
- No oral health assessment on record.
Integration Efforts

- Oral health fairs at family team sites
- Resources for staff and patients
- Events to raise staff awareness and encourage oral exams
- Risk assessments, patient education, and care coordination within our medical clinic and family team clinics
Frameworks
Core Competencies for Interprofessional Collaborative Practice

- Values/Ethics
- Roles/Responsibilities
- Interprofessional Communication
- Teams and Teamwork
Oral Health Core Clinical Competencies

- Risk Assessment
- Oral Health Evaluation
- Preventive Intervention
- Communication and Education
- Interprofessional Collaborative Practice
Oral Health Delivery Framework

The Oral Health Delivery Framework delineates the activities for which a primary care team can take accountability to protect and promote oral health. These activities are within the scope of practice for primary care\(^\text{[1]}\) and if organized efficiently, can be integrated into the office workflow of diverse practice settings. Activities are grouped into five action categories: Ask, Look, Decide, Act, and Document & Follow Up.

This section presents the Oral Health Delivery Framework, provides a sample workflow, and offers guidance on incremental approaches to implementation. For examples of how primary care practices have successfully incorporated components of the Framework, continue to the case examples on pages 52-51.

**Figure 2: Oral Health Delivery Framework**

- **ASK** about oral health risk factors and symptoms of oral disease
- **LOOK** for signs that indicate oral health risk or active oral disease
- **DECIDE** on the most appropriate response
- **ACT** on preventive interventions and/or referral for treatment
- **DOCUMENT** as structured data for decision support and population management
Smiles for Life Oral Health Curriculum

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.

For Individual Clinicians

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.

For Educators

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.
Co-op Student Job Description

Risk Assessment

Oral Exam

Patient Education

Survey Tools

Collaborate with Medical Providers

Fluoride Varnish

Outreach

Referral Resources

Schedule Appointments
Workshops

1. Teamwork & Communication
2. Risk Assessment
3. The Oral Exam
4. Acute Dental Problems
5. Fluoride Varnish
Workshop 1: Teamwork & Communication

Communication
Team Structure

TeamSTEPPS® Dental Module

The TeamSTEPPS Dental Module consists of videos showing how dental staff who perform oral surgery and general dentistry can use TeamSTEPPS’s teamwork, leadership, mutual support, communication, and situation monitoring skills in their practices.

Module Materials

These videos show how dental staff who perform oral surgery and general dentistry can use TeamSTEPPS’s teamwork, leadership, mutual support, communication, and situation monitoring skills in their practices.

- Dental Office: Lost Opportunity (Flash video, 4 min., 43 sec.; 18.9 MB)
- Dental Office: Opportunity Won (Flash video, 4 min., 21 sec.; 17.3 MB)
- Oral Surgery: Lost Opportunity (Flash video, 4 min., 9 sec.; 16.8 MB)
- Oral Surgery: Opportunity Won (Flash video, 5 min., 38 sec.; 22.5 MB)

Download Dental Module videos for local use (Zip file, 88.5 MB). Select the link, then choose Save to save the file to your computer. This file contains these four videos in Windows Media format. They may be unzipped and played without an Internet connection.

TeamSTEPPS®
Primary Care Module

TeamSTEPPS Primary Care Version

The Primary Care version of TeamSTEPPS adapts the core concepts of the TeamSTEPPS program to reflect the environment of primary care office-based teams. The examples, discussions, and exercises are tailored to the primary care environment.

For questions on how to use or implement this module or to offer feedback, call Richard Ricciardi, Ph.D., N.P., at 301-427-1578 or send an Email to richard.ricciardi@ahrq.hhs.gov.

Materials

This TeamSTEPPS® module may undergo refinements while it is being tested in primary care practices as part of a project that runs through 2015. These files are offered as a courtesy to medical offices that wish to apply TeamSTEPPS® principles in their practice settings.

