REVIEW

JOSEPH F. STYRON, MD, PhD
Department of Orthopedic Surgery, Cleveland Clinic

PETER J. EVANS, MD, PhD
Director, Upper Extremity Center, Cleveland Combined Hand Fellowship, and Peripheral Nerve Center, Department of Orthopedic Surgery, Cleveland Clinic

The evolution of office notes and the electronic medical record: The CAPS note

ABSTRACT

The advent of the electronic medical record (EMR) combined with an expansion of information required by medicolegal and billing departments has transformed the progress note from a succinct note into an often unwieldy data-dump unable to concisely convey the physician's medical reasoning. We describe a new note format—CAPS, which stands for concern, assessment, plan, and supporting data—to streamline the communication of the patient's problem, the practitioner's assessment and plan, and the medical reasoning to support the plan.

KEY POINTS

The CAPS format provides an advantage over the traditional approach by transferring potentially note-cluttering data that is available elsewhere in the EMR to the bottom of the note, allowing more efficient communication of the true purpose for the patient's visit, the diagnosis, and the physician's approach to resolving the patient's concern.

As healthcare systems allow patients to browse their electronic charts, the CAPS format shows them that their concern was heard accurately and clearly states the diagnosis and plan of care.

doi:10.3949/ccjm.83a.14191

Until the advent of the electronic medical record (EMR), patient charts were filled with handwritten notes documenting visits to the office and read in linear fashion, starting with the patient's perspective of the problem, then the objective findings of the physical examination, supporting objective data, and finally, the physician's assessment and treatment plan.

The reliable subjective, objective, assessment, plan (SOAP) approach to notes first advocated by Lawrence Weed in the 1960s did a remarkable job of conveying the physician's thought process, supporting data, and conclusions.[1,2] The notes were brief by necessity, as the physician did not want to spend time writing extraneous information.

In the age of the EMR, large quantities of data are included in the patient notes that have no connection to or do not clearly convey the physician's thought process. In 2013, 78% of office-based physicians were using EMRs, an increase from 18% in 2001 and an adoption rate accelerated by federal government policies.[3,4] But many physicians still do not feel competent reading or writing notes in an EMR and still prefer to read succinct narrative notes.[5]

This problem is not unique to seasoned physicians. Medical students are also failing to learn how to appropriately document office visits in the EMR, as 52% of medical schools prohibit them from writing in patient charts.[6]

As a result, we believed that a reassessment of Dr. Weed's problem-oriented approach to the medical record was required to streamline the EMR and facilitate the way information is conveyed between providers of the patient's

care. Too often, large quantities of laboratory, radiographic, and pathology results are dumped into the record, burying pertinent information about the physician's thought process, assessment, and evaluation and treatment plan and making it difficult to quickly and efficiently determine the plan.

We recently adopted an approach to office notes that is a modification of the SOAP note. While physicians often gather subjective, objective, and laboratory information to deductively formulate a diagnosis, it is not necessary to document it in the traditional deductive format in the EMR when the information is readily accessible in other areas of the record. Furthermore, a deductive format in the modern EMR produces excessively lengthy notes that require pages of screen scrolling to find the key elements required for effective patient care. This is time-consuming and is a daily obstruction to patient care.

The format that we have been using for almost 10 years still allows the physician to adhere to the problem-oriented medical note philosophy. We call it the CAPS note, which stands for concern, assessment, plan, and supporting data. This approach allows others involved in the patient's care to efficiently extract critical components (assessment and plan for a specifically stated problem) while still allowing the inclusion of supporting data for reference and for coding and billing.

The structure of the CAPS note is:

- **Concern:** The primary purpose of the patient's visit, including the history of the present illness, as conveyed by the patient, and the current status of the concern.
- **Assessment:** A succinct definition of the patient's concern along with an accompanying medical diagnosis.
- **Plan:** The clinician's immediate and long-term intentions for addressing the patient's concern or condition.
- **Supporting objective and subjective information:** All supporting objective data, starting with the physical examination, then the results of laboratory and radiographic tests, and any other information that contributed to the clinician's medical reasoning. Then, subjective information is included, such as the patient's past medical, surgical, family, and social histories; current medications; allergies; and a comprehensive review of systems.

This structure keeps the most important information at the top when the encounter is opened on the computer screen and eliminates the need for unnecessary scrolling and searching, not to mention frustration and delays in patient care. Other less pertinent information appears toward the bottom of the record.

THE APSO NOTE VS THE SOAP NOTE

Frustration over the difficulty of finding the most pertinent information in the EMR—the assessment and the plan—has led others to propose a rearrangement of the traditional SOAP note. The APSO (assessment, plan, subjective, objective) note[7,8] was created for inpatient daily progress notes, a situation in which the patient's concern is unlikely to change dramatically on a daily basis and was not intended for use in outpatient clinics.[8] While the APSO format does allow colleagues rapid access to the physician's assessment and plan, it abandons the patient-centered approach of Dr. Weed's problem-oriented medical record in that it makes it more difficult to find why the patient initially sought care, how long the patient has had the problem, or if there were prior attempts to treat it. These critical details are buried in the bowels of the note.

