

Electronic Health Records Management and Preservation Framework

Wo Chang¹

Abstract

Electronic health record (EHR) management and preservation is vital for clinical care and medical research. Its goal is to provide persistent longevity of original clinical records in order to enable quick access on knowledge for decision support, ensure patient safety, and ultimately, enhance the quality of life. Proprietary solution approaches and various technological advancements, however, have rendered these healthcare record systems unable to withstand the test of time and inevitably will become incompatible, corrupt, lost, or replaced by newer technologies. The records administration also faces equal challenges as to what should be retained and for how long; how to handle obsolescent hardware and software; interchange of information; and system interoperability. Moreover, the nature of clinical data involves issues of privacy and security, legal constraints, and data ownership that complicate management and preservation even further. Yet, if the issue of management and preservation of clinical information is not readily addressed, valuable and irreplaceable health records will eventually become inaccessible, or disappear over time with disastrous consequences for patient care, as well as its potential research value. Replacing lost data, even if possible would entail huge costs for patients, clinicians, administrators, pharmaceuticals, and potentially, the entire country's economy. This paper presents the EHR management and preservation framework which includes: (a) benefit objectives and core issues/requirements, (b) core architecture components, and (c) various existing ISO-related standards and best practices of EHR knowledge modeling, information access, record management and preservation in order to accomplish its goals.

¹ National Institute Standards and Technology, Gaithersburg, MD