"The Note is Dead, Long Live the Note": Assessing the Past, Present, and Future of Medical Charting

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Abstract

The medical note is a crucial tool for health care providers to manage longitudinal patient care, communicate with each other, and accumulate information for billing purposes. However, recent developments in medical charting perspectives and practices have detracted from the value of the medical note. Studies suggest that the administrative burden of medical documentation reduces the time available for physician-patient interaction and contributes to physician burnout. Some potential solutions to improve the medical note include reordering its framework, streamlining it to include only pertinent information, and involving patients in note-writing. While the effectiveness of these proposed interventions remains to be seen, we must find a way to make the medical note an asset for health care providers rather than a liability.

The medical note, often referred to simply as the "note" by healthcare personnel (HCP), is an oxymoron. On one hand, it is the culmination of 4,000 years of medical progress and innovation; the ability to distill vast amounts of information into a digestible plan for patient care and the furtherment of knowledge (Gillum, 2013). On the other, it represents a major factor contributing to inefficiencies, HCP burnout, and the monetization of medicine (Robertson, Robinson, & Reid, 2017). This dichotomy has been amplified by the adoption of electronic health records (EHRs) this century. As the first generation of physicians exclusively trained on these systems enters the workforce, it will be our responsibility to realize its potential, so that successful patient care is aided by the note, not hampered by it.

Charting, or the act of medical record keeping, was first documented in the west during Egyptian antiquity, where surgeons dictated case reports on papyrus scrolls. This practice continued with Hippocrates, whose case histories were copied and translated for didactic use throughout Hellenistic Greece and eventually medieval Europe and the Middle East. Modern medical charting began in the mid-18th century, where the shift from documenting subjective symptoms to quantitative physical exam findings allowed physicians to test hypotheses regarding disease etiology and treatment efficacy. Later, Walter Cannon leveraged the case files system used at Harvard Law School to create

a standardized template with specific sections for each aspect of the patient's current and past medical history. Adoption of a standardized template gained traction throughout the 20th century, as private hospitals and government bodies instituted regulations to aid in organization of the vast amounts of data collected. This not only helped advance care but also the management of billing. This process was amplified in the 21st century with the introduction of EHRs, which provided limitless storage and streamlined the ability to share and distribute information (Gillum, 2013).

As the note evolved, so did its purpose. While initially devised as a means for HCP education, it is now used to manage longitudinal patient care, improve transparency across providers, aggregate and analyze data for research purposes, and accumulate information for billing and operations. These adaptations were due in part to the expanding knowledge base of physicians, but also the interconnectedness of the healthcare system. To maximize efficiency while simultaneously serving these multiple purposes, Larry Weed, professor of medicine and pharmacology at Yale University, designed a reproducible note format that has since gained wide adoption (Podder, Lew, & Ghassemzadeh, 2021). Termed the SOAP note, it is broken down into four parts, where the HCP can detail the Subjective and Objective aspects of the patient's complaint as well as their own Assessment and Plan. Using this order, physicians can methodically document the patient's chief concerns,

associated symptoms, and findings prior to developing a treatment strategy. Weed believed that standardizing the format would improve efficiency, reducing the actual time required to write and review each note (Podder, Lew, & Ghassemzadeh, 2021). Studies show that HCPs read standardized notes on average 0.9 minutes faster than their non-standardized counterparts (Hultman et al., 2019). In practice, however, inefficiencies still exist.

A long-standing issue of concern of the SOAP note is the order. Although the methodical framework used to arrive at a diagnosis and treatment is invaluable for the initial HCP, it is often redundant for subsequent HCPs to undertake the same exercise. This bears out in practice, where HCPs prioritize their colleague's assessment and plan over all other aspects of the note, except for the patient's chief complaint (Hultman et al., 2019). This leaves HCPs at a crossroads, review the entire note and waste time reading extraneous information or attempt to find the relevant information by scrolling through blind. It is this reasoning that numerous authors have suggested amending the order of the note to prioritize the most actionable aspects, its assessment and plan (Hultman et al., 2019) Recent studies have shown that despite the inconvenience of learning a new format, physicians not only read notes faster when the A and P come first, but they prefer this format as well (Hultman et al., 2019; Lin et al., 2013). However, shifting the format also has disadvantages. By beginning with a colleague's assessment and plan, an HCP

may be inclined to completely skip the subjective and objective or refrain from conducting their own. If those portions of the original note were not comprehensive and accurate, this could lead to a reduction in patient care. Still, as the administrative burden on HCPs continues to grow, there has been increased pressure to shift the structure of the note.

