

# A Literature Review of Electronic Health Records in Chiropractic Practice: Common Challenges and Solutions

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## ABSTRACT

**Objective:** The purpose of this study was to review the literature on current challenges and propose solutions for the optimal utilization of the electronic health records (EHRs) in chiropractic practice.

**Methods:** A search was performed in the PubMed, Index of Chiropractic Literature, and Current Index to Nursing and Allied Health Literature databases from November 2005 to February 2015. A combination of the following key words was used: *electronic health records, electronic medical records, implementation, documentation, benefits, and challenges*. Articles were categorized into common problems and solutions. These were filtered by application to chiropractic or educational institutions.

**Results:** The search resulted in 45 papers, which included case reports of EHR implementation, governmental insurance reports, commentaries, controlled studies, narrative reviews of past experiences with conversion from paper systems, and the implementation of EHRs in small offices and chiropractic offices. Minimal literature was found that directly related to chiropractic EHRs. Improper utilization, incorrect use of the software, faulty implementation, workflow burdens, financial considerations, and insufficient training were found to negatively affect the quality of the record.

**Conclusions:** Documentation errors are often innate in the EHR software. Improper utilization, insufficient training, or difficulty in integration of the EHR into the clinical office setting results in poor implementation of the electronic version of the clinical record. Solutions that may decrease documentation errors include EHR training, continued financial incentives, and appropriate implementation process and utilization of available software features. (*J Chiropr Humanit* 2016;xx:0-10)

**Key Indexing Terms:** *Electronic Health Records; Chiropractic; Health Education; Ethics*

## INTRODUCTION

The quality of health care records came into question in the 1960s when Weed<sup>1</sup> published a report on the lack of interprofessional communication about patient care that was affecting the quality of the care rendered. He created the problem-oriented medical record (POMR) and opined that the health care record was “central to patient care and the teaching of healthcare.”<sup>1</sup> The POMR provided organization of the health care record and continuity of care between physicians and interns.<sup>1</sup> This improved patient care, and the system was eventually adopted by medicine and then by other health care providers. Fifteen years later, the chiropractic profession instituted this system. Thereafter, the third-party payors required an

increased level of documentation of the medical necessity of care. By the late 1990s, managed care reinforced the necessity of a POMR and the daily SOAP (Subjective, Objective, Assessment, and Plan) notes. Licensing board complaints, regarding the insufficient quality of the records, resulted in the introduction of new board policy guidelines and regulations on documentation and record keeping.<sup>2,3</sup> Many managed care organizations also issued policy guidelines. In 2006, the Federation of Chiropractic Licensing Boards passed a resolution that further strengthened the implementation of appropriate documentation. This resolution recommended that “all state boards require a course in the topic of documentation for re-licensure,” and that the Council of Chiropractic Education (CCE) “accredited colleges provide training in documentation in the basic Doctor of Chiropractic curriculum.”<sup>3</sup> Documentation of the clinical encounter with the patient and the decision-making process became a required part of the clinical record. In 2008, the chiropractic “best practices” document informed the clinician of the importance of the clinical process during the encounter.<sup>4</sup> Meanwhile, payors increased the extent and the degree of the record reviews.<sup>5</sup> Despite the professional recommendations and insurance requirements, the American Chiropractic Association stated that the lack of appropriate documentation in clinical records continued to show up in

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audits and was compromising the practices of a number of practitioners because of third-party payor denials.<sup>6-8</sup>

This necessity of an increased level of documentation created a burden on the practicing clinician, which led to evolution of the electronic format. Early efforts to enter the electronic health record (EHR) movement resulted in the implementation of barcoded note-capturing software, rather than a true EHR. The software was expected to increase doctor efficiency and decrease the time for documentation. The software companies imagined their barcoded systems would enable practitioners to see more patients in their workday. The weakness in this initial EHR system is that it only provided an organized directory of patients' health without sufficient variability or customization to clearly document the specifics of the patient encounter.<sup>5,9</sup> This resulted in repetition of language, findings, courses of care, outcomes, duration, and dosages. This type of note-capturing generates similar daily notes because of the electronically generated repetitive information. It failed to substantiate the care rendered.<sup>5</sup>

There are currently numerous EHR software programs available for the practicing doctor of chiropractic. However, it is unknown how the practitioner may know which EHR system is most appropriate for clinical documentation or how he or she should implement it for maximum utility. Therefore, the purpose of this paper is to review the literature of the current challenges of chiropractic EHRs and to provide suggestions for future direction.

