Track One: Innovative Strategies to Engage Healthcare in Cessation and Increase Provider Advice to Quit

Using Focus Groups to Tailor Tobacco Cessation Education for Dental Specialties

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Beyond the 5 A's

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Study Aims

- Identify dental post-doctoral and residency program dental directors for participation in focus groups to evaluate the DTCS.
- Develop tailored DTCS modules for use by post-doctoral training and residency programs.
- Develop customized teaching manuals for each post-doctoral training and residency program.
- Finalize intervention design and content.
- Evaluate the customized training modules in post-doctoral training programs.

Dental Profession and Cessation Advice

- Smoking cessation advice from health care professionals increases quit rates
- 40% of smokers attempt to quit after receiving advice from their healthcare provider (Hu, et al., 2006)

Dental Profession and Cessation Advice

- 89% of U.S. dentists view tobacco cessation intervention as an important professional responsibility (Tong et al., 2010)
- 21% of dentists are aware of the USPHS guideline for tobacco cessation or had tobacco cessation training (Tong et al., 2010).

Dental Education - Shortcomings

- Professional practice routines can be changed
  - Requires new learning experiences
  - Supporting behavior modeling
  - Opportunities to practice new skills.
- Dental schools are not providing sufficient didactic and clinical education to establish tobacco cessation as a routine part of daily practice.

Pre-Doctoral DTSC

- Comprehensive core DTCS
- Uses innovative educational technologies
  - Disseminates tobacco cessation guidelines
  - Establishes clinical competency
- Foundation for establishing dental clinicians knowledge and familiarity with this important behavioral intervention.

