

American Dental Association  
Technical Report No. 1027

# Implementation Guide for ANSI/ADA Specification No. 1000—the Electronic Health Record

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**AMERICAN DENTAL ASSOCIATION TECHNICAL REPORT NO. 1027 FOR THE IMPLEMENTATION GUIDE FOR ANSI/ADA SPECIFICATION NO. 1000—THE ELECTRONIC HEALTH RECORD**

The Council on Dental Practice of the American Dental Association has approved American Dental Association Technical Report No. 1027 for the Implementation Guide for ANSI/ADA Specification No.1000—the Electronic Health Record.

Working Groups of the ADA Standards Committee on Dental Informatics (SCDI) formulate this and other technical reports and specifications 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. Approval of ADA Technical Report No. 1027 was confirmed by the ADA SCDI on August 11, 2003.

The ADA SCDI thanks Mark Diehl, Mark Diehl Consulting, Frederick, MD, as chairman of Working Group 11.1, Standard Clinical Architecture for the Structure and Content of an Electronic Health Record, for leading the development effort.

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**FOREWORD**

(This Foreword does not form a part of the American Dental Association Technical Report No. 1027 for the Implementation Guide for ANSI/ADA Specification No. 1000—the Electronic Health Record).

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:

*“To promote patient care and oral health through the application of information technology to dentistry’s clinical and administrative operations; to develop standards, specifications, technical reports, and guidelines for: components of a computerized dental clinical workstation; electronic technologies used in dental practice; and interoperability standards for different software and hardware products which provide a seamless information exchange throughout all facets of healthcare.”*

This technical report was prepared by SCDI Subcommittee 11 on Electronic Dental Records (Mark Diehl, chairman).

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## **AMERICAN DENTAL ASSOCIATION TECHNICAL REPORT NO. 1027 FOR THE IMPLEMENTATION GUIDE FOR ANSI/ADA SPECIFICATION NO. 1000—THE ELECTRONIC HEALTH RECORD**

### **1. INTRODUCTION**

#### **Background**

The origin of the ANSI/ADA Specification 1000 for the Structure and Content of a Computer based Patient Record is the ADA House of Delegates Resolution 18H-1992 (Trans 1992:597) to facilitate development of the computer-based dental patient record. The ADA Council on Dental Practice established a Computer-based Oral Health Record (COHR) workgroup to implement this resolution. An important result of this work effort was the designation of the American Dental Association as the steward of data content and policy in Dentistry by ADA Board Resolutions B-118-1995 to B-121-1995.

In February, 1996, the CDP COHR Workgroup completed its work with publication of the Computer-based Oral Health Record Concept Model. The COHR Concept Model presented a view of the clinical process and basic data needed to support these processes. This concept model forms the foundation for the standardization

Also in 1996 the ADA House of Delegates approved Resolution 92H-1996 advocating seamless availability of patient health data across the healthcare professions, specialties, and care delivery environments. This resolution considers the health of the entire patient, noting that patient well-being and optimum outcomes often need provider access to patient health information sources beyond the traditional boundaries that artificially compartmentalize care delivery.

In 1998 the ADA began publishing the Proposed ANSI 1000 Specification as a draft standard for public review and comment. The draft standard was published by subject areas corresponding to the major processes identified in the Concept Model. Public review included document distribution and symposium review at numerous professional meetings. Following all-parties review and balloting according to ANSI and ADA standards development rules, the Specification was adopted as an American National Standard in February, 2001. With this action, this specification becomes the first model-based, comprehensive, data-level standard for electronic health information in the United States.

#### **Purpose**

The purpose of this document is to provide implementation guidance to system planners, architects, and developers. This document describes a software engineering approach and presents examples of how this specification may be used at the data subsystem level of conventional client-server and Web-enabled architectures for new development, legacy system migration, and data subsystem retrofit.

#### **Scope**

The ANSI 1000 Implementation Guide provides technical guidance for technical developers to use for preparing any clinical or health information system or database. With this implementation guide vendors, developers and other users can efficiently and economically build clinical databases and data systems from the ANSI/ADA 1000 Specification. This implementation guide shows how to migrate the data model components in the specification to a functioning data system, including how to optimize these models.

This implementation guide addresses relational data structures and the persistent data of object-oriented structures, as used by conventional client-server and Web-enabled implementations. Implementations are built on tiered system architectures, separating the data subsystem from the application and presentation system components.

Both transactional and analytical implementations of this specification can be used for systems for human and veterinary