The Problem List beyond Meaningful Use: Part I: The Problems with Problem Lists

By Casey Holmes

The meaningful use program requires that problem lists in the EHR use a common dictionary through coding. It is a good first step in boosting the usefulness of problem lists, but getting to the next level will be a harder challenge-agreeing on standardized content and use.

Last month the federal government launched its meaningful use program, based around a set of standards designed to ensure that healthcare providers adopt electronic health records (EHRs) that can produce better health outcomes. One criterion focuses specifically on the problem list and requires eligible providers and hospitals place all patients on a common dictionary through coding. A common dictionary will help facilitate future decision support tools and prepare the problem list for upcoming health information exchange.

While a coded platform will be a step in the right direction, it unfortunately will not be enough to create problem lists that fully support the needs of modern medicine. Currently, the content and use of today's problem lists varies widely from practitioner to practitioner, and this diversity can compromise patient care. The future of the problem list needs to move beyond coding to standardization of content and utilization.

Why Is the Problem List Important?

The problem list was originally created by Lawrence Weed in the 1960s as part of his recommendation for a problem-oriented medical record.[1] A simple idea, the problem list soon became a commonly accepted part of the medical record and is used in most EHRs today.

At a high level the problem list states the most important health problems facing a patient. While the basic structure of the problem list varies widely by healthcare organization, at its core, the problem list includes a patient's nontransitive diseases.

The problem list offers four major benefits to patient care. In the office, the problem list helps practitioners identify the most important health factors for each patient, allowing for customized care. Beyond the patient visit, the problem list can be used to identify disease-specific populations. It is easy to run data analysis and find all patients with a common illness through coded problems in an EHR. This application can be particularly useful for quality improvement programs. For instance, health centers conducting quality improvement efforts can rely on problem lists to identify their disease-specific patient populations, provide follow-up care, and ensure all patients are receiving care that meets best practices in treatment.

The problem list also can be the basis for determining standard measures or report cards in healthcare for both individual practitioners and healthcare institutions. Practitioners and healthcare organizations are often judged by treatment statistics that involve a certain percentage of patients receiving recommended tests and treatments. The problem list can provide the denominator for these statistics. Finally, the problem list can be used to identify patients for potential research studies.

Unfortunately, the exclusion of a diagnosis from the problem list comes at the expense of the patient. If Dr. Smith forgets to add asthma to Sally's problem list, the nurse practitioner may not identify Sally as a higher risk patient when she comes in with a cough or fever. The quality improvement effort at the healthcare center then passes over Sally, and she never is reminded to come in for an annual check-up with her pulmonologist. When evaluating the center's quality of care, Sally's inadequate treatment is not included, leading to a missed opportunity for the organization to identify an area in need of improvement. Sally also misses out on a new research study that offered free medications because she was never identified as a potential

candidate. Although a tiny part of the landscape in the medical record, the problem list can play a significant role in patient care.

What Should Be on the Problem List?

If asked to define the problem list, practitioners would likely give similar, but not identical, responses. For instance, practitioners at a Boston-area health center said:

- "The problem list is for nontransitive illnesses."
- "A problem is anything ongoing or active that I'm working on with the patient."
- "The problem list is a place to have a summary of the most important things about a patient."

While these definitions show a common ground, each contains its own scope of what problems should be included or excluded.

The first quote points to a more conservative version of the problem list that encompasses only past and existing diagnoses. This is the official definition used in the federal meaningful use program.[2] As such, the conservative problem list likely will become the most prominent version nationally.

In comparison, the second and third statements indicate a much broader view of problem lists that includes expanded categories such as undiagnosed symptoms, hospitalizations, surgeries, and social and family histories.

Both the comprehensive and expanded versions have their respective pros and cons. The argument against the expanded problem list is lengthiness, which makes finding the most important facts quickly difficult. On the other hand, the expanded problem list allows practitioners greater leeway to include personalized content for each patient. For example, if a practitioner sees a patient with a significant fear of doctors, that practitioner may choose to place "afraid of doctors" on that patient's problem list to ensure that if the patient is seen by another practitioner at that healthcare organization, the clinician will be alerted to the issue and act with extreme sensitivity. While "afraid of doctors" is not an ICD-9-CM–coded problem, in this scenario it was the most important fact about that patient for providing high-quality care.

Currently the scope of problem lists is largely determined by the structure of a healthcare center's EHR and the judgment of its practitioners. With trade-offs in patient care for both small and large scopes of the problem list, this is one area where practitioners will strongly disagree.

What Are Worthy Problems?

Beyond the broad categorical determinants, another major point of debate concerns what diagnosed illnesses are worthy of the problem list. Currently the decision of which problems are included or excluded remains largely the determination of practitioners. While one practitioner may argue that chicken pox is a relevant problem for assessing risk for shingles and the need for a chicken pox vaccination, another practitioner can debate that its inclusion adds little value and clutters the list.