Participant Handouts

- Instructor Guide (PDF Version [243.5 KB], Word Version [153.15 KB])
- Your Expectations for This Training (PDF Version [37.5 KB])
- Objectives of TeamSTEPPS Training for Primary Care Office-Based Teams (PDF Version [43.66 KB])
- Sample Agenda (PDF Version [29.7 KB])
- Thinking about Your Primary Care Office-Based Team (PDF Version [48.42 KB])
- Video Reflections (PDF Version [40.24 KB])
- When and Why To Use Handoffs (PDF Version [30.22 KB])
- Cross-Monitoring (PDF Version [33.89 KB])
- Mutual Support Behaviors (PDF Version [33.85 KB])
- Creating A Handoff Checklist (PDF Version [35.67 KB])

Slide Presentations
Workshop 2: Risk Assessment

Smiles for Life Course 6: Caries Risk Assessment

• Discuss the etiology of early childhood caries (ECC).
• Assess a child's risk of developing ECC.
• Recognize the various stages of ECC.
Workshop 2: Risk Assessment

Smiles for Life Course 3: Adult Oral Health & Disease

• Recognize adult caries and periodontal disease and refer patients for appropriate treatment.

• Learn how aging and chronic medical conditions affect oral health.
Case-based learning

Pedo

Adult

Geriatric
## Caries Risk Assessment Form (Age >6)

### Patient Information:
- **Name:**
- **Birth Date:**
- **Age:**

### Contributing Conditions

<table>
<thead>
<tr>
<th>Factor</th>
<th>Low Risk</th>
<th>Moderate Risk</th>
<th>High Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluoride Exposure (through drinking water, supplements, professional applications, toothpaste)</td>
<td>Yes</td>
<td>Moderate</td>
<td>High</td>
</tr>
<tr>
<td>Sugary Foods or Drinks (including juices, carbonated or non-carbonated soft drinks, energy drinks, medical sprays)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caries Experience of Mother, Guardian and/or other Siblings (for patients ages 6-14)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dental Home — established pattern of record, receiving regular dental care in the dental office</td>
<td>Yes</td>
<td>Moderate</td>
<td>High</td>
</tr>
<tr>
<td>Special Needs Care Needs (developmental, physical, medical or mental disabilities that prevent or limit performance of activities or health care by themselves or caregivers)</td>
<td>No</td>
<td>Yes (ages 6-14)</td>
<td>Yes (ages 6-14)</td>
</tr>
<tr>
<td>Orthodontic Therapy</td>
<td>No</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Eating Disorders</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Medications that Reduce Salivary Flow</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Drug/Alcohol Abuse</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

### General Health Conditions

<table>
<thead>
<tr>
<th>Condition</th>
<th>Low Risk</th>
<th>Moderate Risk</th>
<th>High Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cariogenic or Non-Cariogenic</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Caries Lesions or Restorations (visually or histologically evident)</td>
<td>No new carious lesions or restorations in last 36 months</td>
<td>1 or 2 new carious lesions or restorations in last 24 months</td>
<td>3 or more new carious lesions or restorations in last 24 months</td>
</tr>
<tr>
<td>Smith Missing Due to Caries in past 36 months</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Mouth Ulcers</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Nonsurgical Periodontal Disease</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Interproximal Restorations - 1 or more</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Severe Restorations</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Restorations with Overhang and/or Opal Margin, Opal Contact with Fixed Prosthesis</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Dental/Orthodontic Appliances (Fixed or removable)</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Severe Dry Mouth (Xerostomia)</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### Overall Assessment of Dental Caries Risk:
- Low
- Moderate
- High

### Patient Instructions:

---

© American Dental Association, 2008, 2017. All rights reserved.
Workshop 3: The Oral Exam

Smiles for Life Course 7: The Oral Examination

- Review basic oral anatomy and characteristics of healthy teeth.
- Use proper equipment to perform an oral exam.
- Perform a consistent, thorough oral, face, and neck examination of children and adults.
- Understand some of the differences between normal and abnormal findings.
Peer-to-Peer Learning
Workshop 4:
Acute Dental Problems

Smiles for Life Course 4: Acute Dental Problems

• Review common acute dental problems.
• Diagnose, initially manage, and appropriately refer:
  – Oral pain, oral infections, dental trauma
Case-based Learning

- Tooth avulsion
- Abscess
- Dry Socket
Workshop 5:
Fluoride Varnish & Counseling

Smiles for Life Course 6: Caries Risk Assessment, Fluoride Varnish & Counseling

• Discuss the effects, sources, benefits, and safe use of fluoride.
• Describe the benefits and indications for fluoride varnish.
• Demonstrate the application of fluoride varnish.
Peer-to-Peer Learning

