

AHIMA THOUGHT LEADERSHIP SERIES

Problem Lists in Health Records:

Ownership, Standardization,
and Accountability

The problem list must be a dynamic section of the health record, used primarily for the provision of care. Examples of problems include health, psychiatric, nursing, dental, social, and preventive care. In addition, important events are often listed in the problem list, such as procedures, allergic reaction, complications from treatment and so on.

In July 2010, the United States Department of Health and Human Services (HHS) issued a final rule on the initial set of standards for implementation specifications and certification criteria for electronic health record (EHR) technology in conjunction with a final rule on the meaningful use of EHRs incentive program, a requisite certification



criteria in § 170.302c. Eligible professionals must “maintain an up-to-date problem list of current and active diagnoses” and certification requires the system to “enable a user to electronically record, modify, and retrieve a patient’s problem list for longitudinal care in accordance with:

1. The standard specified in §170.207 (a) (1) or
2. At a minimum, the version of the standard specified in §170.207(a)(2)”¹

Innovation and new thinking is required within the healthcare industry to enable efficient and appropriate use of problem lists. To implement changes that enhance the utility of problem lists for patient engagement, the industry must standardize its policy, process, and application principles.

It is now feasible to leverage electronic environments to make lists multi-dimensional. This means that more than one view of the list is available to problem list users in electronic environments. Factors driving change to a three-dimensional problem list include:

- » Accountable care organizations’ (ACOs’) call to engage patients in their care
- » Communication is needed for care delivered across the care continuum
- » Health information exchange (HIE) is becoming more widespread
- » Patients are more aware and want to see their health records
- » Financial incentives have changed to include measurement of value and population health outcomes
- » The American Recovery and Reinvestment Act (ARRA) is driving broad EHR implementation
- » Automated disease registries are a central tool for care management
- » Increased functionality of clinical decision support technology adds new uses for the problem list

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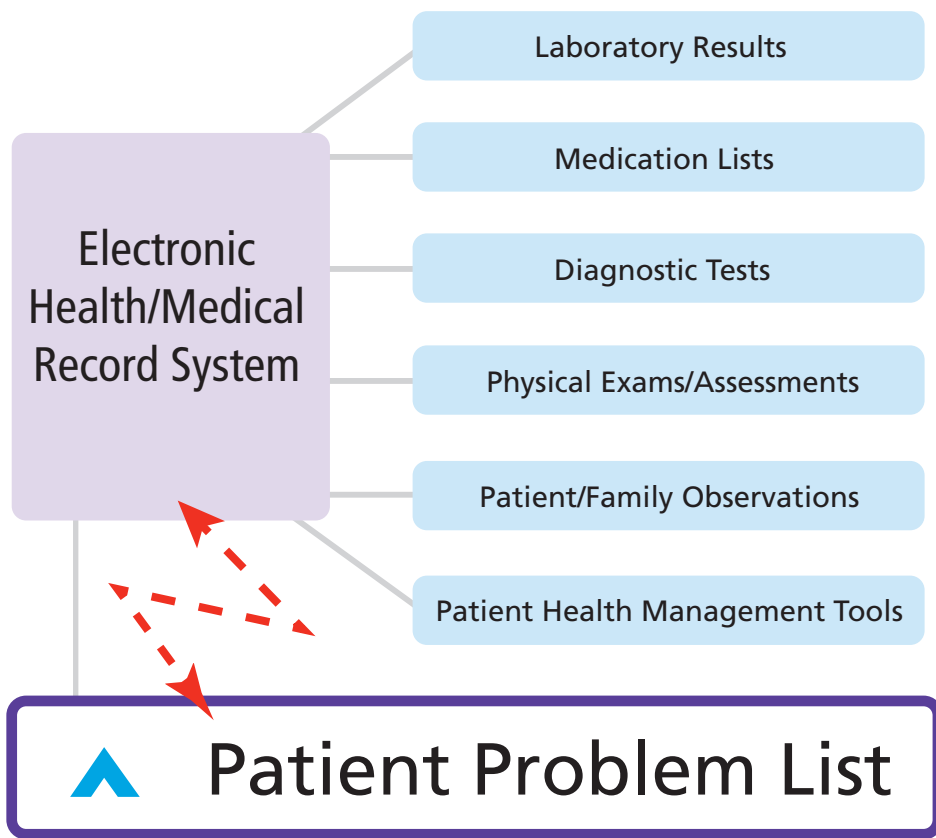
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It is important to remember that the problem-oriented medical record envisioned in 1968 by Dr. Lawrence Weed included this structure as a “table of contents” for the record and with hyperlinks and other functionality. This function is possible with a click or a touch. Although each healthcare organization must consider how it will use problem lists, the primary reason must be for patient care. A well-designed list compiled during patient encounters that can be used for transfer of care and a post-encounter purpose is a key resource for both clinicians and patients.