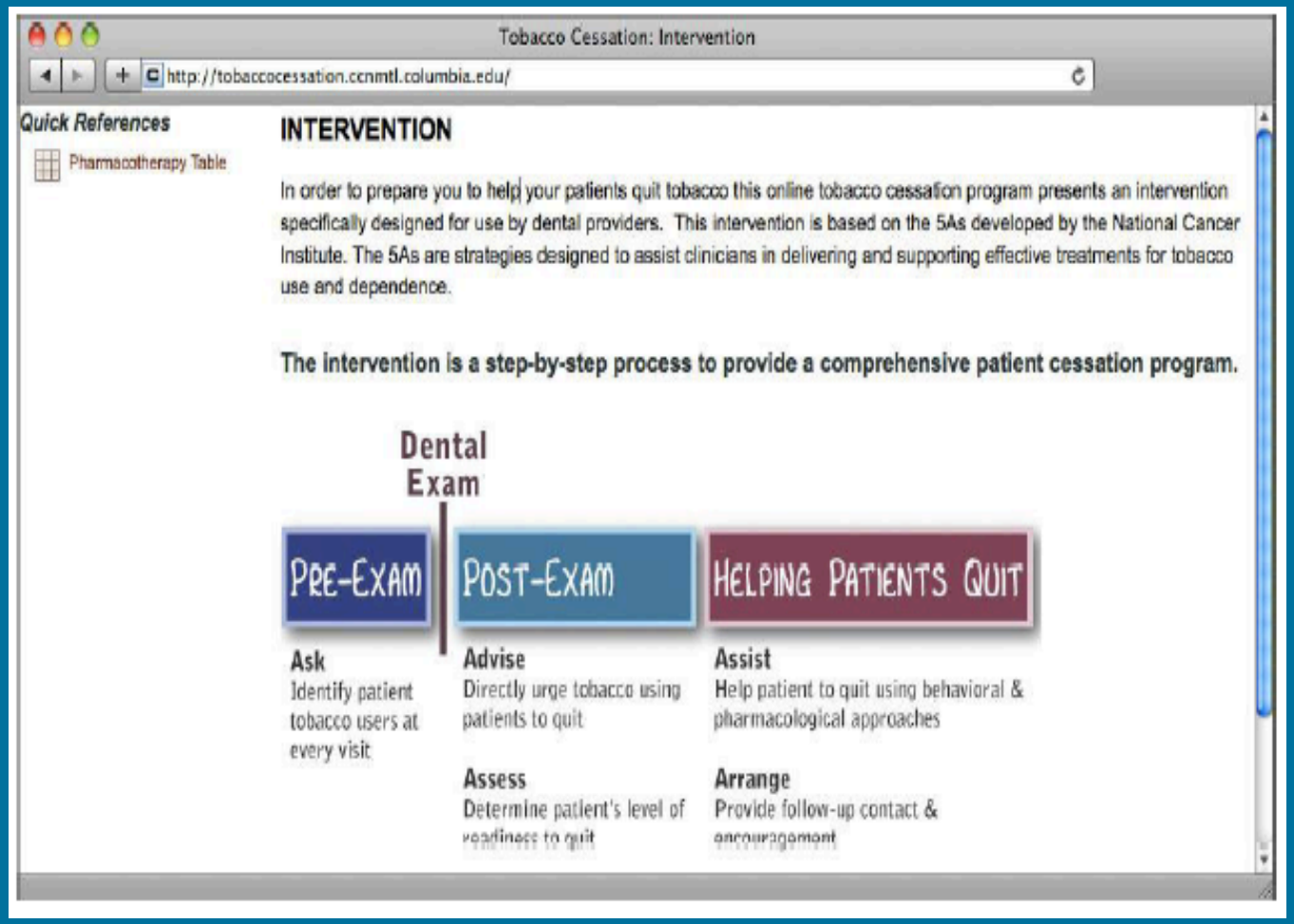
Pre-Doctoral DTSC

- Developed specifically for dentists
- Customized to reflect the dental office visit
- Fits within the context of the dental visit
- Highlights the ease with which dentists can engage in tobacco cessation counseling

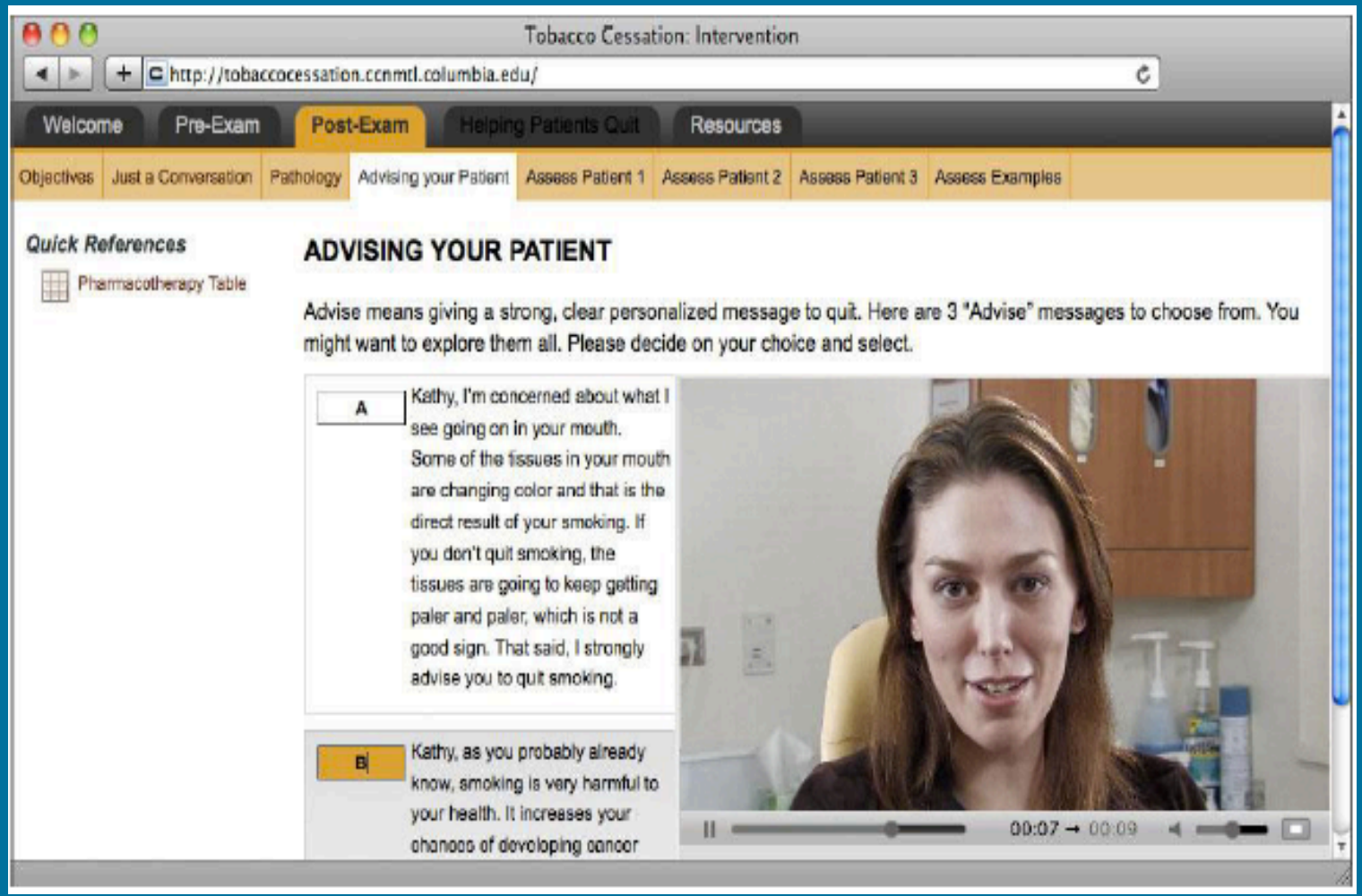
DTCS- Technical Approach

- Innovative educational technology developed by Columbia Center for New Media Teaching and Learning (CCNMTL) to create a virtual classroom via an online course.
  - Exercises reinforce all 5 A's
  - Culminates in a series of virtual patients
    - Allows trainee to establish clinical competency in assisting the patient with the quit attempt
  - Upon course completion trainee is competent in the use of all pharmacotherapeutics