## METHODS

The literature search was conducted from November 2014 through February 2015. STARLITE (sampling strategy, type of study, approaches, range of years, limits, inclusion and exclusions, terms used, electronic sources) search strategy with the terms *documentation, electronic health record, implementation, benefits, and challenges* was used<sup>10</sup> (Fig 1). The study included narrative reviews, commentaries, case studies, case series, surveys, clinical case studies, randomized controlled studies, governmental reports, and insurance company reports. The study also included reports on the progress of implementation of EHRs, quality of documentation, or experience in teaching facilities. The search was limited to the English language, and the databases searched were PubMed, Current Index to Nursing and Allied Health Literature, and Index of Chiropractic Literature. The search was further limited to articles directly applicable to small chiropractic offices and teaching clinics. Reference tracking was used to identify additional citations. Large national network or hospital studies, radiology- or laboratory-related studies, and studies that involved specific conditions were excluded because the implementation problems were not likely to be applicable to individual chiropractic practice or teaching facilities. The final results eliminated duplicates and those citations that were not relevant to the topics of interest.

## RESULTS

A total of 45 full-text articles from all databases were used. There were reports of implementation in small medical offices,<sup>11</sup> satisfaction with EHR systems,<sup>12,13</sup> and methods of importing the documentation content.<sup>14</sup> All of these reports indicated consistent problems that affected the quality of the documentation. Commentaries revealed the use and misuse of the documentation information generated by EHR systems.<sup>14</sup> One study looked at the sociological aspect of EHR systems and how it affected the quality of care.<sup>15</sup> This study provided insight into the doctor-computer-patient relationship, with the computer demanding more attention than the patient. The computer intervention resulted in the doctor missing nonverbal patient communication, resulting in a negative effect on quality of care. There were 10 governmental and private insurance reports found and 8 used. These reports reviewed the overall EHR system utilization rate and provided an overview of the trend. Common themes noted throughout the articles reviewed were difficulties in utilization of all the features of the new software, intrusive change in workflow, financial constraints on small office budgets, and imposition in the doctor-patient relationship, which often led to dissatisfaction in practice. There was inconsistent reporting on the effects of EHRs on changes in quality of care but consensus on the other issues.

An analysis of the utilization reports demonstrated an increase in health care utilization of EHRs over the past 14 years. Hing<sup>16</sup> reported that the national health statistics manifested 34.8% utilization by office-based physicians. This showed an increase of 91% over the 2001 statistics.<sup>16</sup> Use increased from 34% to 78% of office-based physicians in 2013.<sup>17</sup> Current usage in chiropractic has been estimated by Smith of the American Chiropractic Association to be only 33% of the profession, lagging behind other office-based physicians.<sup>18</sup> Electronic health record conversion from paper files increased over the past 12 years. Group practices were more likely to use EHRs (74.3%) than solo practices were (20.6%). A higher use rate of EHRs was found in multispecialty practices (52.5%) than in single-specialty (30.3%) or in non-hospital associated practices (20%) or nonacademic practices (14%).<sup>16,19,20</sup> To increase the utilization of EHRs for documentation, the 2009 American Recovery and Reinvestment Act included funding to promote their adoption by practitioners. As of March 2015, \$20 billion in incentives were provided to all provider types.<sup>16</sup> Of this amount, \$195 million has gone to chiropractic physicians, indicating that there is a growing percentage of federally qualified, meaningful use EHRs in chiropractic offices.<sup>21</sup>

The American Recovery and Reinvestment Act also directed health information technology to promote improved quality and efficiency of care and to reduce medical errors. Hospitals adopted EHRs, with 97% reporting possession of a certified EHR and 76% having adopted it

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