American Dental Association
Technical Report No. 1087

Essential Characteristics of Digital Oral Health Risk Assessment Resources

ADA American Dental Association®

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AMERICAN DENTAL ASSOCIATION TECHNICAL REPORT NO. 1087 FOR ESSENTIAL CHARACTERISTICS OF DIGITAL ORAL HEALTH RISK ASSESSMENT RESOURCES

The ADA Standards Committee on Dental Informatics (SCDI) has approved American Dental Association Technical Report No. 1087 for Essential Characteristics of Digital Oral Health Risk Assessment Resources. Working Groups of the ADA SCDI formulate this and other specifications and technical reports for the application of information technology and other electronic technologies to dentistry's clinical and administrative operations. The ADA SCDI has representation from appropriate interests in the United States in the standardization of information technology and other electronic technologies used in dental practice. The ADA SCDI confirmed approval of ADA Technical Report No. 1087 on May 31, 2017.

ADA Technical Report No. 1087 was prepared by SCDI Working Group 11.7 on Oral Risk Assessment Tool. The ADA Standards Committee on Dental Informatics thanks the members of Working Group 11.7 and the organizations with which they were affiliated at the time the specification was developed:

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FOREWORD
(This Foreword does not form a part of ADA Technical Report No. 1087 for Essential Characteristics of Digital Oral Health Risk Assessment Resources.)

In 1992, there was interest in the standardization of clinical information systems related to electronic technology in the dental environment. After evaluating current informatics activities, a Task Group of the ANSI Accredited Standards Committee MD156 (ASC MD156) was created by the ADA to initiate the development of technical reports, guidelines, and standards on electronic technologies used in dental practice. In 1999, the ADA established the ADA Standards Committee on Dental Informatics (SCDI). The ADA SCDI is currently the group that reviews and approves proposed American National Standards (ANSI approved) and technical reports developed by the standards committee's working groups. The ADA became an ANSI accredited standards organization in 2000.

The scope of the ADA SCDI is:

> "The ADA SCDI shall develop informatics standards, technical reports and guidelines and interact with other entities involved in the development of health informatics standards aimed at implementation across the dental profession.

Multiple stakeholders have demonstrated an interest in the use of clinical risk assessment resources. Oral conditions for which risk assessment resources are currently available include, but are not limited to: Dental caries, periodontal disease, and oral cancer. A risk assessment resource estimates an individual patient's likelihood of developing or experiencing progression of a disease. Factors such as clinical, environmental and behavioral characteristics can contribute to an individual's risk for a specific oral condition. In contrast to diagnosis, which describes a current condition, risk assessment provides information unique to the patient about the likelihood of and causes for change in their condition over time. Risk assessment may be used to suggest actions that the patient and health care provider can take to modify the outcome predicted by risk.

A standardized risk assessment tool includes causative and contributory factors that can be determined by the most objective means available. The values assigned to these factors estimate their relative influence on the status or progression of oral disease. When based on best-available scientific evidence, these tools can assist clinicians in educating and motivating patients; as well as selecting appropriate interventions to prevent or treat oral disease. Third party payers could use clinical risk assessments to make benefit determinations for a beneficiary and to measure plan performance. Risk assessment can also assist in providing decision support for patients and clinicians.

There are currently no U.S. national standards for these products. Standards for oral health risk assessment resources could include the format, validation, and other essential characteristics of input and output elements, especially since they may be used by other systems and for a multitude of purposes. Additionally, standards established for risk assessment resources should not only be compatible with but should be developed along with standards that describe a condition's current severity status (i.e., health assessment).

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1   **SCOPE**

This Technical Report will describe the essential characteristics including the input and output elements, usability, security and privacy features, and interoperability of digital tools that collect clinician- or patient-entered information for the purposes of creating individual or population estimates of risk for specific oral diseases. Examples include dental caries, periodontal disease and oral cancer.   Various potential use-cases for risk assessment software are described.

2   **EXCLUSIONS**

The clinical validation of a risk assessment method and clinical effectiveness of strategies based on risk assessment are in the domain of scientific investigation and publication in the peer reviewed literature and are therefore not included in the scope of this Technical Report.

3   **APPLICABLE DOCUMENTS**

ADA SCDI White Paper No. 1074. Electronic Oral Health Risk Assessment Tools.

ANSI/ADA Standard No. 1067. Standard Functional Requirements for an Electronic Dental Record System.

ANSI/ADA Standard No. 1000-2010. Standard Clinical Architecture for the Structure and Content of an Electronic Health Record.

ADA Technical Report No. 1019-2003. Technical Security Services and Applications to Dentistry.

ADA Technical Report No. 1039-2006. Standard Clinical Conceptual Data Model.

(ADA standards and technical reports are available from the American Dental Association, 211 E. Chicago Avenue, Chicago, IL 60611, http://www.ada.org/en/publications/ada-catalog)

4   **DEFINITIONS**

A. **oral health risk assessment –** Oral health risk assessment is a systematic approach to collecting information from individuals that identifies causative and contributory factors of a specific oral disease or condition. It provides individualized feedback, and may link the patient with at least one intervention to promote health, sustain function and/or prevent disease or its progression.

An Oral Health Risk Assessment resource may employ information about the patient including social determinants of health, personal characteristics (e.g., gender, age, genetics, and microbiomics), personal behaviors (e.g., tobacco use, alcohol consumption, drug use, diet, parafunctional habits etc.), environmental factors (fluoride exposure, medications, etc.), personal medical history, dental history and clinical observations.

B. **individual oral health risk –** The likelihood that an individual patient will experience the occurrence or progression of a specific oral disease or condition over time based on measurable factors associated with disease occurrence, progression or avoidance.

C. **population oral health risk –** The assessment and monitoring of the oral health status of a community or population by aggregating individual risk information to identify public health issues and priorities. (Modified from World Health Organization definition)