BOSTON HEALTH CARE for the HOMELESS PROGRAM
Evaluation Methods

• TeamSTEPPS® Teamwork Attitudes Questionnaire
• Oral Health Survey
• Workshop Evaluation
• BHCHP Outcome Data
• Student Reflections
**Knowledge** - How would you rate the extent of your professional knowledge about the following oral health topics? (1=little to no knowledge, 2= some knowledge, 3= extensive knowledge)

<table>
<thead>
<tr>
<th>Question</th>
<th>Little to No Knowledge Percentage (Frequency)</th>
<th>Some Knowledge Percentage (Frequency)</th>
<th>Extensive Knowledge Percentage (Frequency)</th>
<th>Mean (STD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact of oral health on nutrition. Pre-Assessment Post-Assessment</td>
<td>60.0% (3) 0% (0)</td>
<td>20.0% (1) 20.0% (1)</td>
<td>20.0% (1) 80.0% (4)</td>
<td>1.6 (0.89) 2.80 (0.45)</td>
</tr>
<tr>
<td>Caries (tooth decay) Pre-Assessment Post-Assessment</td>
<td>0% (0) 0% (0)</td>
<td>100% (5) 40.0% (2)</td>
<td>0% (0) 60.0% (3)</td>
<td>2.00 (0.00) 2.60 (0.55)</td>
</tr>
<tr>
<td>Oral/dental trauma from injuries Pre-Assessment Post-Assessment</td>
<td>40.0% (2) 0% (0)</td>
<td>60.0% (3) 40.0% (2)</td>
<td>0% (0) 60.0% (3)</td>
<td>1.60 (0.55) 2.60 (0.55)</td>
</tr>
<tr>
<td>Relationship between oral and systemic health. Pre-Assessment Post-Assessment</td>
<td>60.0% (3) 0% (0)</td>
<td>40.0% (2) 60.0% (3)</td>
<td>0% (0) 40.0% (2)</td>
<td>1.40 (0.55) 2.40 (0.55)</td>
</tr>
</tbody>
</table>
**Attitudes** - To what extent do you agree or disagree with the following statements about integrating oral health and primary care practice? (Likert scale: 1-Strongly disagree; 5-Strongly agree)

<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly disagree (Frequency)</th>
<th>Disagree (Frequency)</th>
<th>Neither Agree or Disagree (Frequency)</th>
<th>Agree (Frequency)</th>
<th>Strongly Agree (Frequency)</th>
<th>Mean (STD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary care clinicians should incorporate oral health clinical competencies in patient care.</td>
<td>0% (0)</td>
<td>0% (0)</td>
<td>0% (0)</td>
<td>40.0% (2)</td>
<td>60.0% (3)</td>
<td>4.6 (0.55)</td>
</tr>
<tr>
<td>Pre-Assessment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-Assessment</td>
<td>0% (0)</td>
<td>0% (0)</td>
<td>0% (0)</td>
<td>0% (0)</td>
<td>100% (5)</td>
<td>5.0 (0.55)</td>
</tr>
<tr>
<td>Health care systems should engage and educate consumers about oral health in primary care as an expected standard of interprofessional practice.</td>
<td>0% (0)</td>
<td>0% (0)</td>
<td>0% (0)</td>
<td>60.0% (3)</td>
<td>40.0% (2)</td>
<td>4.4 (0.55)</td>
</tr>
<tr>
<td>Pre-Assessment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-Assessment</td>
<td>20.0% (1)</td>
<td>0% (0)</td>
<td>0% (0)</td>
<td>60.0% (3)</td>
<td>60.0% (3)</td>
<td>4.8 (0.45)</td>
</tr>
<tr>
<td>Accreditation and certification bodies should integrate oral health clinical competencies into primary care practitioner standards.</td>
<td>0% (0)</td>
<td>20.0% (1)</td>
<td>0% (0)</td>
<td>60.0% (3)</td>
<td>60.0% (3)</td>
<td>3.8 (1.10)</td>
</tr>
<tr>
<td>Pre-Assessment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-Assessment</td>
<td>40.0% (2)</td>
<td>0% (0)</td>
<td>0% (0)</td>
<td>40.0% (1)</td>
<td>60.0% (3)</td>
<td>4.6 (0.55)</td>
</tr>
</tbody>
</table>
**Skills - How well do you think your education and practice have prepared you in the following oral health clinical skills?**  
(1=not at all prepared, 2= somewhat prepared, 3= very prepared)