Beyond its order, another limitation of the modern note is the sheer volume of information included, which has been magnified by the adoption of EHRs. Whereas previous iterations of the note were limited by the physical space available for filing purposes, introduction of digital record keeping has provided a means of practically limitless storage. Although this provides the opportunity to pen a comprehensive and holistic picture of each patient, the process of documenting this information requires more time to both read and write the note. HCPs must often comb through pages of documentation for the relevant pieces of information they need. This added work placed on physicians has led to increased time spent on the computer, often at the expense of face-to-face patient interaction (Street et al., 2018). Studies have shown that for every 3 minutes spent with a patient, 1 minute is required for clerical work, the majority of which is allocated to charting (Ammenwerth & Spötl, 2009). Not only does it reduce face-time with patients and their families, but a 2013 poll of residents found that 73% reported compromise in patient care due to the administrative burden (Christino et al., 2013). Furthermore, many physicians

cite charting as one of the chief contributors to burnout and reduced satisfaction with the profession (Robertson, Robinson, & Reid, 2017). Given that most of the information included in the note is also included elsewhere in the EHR, these issues may be solved by streamlining the note to only include pertinent information. To do that, however, a consensus would need to be reached regarding what qualifies as 'pertinent', less the issues with a non-standardized format appear. Another limitation is its inability to convey changes over time. To provide information longitudinally, providers must typically read successive notes, which only increases their time burden. Some have suggested amending the note to include a section that addresses the success of previous plans, thereby reducing the need to review previous notes (Podder, Lew, & Ghassemzadeh, 2021; Lenert, 2016).

These inefficiencies extend beyond direct HCP patient interaction, and likely account for a large proportion of wasted healthcare spending. A review of 54 peer reviewed publications estimated that over $265 billion dollars are wasted in the US healthcare system each year due to administrative complexity, which includes costs associated with billing, coding, and physician administrative burden (Shrank et al., 2019). This burden is multiplied when taking into account the note's role as a tool for documentation. By recording the physician-patient interaction, the note has become an essential tool for medical billing, which further incentivizes hospital

administrations to demand detailed charting. This added pressure contributes to the cycle of increased administrative responsibilities, rising healthcare costs, and HCP burnout. Factor in the medical-legal role the note plays, and the administrative stress placed on physicians to correctly chart jeopardizes their ability to use the note for its original purpose, HCP education and patient care.

HCP burnout and administrative burden are heavily researched areas within healthcare and attempts to streamline the note while retaining its core qualities is continually ongoing. A unique solution that has gained support is patient contribution to notes. By having patients provide a self-stated HPI prior to their visit, they may complete the subjective portion and reduce the burden on their providers (Mafi et al., 2018). In limited trials, 93% of HCPs thought patient generated HPIs was a good idea, and 70% incorporated them into their notes (Walker et al., 2021). Although the HCP would still need to go through the exercise of devising an assessment and plan, it would reduce the time required to document the information. This would only be worthwhile if the self-stated HPI reduced HCP burden and didn't require additional rework so that it could be incorporated into the record. Despite the potential efficiencies, self-stated HPIs also present legitimate concerns; specifically, reducing physician-patient interaction and negatively impacting care. Medical students spend years learning how to elicit pertinent information during patient visits, therefore it may be a stretch to assume that patients can provide the necessary information for HCPs to reach a correct diagnosis. Furthermore, gathering a history is a core aspect of the patient encounter and essential to building a rapport, removing that aspect of the interaction may further depersonalize the physician-patient relationship. Successfully implementing self-stated HPIs may require a detailed template with examples, which unfortunately, may be a large barrier to entry for some patients.

The US healthcare system cannot afford for the note to die, however for it to truly succeed, the note must evolve. The future of the note requires a patient centric document that can accomplish its various responsibilities without the baggage of its 21st century forebearer, and it will be the responsibility of the next generation of physicians to put it into action. The aforementioned solutions are not perfect, and continued research must be done to optimize the note such that the administrative and clerical responsibilities of charting do not jeopardize the health of HCPs and their provision of care.

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