Improving Usability of Electronic Health Records for Whole Systems Integrative Medicine Practitioners

Helen Ye, MS, LAc,¹ Denise Bowden, LAc, MS,¹ Jennifer Ashby, DAOM, LAc,¹
Miria Toveg, LAc, MS,¹ Sanjay Reddy, MD,^{1,2} and Maria T. Chao, DrPH, MPA^{1,3}

Keywords: acupuncture, Chinese medicine, electronic health records, integrative medicine, information technology

ELECTRONIC HEALTH RECORDS (EHRs) are an essential aspect of health care systems that may improve interprofessional communication and quality of care.^{1–3} Integrative medicine (IM) services are increasingly offered in leading U.S. health care systems. Whole systems IM providers, such as Chinese medicine practitioners, who work in these settings are expected to use EHRs developed for conventional medicine. A prior study suggested EHR templates can be effectively adopted by complementary health practitioners to develop treatment plans.⁴ However, the study was based on five patient records from homeopathic practices that were retrospectively transposed into a standard EHR structure⁴ and, therefore, does not reflect the demands of real-time charting required in clinical practices. There are no established standards for EHR use for Chinese medicine practitioners. Educational programs typically use paper documentation based on the diagnostic framework of Chinese medicine during intake.

We reviewed templates available in Epic, one of the largest EHR systems in the United States, and found existing templates were ill suited for whole systems practices that use distinct assessments, diagnostic criteria, and language. Without specific IM-tailored templates, visit documentation may not accurately represent the contributions to patient care and outcomes, or reflect the level of professionalism encompassed by whole systems practices in the biomedical health care setting. Therefore, we sought to improve EHR documentation practices for Chinese medicine and IM practitioners and set standards for our team at a major academic hospital with four goals.

Goal 1: Create EHR templates for IM that can improve interprofessional communication between Chinese medicine practitioners and other providers. EHR documentation is the primary form of communication between practitioners in institutional health care settings. We created novel templates for common treatment plans and comprehensive charting for

inpatient and ambulatory settings with inclusion of typical Chinese medicine assessment questions, such as patient's experience of their body temperature, digestion, sleep, and emotional state. We also added information about existing IM programs and resources to strengthen referrals to and from other clinicians.

Goal 2: Add resources available within the EHR to enhance communication with patients about lifestyle recommendations common in IM visits. Our team selected key topics and supporting patient materials for recommendations on Chinese nutritional principles, anti-inflammatory foods, herbs and supplements, stress management tools, and self-care. High-quality images of select acupuncture points, along with descriptions of location and use, were also added to improve patient compliance with at-home recommendations, such as massage of specific acupuncture points. Resources are available to patients as part of the After Visit Summary and accessible through the MyChart patient portal.

Goal 3: Improve accuracy and efficiency of EHR documentation for Chinese medicine practitioners. In addition to charting acupuncture points used, we developed shortcuts for documenting a range of whole systems practices (e.g., cupping, electrical stimulation); common diagnoses; clinician hours and availability; and information on scheduling and billing questions. Epic-specific mobile app access, previously available only to physicians and physician extenders, was added for our team. This allows Chinese medicine practitioners to access the EHR by smartphone and directly upload relevant clinical information to patients' medical records (e.g., photographs of tongues).

Goal 4: Share this foundational work to support allied health professions at other institutions. Templates can be found in the Epic community library under the names "AMB UCSF Osher Acupuncture New Patient" and "AMB UCSF Osher Acupuncture FU Patient"; and content shortcuts are available from the authors upon request. Practitioners of whole systems

¹Osher Center for Integrative Medicine, University of California, San Francisco (UCSF), San Francisco, California.

²UCSF Division of Hospital Medicine, San Francisco, California.

³UCSF Division of General Internal Medicine, San Francisco, California.

medicine, such as Ayurveda, will be able to use some of the templates created as similar questions are used during intakes.

As EHR use becomes more prevalent in Chinese medicine and IM practices, professional and comprehensive documentation standards will increase accordingly. We developed materials to improve the usability of EHRs for Chinese medicine practitioners at UCSF, which are available to other IM practitioners through Epic EHR systems. Improving IM documentation in EHRs has additional benefits beyond our initial goals. It facilitates achieving auditing requirements, accurately represents IM practices, and provides increased coverage of risks and liability with embedded documentation in the templates. Utilizing standardized templates also provides research opportunities, including facilitating data abstraction for observational studies of whole system practices, IM practices in academic health care institutions, prospective quality improvement projects, and tracking longitudinal outcomes data. An important area for future development is to align these efforts with broader EHR initiatives on meaningful use and interoperability standards across EHR platforms.

Author Disclosure Statement

No competing financial interests exist.

References

1. Chase DA, Ash JS, Cohen DJ, et al. The EHR's roles in collaboration between providers: A qualitative study. *AMIA Annu Symp Proc* 2014;2014:1718–1727.
2. Kern LM, Barron Y, Dhopeswarkar RV, et al. Electronic health records and ambulatory quality of care. *J Gen Intern Med* 2013;28:496–503.
3. Nguyen L, Bellucci E, Nguyen LT. Electronic health records implementation: An evaluation of information system impact and contingency factors. *Int J Med Inform* 2014;83:779–796.
4. Smith K, Kalra D. Electronic health records in complementary and alternative medicine. *Int J Med Inform* 2008;77:576–588.

Address correspondence to:
Maria T. Chao, DrPH, MPA
Osher Center for Integrative Medicine
University of California, San Francisco (UCSF)
Box # 1726
San Francisco, CA 94143

E-mail: maria.chao@ucsf.edu