MULTI-AXIAL PROBLEM LIST MODEL



» [Changing the View for Problem Lists](#)

Published research and anecdotal evidence indicates no specified requirements for standardizing the problem list structure to support enhancement of clinician-to-patient communication.

The actual use of problem lists determines how the structure is viewed as an official or legal part of the health record. System-generated lists based on abstraction from other parts of the record to meet administrative needs have a different legal implication than problem lists developed specifically from patient care activities. All information generated for or about patient care by a clinician is considered as part of the legal health record, while abstracted data for secondary use must be linked to the original entries and de-identified when necessary.



A dynamic problem list is considered a part of the official patient care record and must be produced upon written request by either the patient or a third party in the litigation environment. A static list occurs if no changes are made as the care process continues. Such a list most likely should not be considered a part of the official patient care record. Problem lists must be designed to assist care providers in the creation of the record rather than automatically abstracting from existing record content for uses not related to patient care.

A brief scenario is provided here to illustrate a best practice.

SCENARIO: Elderly patients frequently delay seeking treatment early in the disease process. Rose Smith has been taken to the emergency room (ER) with ulcers on her lower extremities. Her family found her in distress, finding that she had been hiding the ulcerations to avoid seeking medical care. At the conclusion of her visit, she is admitted to the hospital with the following problems documented in her emergency room record:

1. Type II Diabetes Mellitus
2. Diabetic ulcers x 3
3. Malnutrition
4. Low hemoglobin
5. Confusion, rule out early onset dementia

Using an optimal process, a care summary document is created from the EHR that includes a list of problems requiring care or further investigation during her hospital stay. A copy of the summary is provided to the patient for her family to reference so they have a better understanding of the identified issues to be addressed in the hospital. The ER nurse and the attending physician review the summary before transferring Rose to an inpatient bed. Once the patient is admitted, the healthcare team has access to this problem list and can begin to refine it. The list may then be used to inform the patient of the care plan being developed to address each problem. The list is not static and constantly changes as other conditions affecting Rose’s health are identified or refined for specificity. Due to the severity of her conditions, Rose is discharged to a skilled care unit where the list (now with different items) is used to support transfer and transition to a different care plan.

1. Diabetic ulcers 2nd and 3rd toes, ankle right leg, treated
2. Early-onset Alzheimer’s Disease
3. Nutritional risk—first degree malnutrition
4. Type II Diabetes Mellitus, insulin controlled

Note the increased level of specificity in the list, making this version more meaningful to the skilled care staff, the patient, and her family—enabling the family to make informed decisions to improve Rose’s safety and quality of life.



WHY ARE PROBLEM LISTS FAILING BOTH PATIENTS AND PROVIDERS?

Currently, EHR problem lists are “computerized versions of the flat paper problem list.” Provider organizations are now struggling with the problem list and how complicated it has become in electronic environments. At the core of the discussion lies a common understanding of the purpose of the problem list. Many organizations see the problem list as a partial panacea for the complexity of the EHR. There are visions of the problem list being used to trigger decision support, identify problems for nursing and every ancillary profession, provide a reliable source for research, list high-risk issues (whether problems or not), as well as serving as an index to the medical record.

EHRs provide tools to potentially improve service to both clinicians and patients. The record must be created and used for patient care rather than reporting for incentives or for payment. The lack of standards for problem lists (and indeed the definition of a “problem” to be included) is contributing to poor service for both caregivers and patients. This paper promotes a standard approach to correct existing structures and use of problem lists.

The design of Weed’s problem-oriented medical record defines a problem as “anything that causes concern to the patient or to the caregiver, including physical abnormalities, psychological disturbance, and socioeconomic problems.”³ In a publication from the Office of the National Coordinator for Health Information Technology (ONC) addressing “Medical Home: Problem Lists & Practice-Based Registries” dataset considerations, problem lists are defined as “an index of diagnoses and/or condition and associated information that impacts and/or influences a patient’s health.”⁴ Both definitions assert the interdisciplinary nature of the problem list as a tool to organize and share information for the purpose of describing or planning for care.

Consider the implications to the clinician and the patient between the first problem list and the second list described in the scenario on page 4. Clearly, a problem list is most useful only when it is current, dynamic, and created through active patient care encounters.