The inclusion of an illness on the problem list likely will vary by patient as well. Exercise-induced asthma will be important information about a patient on several asthma medications, but it may not be important if the patient is not seeking treatment, takes no related prescriptions, and is not affected by the illness in his or her daily life. Long-term undiagnosed symptoms also fall within this difficult category. A patient may complain of a cough for years but have no clear diagnosis. Under a conservative problem list structure, the physician would not add "persistent cough" because it is not a nontransitive illness. Yet, if that patient is admitted to the emergency room, such information could be a key clue for determining treatment.

Due to the complexity of deciding which health concerns should and should not be included, most healthcare organizations have left these decisions to their practitioners. As a result, in a shared record system practitioners often run across many different styles of problem lists, some of which differ greatly from Lawrence Weed's original vision. For example, misuses of the problem list include documenting patient treatments or tests, such as the date of the patient's last abnormal Pap smear.

While ideally every possible clue to a patient's health could be noted on a problem list, comprehensibility quickly becomes an issue particularly as a patient gets sicker. For relatively healthy patients, problem lists limited to nontransitive illnesses are typically less than five items. For unhealthy patients with an expanded version of the problem list, the document can grow to 30

or more lines of text, making a clear and quick understanding of the patient's health nearly impossible. Completeness versus length is currently decided by the personal preferences of practitioners and will be one of the hardest compromises to find in any standardized problem list.

Managing Sensitive Information

Another debate surrounding problem list content is inclusion of information on highly sensitive issues that may not be need-to-know for every healthcare professional. Healthcare organizations that include a behavioral health division, for example, must determine how much behavioral health information should be shared across the entire organization. Some organizations will restrict the psychiatrist's notes to the behavioral health department but still list all prescription drugs and patient visits in the common pool of information within the EHR. This method typically gives enough information to a primary care physician or emergency room practitioner to indicate that underlying behavioral health issues exist, but without going into specifics.

At organizations without an official policy, the decision is left to the personal judgment of the practitioner. As the problem list is rarely filtered, the information can be viewed by most departments within the organization that have EHR access. While a specific diagnosis may be helpful in an urgent care situation, it may not be need-to-know information for the patient's allergist. Organizations must carefully consider state and federal patient privacy requirements. Failure to incorporate patient privacy rules into the design of the problem list may cause inadvertent privacy breaches. Therefore, healthcare organizations must clearly define what problems should be included or excluded on a problem list in order to maintain appropriate confidentiality of patient data.

Case in Point: Recommendations for Achieving a Coded Problem List

While moving to a standardized problem list needs to be considered, first healthcare organizations will need to meet meaningful use criteria around problem lists. Participants in the program are required to maintain an up-to-date problem list of current and active diagnoses based on ICD-9-CM or SNOMED CT codes. To comply, at least 80 percent of all unique patients seen by eligible providers must have at least one entry (or an indication of none) recorded as structured data.

While many providers have adopted EHRs that feature coded problem lists, those who rely on free text face a relatively large challenge in shifting their practitioners' behavior to a structured format. In the summer of 2010 a Boston-area health center that primarily engages in outpatient care conducted a study to determine how to best increase its use of coded problems. Following are the main recommendations the organization identified:

- **Create a "healthy" code:** The health center sees a significant number of patients with no listings in their problem lists. It is difficult to tell whether "no problems" means a patient is healthy or that the problem list is incomplete. Creation of a healthy code will help clarify the record and boost coding of problem lists over time.
- **Make the selection of coded problems more robust:** Analyze the most common free-text terms and make sure they are available as codes. The health center found GERD, osteopenia, and osteoporosis were missing from the dropdown menu of coded terms for the problem list. Further, the center deleted unused terms from the menu to keep the length of the menu manageable.
- **Automatically translate uncoded problems into their equivalent coded problems:** Another option is to translate free-text terms such as GERD into their coded counterpart. Concerns exist over proper translations, particularly of practitioners' personal abbreviations.
- **Conduct problem list training focused on coding:** During interviews with practitioners, it was found that some did not know that a "Promote to Problem List" button existed on the diagnosis page within the encounter note. Training even on the simple functionalities, such as adding or deleting problems to the problem list, could make a big impact on the completeness of both the problem list and the use of coding.
- **Decide on standards for content and utilization:** Clinical leadership must decide on the standards for how the problem list should be used. This includes the involvement of the medical records committee to determine questions such as who is responsible for the problem list and what it should include. Through

standardization, the impediments to coding can be further addressed, and the use of problem lists can be promoted.