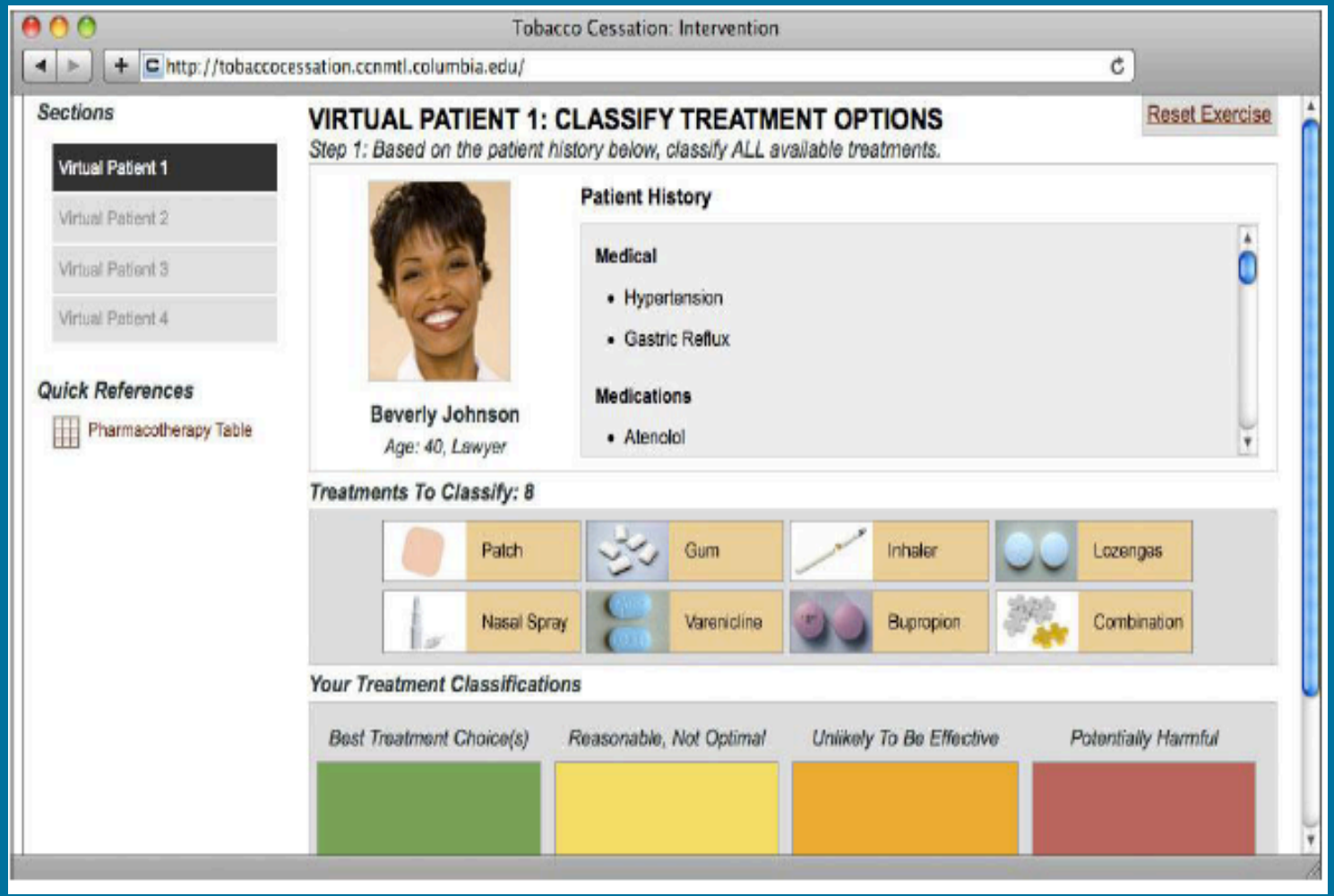
DTCS Welcome Page and Course Introduction



DTCS Advising Video Exercise



DTCS Patient Simulation Exercise



Pre-Doctoral DTCS

- Pre-test/Post-test evaluation with Columbia University dental students
- Surveys assessed
  - Attitudes regarding tobacco cessation in dentistry
  - Knowledge of tobacco use and cessation
  - Self-efficacy regarding tobacco cessation counseling

Pre-Doctoral DTCS

Students had negative attitudes about dentists' ability to be successful at tobacco cessation at baseline.