<table>
<thead>
<tr>
<th>Question</th>
<th>Not at all prepared (Frequency)</th>
<th>Somewhat prepared (Frequency)</th>
<th>Very prepared (Frequency)</th>
<th>Mean (STD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide targeted patient education about the importance of oral health and how to maintain good oral health, which considers oral health literacy, nutrition, and patient’s perceived oral health barriers.</td>
<td>40.0% (2) 0% (0)</td>
<td>40.0% (2) 40.0% (2)</td>
<td>20.0% (1) 60.0% (3)</td>
<td>1.80 (0.84) 2.60 (0.55)</td>
</tr>
<tr>
<td>Identify patient-specific, oral conditions and diseases that impact overall health.</td>
<td>40.0% (2) 0% (0)</td>
<td>60.0% (3) 40.0% (2)</td>
<td>0% (0) 60.0% (3)</td>
<td>1.60 (0.55) 2.60 (0.55)</td>
</tr>
<tr>
<td>Provide appropriate referrals to dental professionals.</td>
<td>40.0% (2) 0% (0)</td>
<td>60.0% (3) 40.0% (2)</td>
<td>0% (0) 60.0% (3)</td>
<td>1.60 (0.55) 2.60 (0.55)</td>
</tr>
<tr>
<td>Relationship between oral and systemic health.</td>
<td>60.0% (3) 0% (0)</td>
<td>40.0% (2) 60.0% (3)</td>
<td>0% (0) 40.0% (2)</td>
<td>1.40 (0.55) 2.40 (0.55)</td>
</tr>
</tbody>
</table>
BHCHP Outcome Data

- 94 Patient Encounters
- 110 Dental Appointments
- 24 Patient Referrals
- 2 Health Fairs
Outcomes

Outcome 2: Annual JYP Oral Health Exams

Year: Nov '14 - Jun '15
- Nov '14: 14%
- Dec '14: 14%
- Jan '15: 12%
- Feb '15: 11%
- Mar '15: 11%
- Apr '15: 17%
- May '15: 23%
- Jun '15: 28%
Outcomes

Outcome 1: JYP Oral Health Exams in Medical

- Nov’14: 1%
- Dec’14: 2%
- Jan’15: 1%
- Feb’15: 1%
- Mar’15: 13%
- Apr’15: 17%
- May’15: 20%
- Jun ’15: 13%
Student Exemplars

• “This setting gave me the opportunity to develop interprofessional skills such as collaborating with other health professionals, learning the roles and responsibilities of other team members, and how to effectively communicate with other disciplines. Using these skills, I helped my patients access dental care and provided education on the oral-systemic connection.”
  - Health Sciences Student, c/o ’16

• “Through my interactions with homeless families and individuals, I have seen the reality of unmet oral health needs and the difference I can make by advocating for these patients. My co-op experience gave me insight into the role of oral health in primary care and clarified my professional goals of becoming a leader in community health and accomplishing better care for socio-economically challenged areas.”
  – Health Sciences Student, c/o ‘16
Challenges

• Limited resources
• Skill gap
• Competing priorities
• Referrals
Conclusion

- Safety net settings should partner with academic institutions to incorporate students as change agents in your environment to meet the needs of vulnerable and underserved populations.
Acknowledgements

• Pooja Bhalla, MSN, RN, Chief Operating Officer, Boston Health Care for the Homeless Program
• Dierdre Jordan, MS, Associate Coop Director, Northeastern University
• Jacki Diani, MEd, Senior Coop Officer, Northeastern University
The DentaQuest Foundation is committed to optimal oral health for all Americans through its support of prevention and access to affordable care, and through its partnerships with funders, policymakers and community leaders. For more information, please visit dentaquestfoundation.org
References


Thank you

QUESTIONS?

m.dolce@neu.edu
j.holloman@neu.edu