Everyone involved in the care episode will use a standardized list for specific (and different) reasons. A physician uses the list to gather facts required to establish a diagnosis and to prescribe treatment. The patient’s caregivers use a completed list to inform decisions on behalf of the patient and the patient can use the list to research the problems confirmed or to share them with another care provider. The institution at which services are rendered uses the problem list as a source of data about the services provided during an encounter.

This requires a flexible and customizable software application to provide different views of and varying access portals to the same information. It also requires policy and guidance to make the problem list a work in progress until the health record is considered complete for the episode of care, health service, or visit. Problem lists are failing providers due to lack of standardization and rewarding system functionality to support efficient entry, access, and maintenance. Problem lists fail patients and their families when they are not updated, use medical jargon without translation, and misrepresent actual problems patients are experiencing.



HIM PROFESSIONAL LEADERSHIP

Health information management professionals have the skills to help manage the transition of the problem list from paper to an electronic environment. They can also classify problems if needed, develop useful lists of “favorites” to reduce physician time searching tables for diagnosis or procedures, and audit the use and meaningful content of problem lists. HIM leadership skills are also paramount in balancing clinical care and patient access requirements. Identification of problems recognized through reviewing and managing patient records is critical to helping organizations to identify the core issues. Developing plans to convert paper to online problem lists is essential. The following questions must be addressed:

- » What process flow would work best in this environment?
- » What full-time equivalent (FTE) level would be needed?
- » How could existing staff assist with this conversion?
- » What are the limitations of this approach?
- » Are all key leadership skills required available?
- » How is compliance with regulatory requirements and law assured?
- » What steps can be taken to reduce time requirements for documentation tasks?

In addition, because most healthcare organizations have limited resources, the ability to see the big picture and thinking outside the box are critical to success. Moreover, because in the current state not all problem list issues will be resolved in the short term, the ability to live with a certain amount of ambiguity and the flexibility to adapt systems on an ongoing basis both will remain critical skills.

In a paper record, the problem list was at its most pure state—it was nothing more than a listing of problems that the patient experienced that could be updated by clinicians as new problems presented or old problems were resolved. The emergence of the EHR has opened up possibilities that never existed in the paper format. The list may be codified and linked to facilitate identification of potential research participants and to provide researchers access to other subjective data related to a study. In addition, it is now possible to run rules, alerts, and reminders triggered by problems and use the list to track myriad issues and reminders to meet ancillary staff needs.

ISSUES FOR DISCUSSION AND DEBATE

CONVERSION: A central issue involves transition from a paper format for lists to an electronic format. The problem list is most valuable for patients with multiple complex problems. In conversion, the bottom line is that it takes time to enter the problems into electronic forms, making the user interface extremely important for provider use. Once there, depending on the workflow of the electronic record software, additional problems can be entered. However, entering problems into some systems is difficult and requires multiple clicks to get to the list and then additional clicks to move through classification system or terminology tables to find the correct term or code, all of which leads to another challenge: to code or not to code.

ENCODING: A controlled vocabulary is useful to support consistency across care settings. However, use of a classification may result in loss of information and difficulty of expressing conditions that fall outside the scope of the code set. The granularity of problem list data frequently changes during the care and treatment process, making encoding useful for information query and retrieval, but not as useful for repurposing for other things, including patient billing, quality measure reporting, or reimbursement from third-party payers. Health information professionals can assist with encoding since it is a skill inherent within the coding process, freeing physicians to merely enter a problem.

Although compliance with “meaningful use” criteria for funding purposes may eventually require SNOMED CT® codes for encoding problem lists, the healthcare community may question the need to encode problem list data at all. Some clinicians may ask, “If the primary purpose of the problem list is for effective patient care, why is a code needed?” SNOMED CT® embedded in the EHR system enables encoding without code “assignment” by clinicians to support information retrieval from problem lists. Health information principles assert that the purpose of encoding is to facilitate search and retrieval of problems.

There is also the ability to automate alerts and reminders for clinician use and enable patient safety warnings at the point of care. These features may be triggered by codes. Although problem lists are an excellent source for research data concerning patient problems, encoded sources based on the entire health record are more reliable when seeking fully established diagnosis statements and procedure reports. This data provides more accuracy, granularity, and consistency than problem list entries. Alerts and reminders may also be more effective based on additional clinical data sources such as immunization records, laboratory data, and care summary records.