- Significant improvement at follow-up.

Baseline average of 47% on the knowledge component, after the course the average increased to 82%, $t(52)=-13.105$, $p<0.001$.

- Student perception of their knowledge about helping people stop using tobacco also improved significantly after completing the course, $p<0.001$.
- Perception of knowledge improved from an average score of 2.26, indicating fair ability, to 3.49 indicating a good level of knowledge.
- Additionally, student confidence in their ability to help someone stop using tobacco increased significantly from an average score of 2.29 to 2.88, a change from slightly confident to moderately confident (Albert et al., 2012).

Pre-Doctoral DTCS

- At baseline most students believed that the dentist or dental hygienist should be involved in tobacco cessation activities in the dental office.
- Students had positive attitudes about tobacco cessation in dentistry with regard to the importance of tobacco cessation as a component of preventive dentistry, and the role dentists should play educating patients about tobacco use, and encouraging and discussing tobacco cessation.

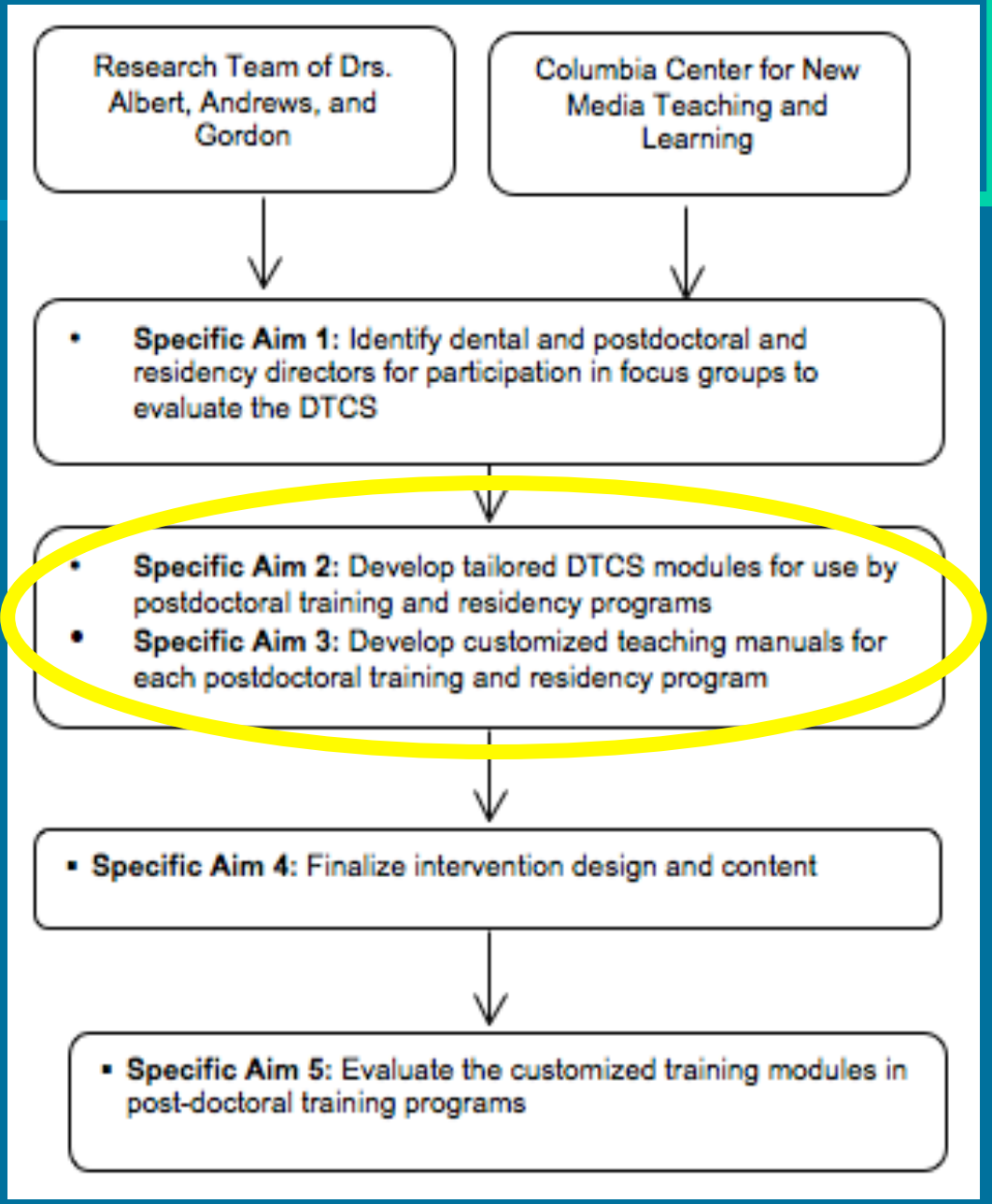
Post-Doctoral DTSC

- Reinforcement during the post-doctoral program needed to sustain the new knowledge acquired and to establish clinical behaviors that incorporate tobacco cessation into the office routine.
- Limited information about post-doctoral tobacco cessation curriculum or how to tailor a program for post-doctoral general or specialist dentist education.

