

Testing Clinical Decision Support for Treating Tobacco Use in Dental Clinics

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Organization:	New York University School of Medicine
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Summary: Smoking remains the leading preventable cause of death in the U.S. The U.S. Public Health Service Guidelines have established that tobacco dependence treatment, including cessation pharmacotherapy and brief counseling, can produce significant and sustained reductions in tobacco use and should be delivered to all smokers seeking routine health care. Dentists are in a good position to provide tobacco cessation treatment because: 1) they have regular access to a broad population; 2) they have access to patients who do not receive other health care services; 3) multiple patient dental visits per year are common, allowing for repetitive dental provider opportunities to offer tobacco cessation counseling and interventions; and 4) evidence shows that tobacco cessation assistance delivered by dental providers can increase tobacco cessation. Currently, however, dentists generally do not provide routine tobacco cessation treatment to their patients who smoke. Dentists often cite barriers—such as concern about increased patient visit time, limited training in behavioral assessment and intervention, a lack of office-based systems to facilitate preventive care, and a lack of referral resources—to providing cessation treatment.

Dr. Donna Shelley and her research team are working to reduce these barriers by implementing and evaluating a Web-based clinical decision support system (CDSS) to help dentists provide guidance on recommended tobacco use treatment during patient encounters. Based on the patient information entered, the system helps dentists recommend and prescribe approved pharmacotherapy; facilitate referral of patients to local counseling resources; print handouts with patient-specific smoking cessation recommendations, instructions, and cessation resources; and document the visit for the patient's dental record.

Dr. Shelley is using a cross-sectional pre-post study design to assess the impact and acceptability of the CDSS. The intervention has been implemented in four general dental care clinics at the New York University College of Dentistry. At baseline, patients who smoked were identified in the clinic waiting rooms by completing a brief survey prior to seeing the dentist. Those who consented were administered an exit survey after their dental visit to collect baseline data on dentist adherence to the Public Health Service Guidelines and on patient quit behavior. After collecting baseline data, dentists in the four clinics received training on how to access and use the CDSS. Approximately 1 month after the system was implemented, researchers administered the patient exit interviews again. At the end of the intervention, the research team plans to conduct qualitative interviews with dental students from the four clinic sites to collect data on use and acceptance of the CDSS.

The Web-based CDSS is a promising tool to help dentists provide evidence-based smoking cessation assistance. This study will provide an initial assessment of its potential impact and use and will inform future testing and implementation of the CDSS in dental health clinics throughout the United States.

Specific Aims:

- Test the hypothesis that a clinical decision support system will improve the rate at which dentists assist their patients with smoking cessation by providing information and recommendations on smoking cessation resources. **(Ongoing)**
- Assess whether exposure to information and recommendations facilitated by the CDSS will: 1) increase the rate at which patients make at least one quit attempt in the month following the dental visit; and 2) increase the reported use of counseling and pharmacotherapy during those attempts over those observed with a tobacco use identification system alone. **(Ongoing)**
- Evaluate the acceptance of the CDSS into the workflow of dental clinics through semi-structured interviews of dentists and focus groups with staff at the conclusion of the trial, and by measuring the range of use of the CDSS with a log on the server that collects aggregate data of each dentist's access of specific CDSS screens by time. **(Ongoing)**

2012 Activities: The pre-intervention study was completed during 2012, with a total of 152 patients enrolled at the four clinics. The project team has begun analyzing the qualitative and quantitative data from this component of the project. The post-intervention study was initiated and as of December 31, 2012, 105 patients in the four clinics had been enrolled. Recruitment and data collection for the post-intervention will continue into 2013.

As last self-reported in the AHRQ Research Reporting System, project progress and activities are mostly on track and the project budget funds are somewhat underspent. Dr. Shelley has been able to staff the project with students in need of internships for their graduate programs and as a result has saved on costs previously anticipated to fund project staff salaries.

Preliminary Impact and Findings: Preliminary findings suggest good adoption of the CDSS. Among the 200 dental students and faculty, 59 percent used the tool at least once. Preliminary qualitative assessments indicate the tool is simple to use, trusted by providers, and facilitates treatment.

Target Population: Adults

Strategic Goal: Develop and disseminate health IT evidence and evidence-based tools to support patient-centered care, the coordination of care across transitions in care settings, and the use of electronic exchange of health information to improve quality of care.

Business Goal: Knowledge Creation