Large quantities of information are dumped into the record, burying pertinent information

The advantage of the CAPS note (**Table 1**) is that it retains the patient-centered, problem-oriented spirit of the SOAP format, while moving potentially supportive yet distracting data fields to later in the note. Thus it is applicable to inpatient and outpatient settings.

In the inpatient setting, the fields remain in the same order, but the chief complaint is often the admitting diagnosis or surgical procedure, followed by a quick line on the interval history. The assessment and plan can then follow in much the same way as it would in the outpatient setting, and below that are the patient's daily laboratory results, radiographic studies, physical examination findings, and any other relevant supporting data. This format allows rapid access to critical information needed by either consultants or cross-covering practitioners who primarily want to know why the patient was admitted, the status, and the primary team's plan.

TABLE 1

Comparison of medical note formats

Format	Structure
SOAP	**S**ubjective information Chief concern History of present illness Patient's medical, surgical, family, social history **O**bjective information Physical examination Laboratory and test data **A**ssessment **P**lan
APSO	**A**ssessment **P**lan **S**ubjective information (as above) **O**bjective information (as above)
CAPS	**C**oncern Patient's chief concern History of present illness, injury **A**ssessment Diagnosis with clinical reasoning **P**lan Itemized list of actions to address patient's concerns and condition **S**upporting information (objective and subjective) Vital signs and physical examination Results of laboratory, radiographic, other tests Comprehensive review of systems Patient's medical, surgical, family, social history Current medications Allergies

ANY TEMPLATE HAS LIMITATIONS

Any standardized template for progress notes in the EMR has limitations. The CAPS format would be easier for a hospital-based physician, who typically addresses one or a small number of concerns, than for an office-based general practitioner who may have to address a multitude of comorbidities in a single visit.

Also, different physicians use the EMR differently. For example, a survey of 1,088 physicians found that 60% of primary care physicians used templates (60%) vs only 34% of specialists, and that 38% of specialists relied mainly on dictation.[9]

The CAPS approach to the office visit note offers a blend of a template and free text, either typed or dictated, while keeping a structured format that permits others participating in the patient's care to easily extract desired information. The template can easily be brought up in the patient's chart, then by either typing or using voice-recognition software, the patient's chief complaint, history of the present illness, assessment, and plan can be easily completed.

The CAPS format should continue to allow notes to fulfill medicolegal and billing obligations, but without cluttering true clinical reasoning. As more institutions adopt an open-notes policy, permitting patients to freely browse their own medical records, patients will benefit from a clearly structured clinical note that focuses on their problem and the practitioner's solution. This provides patients a sense of validation and reassurance that the note starts with their concern and history, followed by the practitioner's assessment and plan, so they can easily affirm that they were accurately heard and can identify the diagnosis given to them by the medical practitioner and the plan moving forward.

Since a return to succinct, albeit often illegible, handwritten clinic notes is impossible, our proposed method of documenting a clinic visit embraces the EMR with a concise yet comprehensive clinic note.

REFERENCES

1. **Jacobs L**. Interview with Lawrence Weed, MD—the father of the problem-oriented medical record looks ahead. Perm J 2009; 13:84–89.
2. **Cameron S, Turtle-Son I**. Learning to write case notes using the SOAP format. JCD 2002; 80:286–292.
3. **Hsiao CJ, Hing E**. Use and characteristics of electronic health record systems among office-based physician practices: United States, 2001-2013. NCHS Data Brief 2014; 143:1–8.
4. **Centers for Medicare & Medicaid Services (CMS)**. EHR incentive program. www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Basics.html. Accessed April 28, 2016.
5. **Han H, Lopp L**. Writing and reading in the electronic health record: an entirely new world. Med Educ Online 2013; 18:1–7.
6. **Hammoud MM, Dalrymple JL, Christner JG, et al**. Medical student documentation in electronic health records: a collaborative statement from the Alliance for Clinical Education. Teach Learn Med 2012; 24:257–266.
7. **Shoolin J, Ozeran L, Hamann C, Bria W 2nd**. Association of Medical Directors of Information Systems consensus on inpatient electronic health record documentation. Appl Clin Inform 2013; 4:293–303.
8. **Hahn JS, Bernstein JA, McKenzie RB, King BJ, Longhurst CA**. Rapid implementation of inpatient electronic physician documentation at an academic hospital. Appl Clin Inform 2012; 3:175–185.
9. **Pollard SE, Neri PM, Wilcox AR, et al**. How physicians document outpatient visit notes in an electronic health record. Int J Med Inform 2013; 82:39–46.

***ADDRESS**: Joseph F. Styron, MD, PhD, Department of Orthopaedic Surgery, A41, Cleveland Clinic, 9500 Euclid Avenue, Cleveland, OH 44195; styronj@ccf.org*