Developing a Tailored DTCS

- Postdoctoral programs in Dentistry
  - General Dentistry
  - Prosthodontics
  - Orthodontics
  - Pediatrics
  - Oral and Maxillofacial Surgery
  - Endodontics
  - Public Health
- In 2010 there were 2,908 first-year trainees and residents in these programs.
  - Therefore the potential for creating effective change in tobacco education for dental professionals is great.

Project Overview



Why Focus Groups?

- Exploratory
  - limited existing data on post-doctoral experience
- Complex
  - multidimensional factors not necessarily suited to survey research
- Developing tailored content
  - Attempting to understand commonality among specialties and divergence

Qualitative Methods

Study Design and Sample	Content Analysis and techniques from Grounded Theory - Simultaneous data collection and analysis - Theoretical sensitivity Convenience Sample - Program residents - Program faculty Program Directors completed recruitment within site Demographic and survey data collection
Data Collection	3 Sites - Columbia University (Dental school program) - Jacobi Medical Center (Hospital based program) - St. Barnabas Hospital (Hospital based program) Sessions audio recorded and transcribed $75/$100 compensation for participation
Data Analysis	Iterative approach Open/axial/selective coding & memoing 3 data coders (AW, NMW, EB) Nvivo

Focus Group Composition

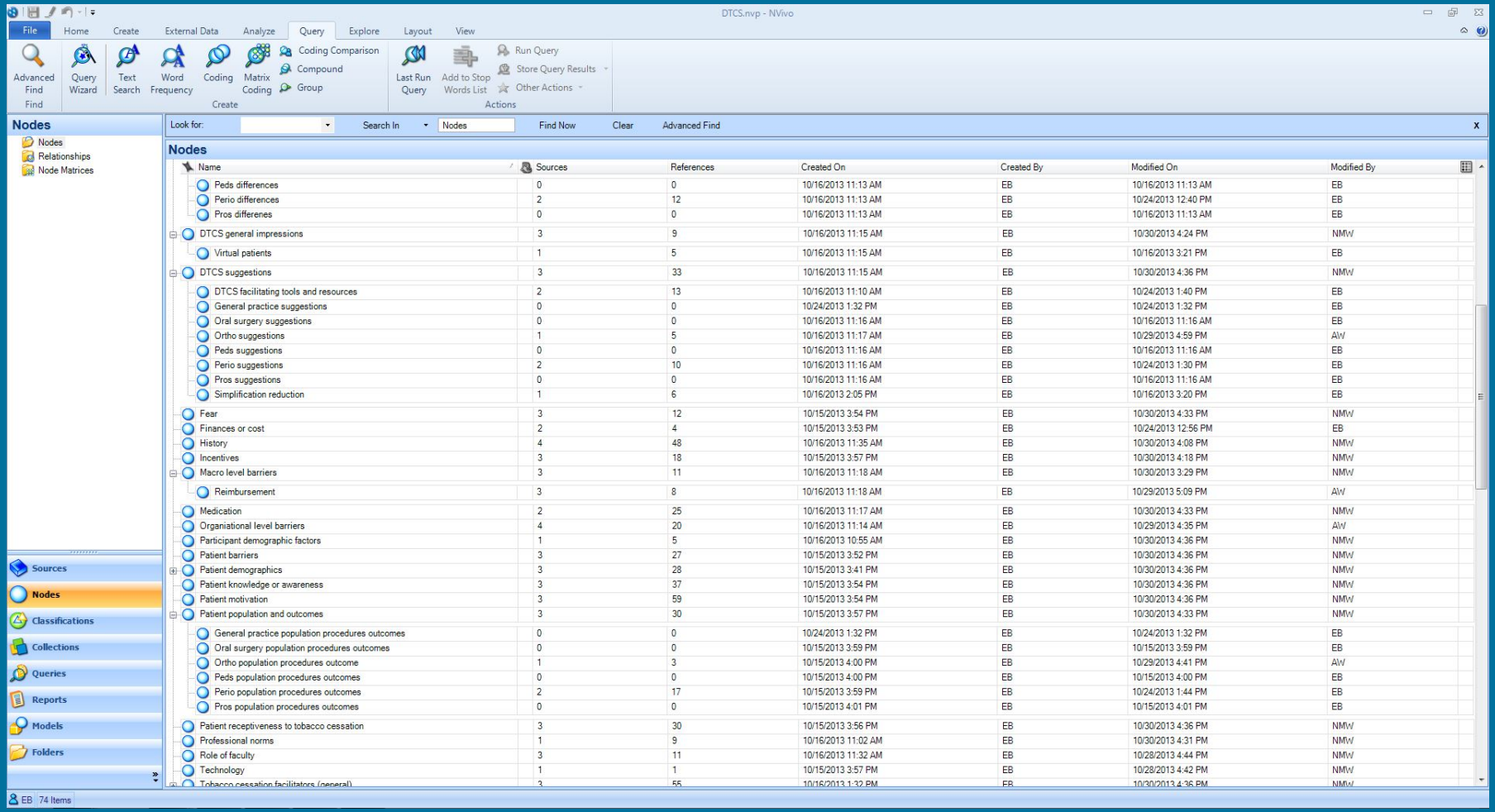
Specialty Group	Site	N
General Dentistry		
Faculty	Jacobi Medical Center	3
Residents	St. Barnabas Hospital (not completed)	
Oral & Maxillofacial Surgery		
Faculty	Jacobi Medical Center	4
Residents	Jacobi Medical Center	4*
Orthodontics		
Faculty	Columbia University	5
Residents	Columbia University	7
Pediatric Dentistry		
Faculty	Columbia University	4
Residents	Columbia University	4
Periodontics		
Faculty	Columbia University	4
Residents	Columbia University	5
Prosthodontics		
Faculty	Columbia University (not completed)	
Residents	Columbia University	5