- **Create a warning when free text is entered:** If a practitioner does use free text in the problem list, an alert reminding the practitioner to use a proper code or, even better, a warning that detects the coded equivalent to the problem, would help eliminate unnecessary free text.
- **Integrate SNOMED coding language for use in problem lists:** Currently, the health center uses ICD-9-CM in its diagnosis search. Practitioners noted that many of the terms are not intuitive and thus are difficult to find. Some systems are capable of searching through both ICD and SNOMED dictionaries and then, based on the selected diagnosis, map to the organization's preferred coding terminology. Dual dictionary use could help increase coding the problem list, as problems are often generated from the diagnosis during the patient encounter. Such a system would ease practitioners' search for the right descriptor for the problem.
- **Integrate search option by vernacular language:** Adding search boxes that map vernacular terms to their appropriately coded problem counterpart would ease the use of coded terms in the problem list.
- **Move the option for free text to a "less convenient" location:** At the health center, the option for free text on the problem list is front and center. Moving the button to a less convenient location within the problem list page will help practitioners consider using the coded terms before taking the easier free-text route.
- **Allow every diagnosis to be "promotable" to the problem list:** Currently at the health center, only a selection of problems are promotable to the problem list from the diagnosis page. Without organizational defined limits on what should or should not be on the problem list, practitioners should have the option to promote (and consequently code) any diagnosis to the problem list.
- **Create feedback mechanisms:** Create a system that allows practitioners to know their use of coding in the problem list and their consequential goal for coding. This mechanism can be layered on top of feedback about overall utilization and accuracy of problem list content.
- **Gain support of clinical leadership:** No massive changes will occur among practitioners without the support of the clinical leadership. Gaining support will be key in promoting greater usage and coding of problem lists. Following on the analysis of the current problem list usage data, the health center's next steps were to present the findings to the medical records committee and gain support for implementing some recommendations or requirements for practitioners to code problems.

Specificity of Diagnosis

While coding may give the problem list a common dictionary, EHRs are often designed to allow organizations to map a code to their own terminologies. Therefore, organizations have a choice in the level of precision they want to use for the terms on their problem lists. This decision will ultimately affect the efficacy of the problem list for relaying significant amounts of information quickly.

For example, a patient diagnosed with type II diabetes could be given the ICD-9-CM diagnosis code 250.00 in the patient encounter. If this diagnosis code is then promoted to the problem list, the hospital could program the EHR to list code 250.00 as "DM," "Diabetes," "Diabetes Type II", or "Diabetes Mellitus Type II" on the actual problem list. While using the more detailed description of the disease is most precise and relays the greatest amount of information, the full description of the disease can also clutter the list and may not actually be any more useful to the practitioner than the acronym.

This debate over precision is further exacerbated by the variety of needs of different practitioners. The descriptions and terms a specialist may prefer are not necessarily easily understood by the rest of the medical community. Further, as medical records become accessible to patients through online portals, healthcare organizations will need to consider how to make problem lists both comprehensible to the patient while maintaining their usefulness to the practitioners.

Finally, the use of ICD-9-CM billing codes as the backbone to problem list coding comes with its own set of issues that could potentially dilute the accuracy of problem lists. Often problems are promoted to the problem list via billing diagnosis codes selected during a patient visit for insurance purposes. These diagnosis codes often do not reflect clinical information as it is most relevant to providers. Common mistakes include under coding, where practitioners select a diagnosis that is less precise

than actually assessed; over coding, where practitioners select a diagnosis that is more precise than assessed; and coding the symptom instead of the disease.

These types of mistakes can lead to a cluttered problem list. Just as practitioners differ in the specificity of codes they choose, they also have the option to promote different codes to the problem list that reference the same disease. Under such a situation, the problem list becomes redundant and consequently less useful to practitioners.

The continuation of incorrect coding practices ultimately undermines the accuracy of the problem list. This is a significant complication to consider in addressing the precision of language in the problem list.

No Clear Solution

Many areas of disagreement will arise in any conference to create standards for the problem list. There is no perfect answer for the question, "What is a problem list?" What could save a life in the emergency room might embarrass a patient in the primary care provider's office. While the problem list appears to be a simple administrative document, it is full of complexities, and the diversity in opinions over content is why healthcare organizations are so tentative about addressing the problem list in anything but broad strokes.

Part 2 of this article will appear in the March issue. It will discuss the value of a standardized problem list and propose solutions for easing its implementation through EHRs.

Notes

1. Weed, Lawrence L. "Medical Records that Guide and Teach." *New England Journal of Medicine* 278, no. 11 (1968): 593–600.
2. Department of Health and Human Services. "Health Information Technology: Initial Set of Standards, Implementation Specifications, and Certification Criteria for Electronic Health Record Technology; Final Rule." *Federal Register* 75, no. 144 (July 28, 2010). Available online at http://edocket.access.gpo.gov/2010/pdf/2010-17210.pdf.

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