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Make Your Problem List Wiki Wiki

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A wiki (/wik-ee/) is a technology that allows a community of on-line collaborators to add and edit the content of a webpage using a simple user-friendly interface. The content of a wiki is posted immediately without further review. Wikipedia, "the free encyclopedia," is created and maintained using wiki technology. Its success as a knowledge management tool is hard to overstate with more than 4,062,639 current articles. In contrast, medical professionals generally regard Wikipedia with skepticism. We are accustomed to scholarly peer-reviewed literature in which the author and his or her credentials are clearly identified. That skepticism should be balanced, however, by the reality that bits of information from different vantage points accumulated in one place will paint a more diverse, accurate, and current account of the subject.

Wiki for medical care? Really? The current generation of learners is, and should be, castigated for using sites like Wikipedia as a medical reference. Yet, we boldly suggest that the wiki approach can effectively be applied to electronic medical documentation.

We know that in order to make optimal medical decisions, physicians must understand the unique disease experience of a patient. This includes the patient's risks factors, early manifestations of illness, and evaluation establishing the diagnosis, treatments, and responses. We also need to know what information was provided to the patient, including his/her decisions and preferences. Without this patient-centered understanding, we are prone to management errors. Unfortunately, the vast amount of data in a modern-day medical record, whether paper or electronic, promotes information overload that results in losing the forest for the trees. Furthermore, key elements of a patient history must be quickly ascertained before meeting with a patient and making management decision.[1,2]

Traditionally, we have captured these key elements as narratives in our progress notes. These progress notes have served us well over the past 40 years but are proving inadequate in a shared medical ecosystem. In a paper chart, progress notes disappear from sight as they form deeper and deeper sediment layers. In electronic record systems, they vanish into giant spreadsheets with hundreds of rows. As a consequence, many clinicians fail to look back more than a couple of notes in the record.

The problem in both the paper and electronic record includes information storage based on the source of information and the narrative that is buried in notes that are rarely if ever read. Progress notes are stored in the "notes" tab, labs in the "lab" tab, and X-rays in the "imaging" tab. This results in the navigation of six to seven screens as we struggle to reconstruct the patient's story; furthermore, this exercise is performed at each encounter. We believe there is a better way. Let's take a fresh look at our documentation process with the new documentation tools available in an electronic medical record. With some creativity and courage, something much better than the traditional progress note can be developed.

Two electronic medical record tools to explore in more depth are the shared problem list and the "wiki" functionality that accompanies the problem list. Ironically, we can look to the originator of the SOAP note, Lawrence Weed, for guidance. In his visionary writings of more than 40 years ago, Dr. Weed described standards for what should exist in a problem list. He wrote that the list should include both active and inactive problems and information on a patient's social and psychiatric status. The list should be concise and practical. Problem list entries that are the result of one parent condition should be consolidated to keep the list concise (e.g. advanced cirrhosis in place of ascites, edema, encephalopathy). Dr. Weed also described including signs and symptoms of disease on the list but stated that these should be refined as conditions are better understood (e.g. "chest pain" changed to coronary artery disease after heart catheterization confirms stenosis). If a community of health care providers chooses to manage a problem list using this shared approach, our efficiency and ability to coordinate care will be greatly enhanced. Dr. Weed's vision also included a common approach to managing the details associated with each problem. Unfortunately, his ideas have not yet been completely realized.[3]

We now have a new opportunity. Electronic medical records can be configured to provide wiki functionality. Simply defined, a wiki is a software application that allows a community of users to freely create and edit the content of a shared web page. It has been a profoundly successful tool on the Internet to maintain up-to-date and informative web content, with Wikipedia being the most well-known application. Topics and their associated content

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are constantly under scrutiny with additions and edits being made as new knowledge is gained. Could we use the same conceptual ideas in the medical chart to manage a patient's medical story? Many electronic medical records allow the creation of a problem list-associated free-text field, allowing users in a community to document additional details of each problem. In an ideal system it would allow easy editing and even include the ability to link to other documents in the record and import images such as ECG strips, X-rays, pathology images, and photographs. An ideal overview for each problem would synthesize content from all the various sources of the chart and allow users to quickly understand the condition in a patient-centered manner.[4]

The proposed content of a problem list overview could include treating physicians, condition onset, goals of therapy, basis for the diagnosis, status of the condition, resulting disabilities, subjective and objective findings (including treatments with associated responses), next steps in evaluation and treatment, and complications to watch for. As an example, the overview associated with the problem polymyalgia rheumatica in a 65-year-old man might read: "Shoulder and hip pain with morning stiffness developed at age 62. Sedimentation rate at the time was 90, and he experienced a prompt response to prednisone 20 mg. Goal is to wean steroid to lowest tolerated dose. Symptoms have recurred at doses below 7 mg. Current functional status remains good, and condition considered controlled. Monitoring for signs/symptoms of temporal arteritis. Followed primarily by Dr. Smith, Rheumatology." Not all conditions on a problem list

would require all of these proposed elements. However, conditions that have an extended natural history and include various diagnostics and treatments lend themselves particularly well to this approach. We should consider these elements when creating overviews for cancer, heart disease, mental health, and other chronic disease states. It also would work well for conditions that are not fully defined and require a team of individuals to coordinate efforts in establishing a diagnosis and treatment plan (e.g. abdominal pain and weight loss).[5]

Several barriers would need to be overcome in order to establish this Wiki problem list as the focus of the medical record. There would need to be consensus, extending from clinicians to all levels of academic medicine. The inherent discomfort of allowing multiple users to edit such an important medical document must be overcome. This would include moving away from the notion, taught to us by lawyers in regard to paper records, that documents cannot be deleted but only crossed out and initialed if subsequently found to be in error. It would also include acknowledging that some potential editors may be less conscientious stewards of what is placed in the problem lists than others. One new focus of professionalism could be teaching that great care and responsibility should be applied to editing problem lists so that errors, redundancies, and sloppiness are avoided as much as possible. There might even be required training before users obtain electronic record authority to edit problem lists, and there will undoubtedly be discussions as to which medical providers and staff should be authorized to do this.[6]

We have a challenge ahead of us to improve the utilization of the vast amounts of data available in the electronic medical record for improving patient-centered medical care. Establishing a Wiki-managed problem list with associated free text overviews as the focus of the medical record would be one approach to realizing this goal. It is up to us to overcome the barriers to this goal and establish this managed problem list as an engrained part of our medical culture, along with the history and physical and SOAP progress notes.

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