* Data not included in analysis

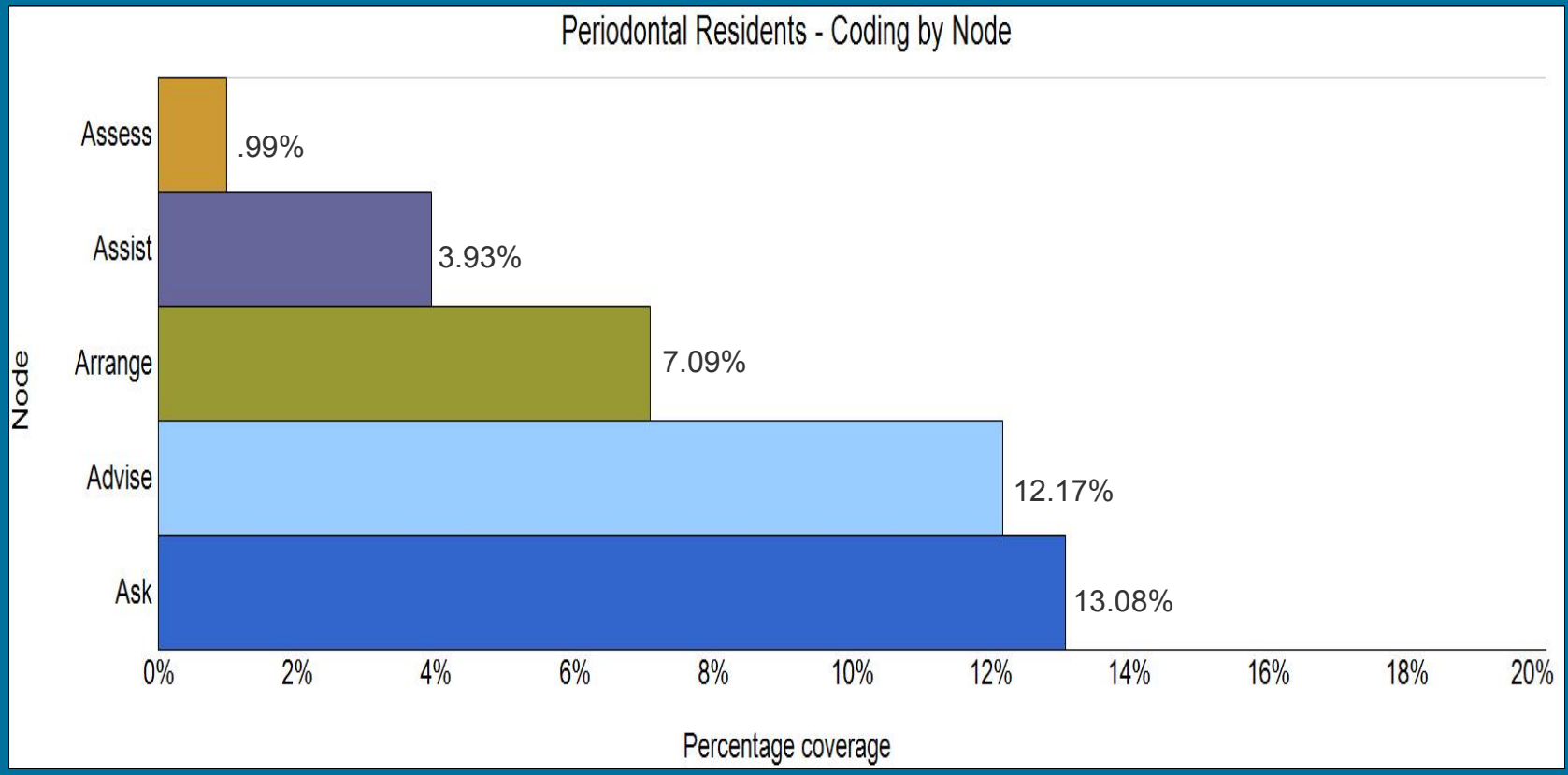
Preliminary Survey Results

	Residents (n=21)	Faculty n=(20)
Gender	Female 57% (n=12) Male 43% (n=9)	Female 40% (n=8) Male 60% (n=12)
Average number of years post dental school graduation	3	23
Tobacco use within the past year?	0% (n=0)	10% (n=2)
Pre-doctoral training in tobacco cessation?	Yes 76% (n=16) No 24% (n=5)	Yes 30% (n=6) No 60% (n=12) Unknown 10% (n=2)
Post-doctoral training in tobacco cessation?	Yes 33% (n=7) No 52% (n=11) Unsure 14% (n=3)	Yes 20% (n=4) No 57% (n=12) Unsure 19% (n=4)
Any report of tobacco cessation activities in the past month?	Asking 57% (n=12) Advising 48% (n=10) Assessing 33% (n=7) Assisting 14% (n=3) Arranging 14% (n=3)	Asking 85% (n=17) Advising 65% (n=13) Assessing 40% (n=8) Assisting 25% (n=5) Arranging 15% (n=3)

