OBJECTIVES: An explicit goal of VA is to provide appropriate, accessible, high-quality, and effective health care to the nation's veterans. VA provides 1.2 million outpatient dental visits to over 380,000 veterans on an annual basis. Future VA dental care must document the quality of the services provided. Our research seeks to understand reasons for variation in dental care in VA. Specifically, this research will: Determine variation in provision of dental extractions and root canal therapy in VA by examining rates per 1000 dental outpatient care users and the proportion of these two target procedures that are root canals. Describe patient characteristics associated with the decision to extract teeth versus those associated with root canal therapy.

Examine whether there are important differences in the approach to dental care (rates of extractions versus root canal therapy) in VA according to provider and structural characteristics. Determine if variations in procedure rates remain after adjusting for patient, provider and structural characteristics.

Receipt of a root canal (versus a tooth extraction) is a potentially useful indicator of quality dental care. However, use of this measure without adjusting for the severity of oral and comorbid disease could lead to erroneous conclusions. Work concluded in this past year describes the development of a novel dental severity adjustment methodology.

RESEARCH PLAN: We conducted a retrospective study in 54,423 users of outpatient VA dental care who had either root canal therapy or a tooth extraction at a VA facility in FY 1998. Work published this year in Medical Care showed that we could develop clinically and statistically credible risk adjustment measures to measure dental outcomes and that African American veterans were less likely to receive root canals than whites, even after adjusting for comorbid medical and dental conditions and eligibility for dental care 12. This year we focused on the impact of structural and provider characteristics on the receipt of a root canal or an extraction. We hypothesized that structural characteristics such as teaching facilities may skew the treatment option favorably towards root canals. Further, providers who are younger, more recent dental school graduates, and those who are specialists, i.e., endodontists are expected to prefer root canal therapy as the treatment choice.

METHODS: We used OPC and PTF files to obtain ICD9-CM codes for dental diagnoses at the time of visit and comorbid medical conditions in the preceding year. We modeled the effects of dental disease severity in logistic regression models of the probability of receiving a root canal. The initial model is a risk adjustment model includes comorbid medical and psychiatric conditions that have an influence on the choice of dental treatment. Later models added factors that should not, but have previously been shown to influence care in the following sequence, patient characteristics, facility characteristics, and finally provider characteristics. Because we expected that structural characteristics, including provider characteristics would make an important contribution towards explaining variation in root canal procedure rates, we hypothesized that younger providers who graduated from dental school more recently, and who are specialists, i.e., endodontists were expected to prefer root canal therapy as the treatment choice.

RESULTS: Odds of receiving a root canal were increased in teaching facilities in large urban area (OR=1.72, 95%CI: 1.01.2.79) and in facilities with endodontists (specialists in root canal therapy) (OR=1.74, 95%CI: 1.02,2.97). Neither mean age of providers (by facility), dentists FTEE/1000 patients nor mean years since graduation were associated with odds of root canal therapy. Consistent with our previous work, emergency and eligibility status other than comprehensive, continuing care, and being African American were associated with decreased odds of a root canal while younger veterans (<40 yrs) and females were more likely to receive a root canal. Finally, the risk adjustment model developed earlier in the project performed similarly to our previously published work. This manuscript is nearly complete. CONCLUSIONS: Teaching facilities and specialist availability increase the odds of root canal therapy. IMPACT: VA studies of the quality of dental care should employ risk-adjusted models. STATUS: 3 papers published. Analysis and writing for 3 more manuscripts are in progress.