Title: Assessing the Utilization and Validity of a Standardized Dental Diagnostic Code System

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Abstract:

Background: Although standardized terminologies, such as the International Classification of Diseases, have been used in medicine for over a century, dentistry has been slow to adopt such a system. To address this deficiency, members of the Consortium for Oral Health Research and Informatics (COHRI) developed a standardized dental diagnostic terminology, the EZCodes. The 1321 unique codes were subdivided into 13 major headings. The codes were made available to any member institution of COHRI. The purpose of this study was to report on the utilization of the EZCodes, as well as the accuracy of the procedures performed for the given diagnoses.

Methods: Data were extracted from axiUm, the electronic health record system, from two dental school clinics (Clinic A and B) and one dental practice group (DPG). Three trained and calibrated dentists adjudicated the validity of treatment (CDT Code) performed for all diagnostic codes. Rates of utilization of the EZCodes and accuracy of the EZCode-CDT Code pair from 2011-2012 for the two schools and from April-September 2013 for the DPG were calculated.

Results: The three practice groups used 446 (33.8%) unique EZCodes. Only 75 of these codes were shared by all 3 groups. At Clinic A, there were 2,437 unique diagnosis-procedure pairs, representing 18,930 procedures of which 10,989 (58%) were valid. At Clinic B, there were 2,312 unique pairs, representing 19,665 procedures, of which 14,868 (75.6%) were valid. At the DPG, there were 2,978 unique pairs, representing 493,758 procedures, of which 293,750(59.5%) were valid.

Conclusions: This study found that the majority of diagnostic codes were not used, and when codes were used, they are not necessarily used with an appropriate procedure. More work needs to be done to elucidate whether the deficiency is in the assignment of the diagnosis or the selection of the treatment, for the given diagnosis.