NVivo Coding Interface

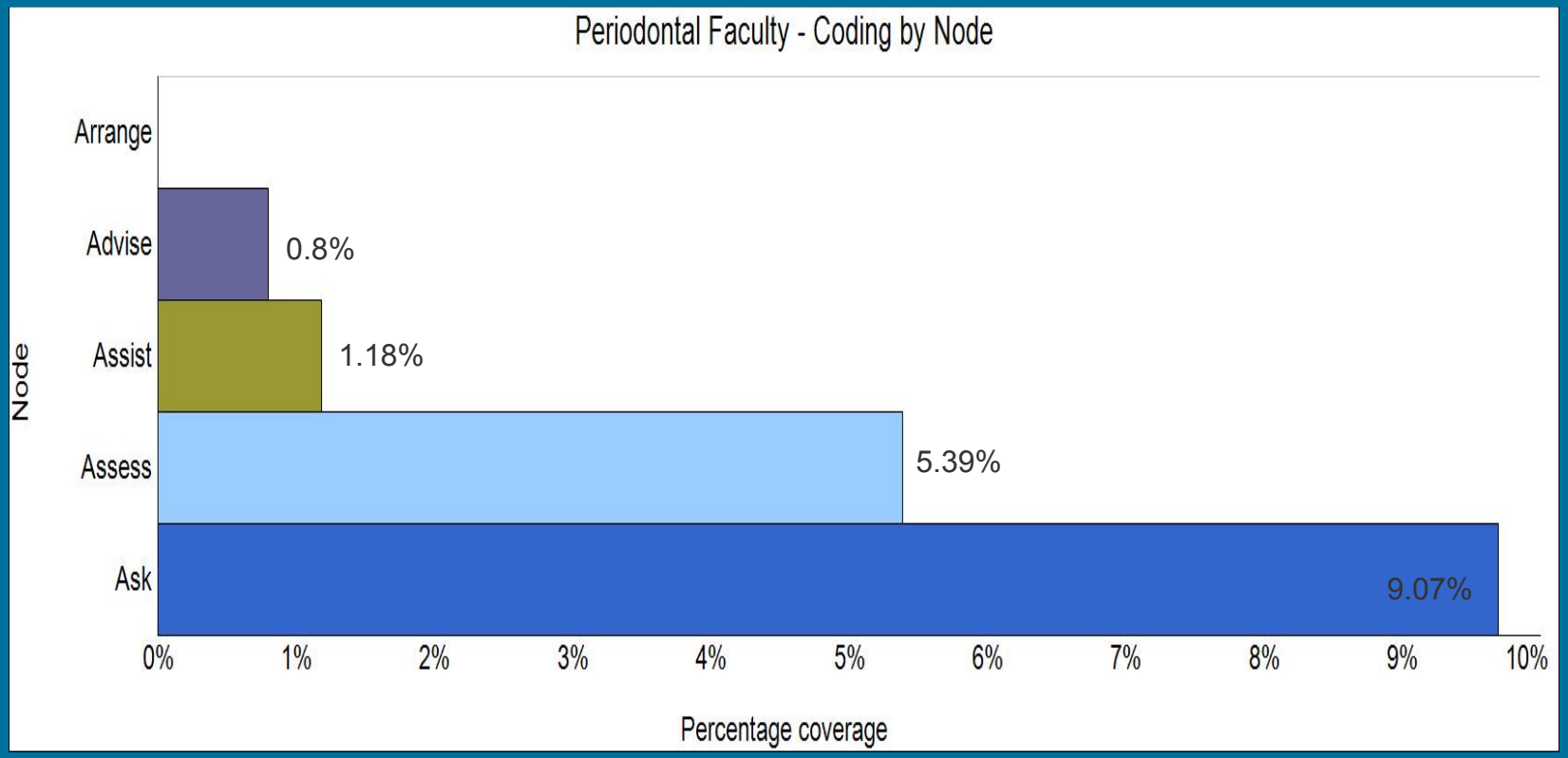


Periodontal Residents Percent Coverage of the 5 A's*



*Preliminary Results

Periodontal Faculty Percent Coverage of the 5 A's*



*Preliminary Results

Tailoring Content for Periodontal Practice

Periodontal Practice Factors	Example Suggestions for Course Customization
Periodontal practice already includes a strong focus on prevention and behavioral intervention	Emphasize how tobacco cessation fits into routine periodontal practice
Tobacco use is a modifiable risk factors for periodontal disease that affects outcomes	Feature clinicians discussing the impact of tobacco use on periodontal outcomes
Periodontal practice often involves the management of a medically compromised patient	Develop a medically compromised virtual patient
Periodontal treatment often requires multiple follow-up visits	Discuss strategies for arranging for follow-up in the context of periodontal care
Surgical outcomes can be greatly improved with short-term tobacco abstinence	Present a video of a periodontal clinician discussing tobacco use and surgical outcomes with a patient

Tobacco Cessation Barriers Cluster Analysis*

Patient Barriers ***tended*** to cluster with structural level barriers

Clinician barriers tended to cluster with organizational barriers

Exception was reimbursement

*Preliminary Results

Factors Contributing to Successful Tobacco Cessation Intervention in the Post-Doctoral Experience*

Factors	Dimensions	Examples of Facilitators
Clinician factors	Tobacco cessation confidence	Opportunities to practice behavioral counseling; formal and informal training in Assisting; manageable training in pharmacotherapy
	Tobacco cessation knowledge and skills	Appropriate formal and informal training reinforced throughout the post-doctoral experience; faculty training and modeling in the clinic
	Outcome expectations	Knowledge and awareness of patients interest in tobacco cessation; successful performance of tobacco cessation
	Perceived benefits	Didactic training emphasizing how tobacco abstinence impacts dental outcomes
	Professional norms	Awareness of dental organizations policy statements on tobacco cessation; faculty training and modeling in the clinic
Organizational support	Resources	Accessible patient information; adequate support staff; appropriate charting mechanisms; integrated medical records
	Philosophy	General administrative support for tobacco cessation; faculty leaders
Structural and contextual factors	Patient population	Patient's access to care; patient insurance status; patient receptiveness; socioeconomic position; daily stressors
	Financial constraints	Reimbursement; financial strength of the organization; allocation of resources and financial priorities

*Preliminary Results

In Participants Own Words

Dimensions	Examples of Illustrative Quotes
Tobacco cessation confidence	*"I don't know if I would feel comfortable really prescribing medications for tobacco cessation in my practice. I think I'd feel a lot more comfortable if I were to recognize it and make a referral to a pediatrician. Or possibly even a general dentist. But I think as an orthodontist, I would shy away from doing that myself." (Pediatric Faculty Member)*
Outcome expectations	*"You'd be surprised how many patients are waiting to be asked if they want to quit." (Periodontal Faculty Member)*
Perceived benefits	*"You know, it's valuable on your side to not have [the implant] fail. You're invested in [the patient] quitting, to make sure the treatment goes correctly. (Periodontal Resident)*
Financial constraints	*"The whole residency program, by its nature, is preparing people to go out and practice real periodontics. So if there is nothing called smoking cessation that can be a billable service, I mean you can mention it but it would definitely not attract as much attention as it would if it were, you know, a billable service. At the end of the day, I think that plays a role." (Periodontal Faculty Member)*

Next Steps

- Complete focus groups
- Complete analysis
  - Particular focus on convergence and divergence among specialties
- Finalize content
- Evaluate the training modules in post-doctoral programs

Acknowledgements

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