It is important to note that codes are not displayed but rather used by software programs to facilitate repurposing and retrieval of problem list data. The requirement for encoding in the International Classification of Diseases or SNOMED CT® in problem lists is related more to increasing system functionality for data reuse and easy retrieval and aggregation by software systems than it is to make human use of the problem list easier. Problem lists are poor candidates for billing or insurance claims because problems are frequently not fully formed diagnostic statements and are unable to provide the same context concerning the patient’s conditions as the actual health record documents. The

BUILDING IN EFFICIENCY AND ACCOUNTABILITY

Interdisciplinary lists are most beneficial due to their holistic approach to health management including environmental factors, social care, lifestyle choices, and others in addition to traditional medical conditions. To accomplish this approach, efficiency and accountability must be built into the system so the results are reliable and useful.

A frequent challenge presented by the combination of the EHR and healthcare regulations is that health record documentation takes longer. To be successful, whether with EHR systems or one element such as the problem list, solutions must be found to reduce documentation time for clinicians while ensuring a robust medical record. Although most providers agree with the need for a complete record that includes a well-defined problem list, the time dedicated to record completion and problem list maintenance often impinges on both face-to-face time with patients and their personal lives. To ensure accountability, HIM professionals are challenged to find ways to lessen documentation time by providing appropriate workflow support options and better functionality for systems to meet user needs. During the past 10 years, the focus in most

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coded problem list should not be used as a “shortcut” for any financial or clinical care documentation of the patient. Although it is an important tool for patient care, it may include details found in documentation found in other parts of the health record.

ORGANIZATION: The order of the problems in the problem list can be important since most people view the first item on the list as being the most important or prioritized. When using the problem list as a clinician/patient communication tool, the order of the problems should be mutually understood to enhance communication and to demonstrate the inter-relationships between conditions. The order of problems may illustrate or minimize cause and effect issues that affect the treatment process. An alphabetic sorting of problems may be useful in finding an entry but becomes a problem when the list is long. Ordering by patient preference may not be optimal either. Patients may not consider their high cholesterol reading to be a prioritized problem over arthritis of the knee or hypertension, which is the most significant problem from the clinician’s perspective. As a part of its functionality, an effective electronic problem list should have the ability to sort and view problem lists in any useful order beneficial to system users. This is particularly the case when problem lists include both active and inactive problems. Inactive problems may be listed last so they appear for reference but do not distract the care provider from current problems.

CLUTTER: The development of iterative sections of an electronic problem list and the ease of linking nursing or ancillary profession data has offered a tool that some organizations feel is critical. If the electronic record is structured to allow adding non-physician problems to the list, the design and view of the problem list are critical decision points. Without clear structure, problems that are often transient (for example, falls risk) can result in an exponential growth in the length of the problem list. Even if maintenance is in place, the “problem” still remains on the list but is qualified as “resolved.” For frequent patients who have complex issues, the problem list can become too lengthy to be useful to most members of the healthcare team. Careful consideration of what and who can use the problem list is a core decision for every organization that must be made clear in policy statements.

MAINTENANCE: There are many issues complicating the maintenance of a patient problem list. If the list is cluttered, unorganized, or partially completed because no one had time to add problems from the paper record, the list will not be used. There must be organizational dedication to the prime purpose of the problem list—clear direction on accountability and agreement that adding and deleting problems at each encounter is a key component of patient care. The usefulness of problem lists in health records is based on the ability of clinicians to express patient problems (when identified) and follow consistent procedures that ensure the lists are current and useful in the clinician-patient relationship.

THE MISSING LINK: PATIENT PARTICIPATION: A previously missing element has been patient knowledge of and participation in the problem list. This does not suggest that patients should be permitted to enter information on the problem list, but rather that they should be aware of it, agree to the content, and regularly review it with their care provider. In many healthcare environments, problem list use has been limited to physicians and has not been included as part of the designated record set; in other words, patients never knew the problem list existed.

There are various schools of thought concerning patient access:

- » Some providers exclude patients from access to the list for sake of secrecy or fear of malpractice accusation or the like, but are concerned that a patient would misunderstand the term “problem”
- » Others want one section where they could document concerns such as “non-compliant patient,” “marginal intelligence,” and similar notes, without fear of reprisal by the patient

BUILDING IN EFFICIENCY AND ACCOUNTABILITY (CONT.)

healthcare organizations has been on the implementation of the EHR to support patient-centered care and to reduce costs. The next phase of EHR development should include a streamlined and clinician-friendly workflow.

No single individual or organization will develop the solution to all the challenges of the problem list. A national commitment to exchange of ideas is critical for success. The national discussion is expected to be an outgrowth of individual and organizational efforts. A cross-specialty group of clinicians should be convened to develop a standard for problem list workflow automation. Selected considerations for appropriate technology tools for the problem list are listed below:

- » To meet the Joint Commission goal for a problem list initiated by the third visit, for a healthy patient with no problems, such as a five-year-old in perfect health without problems, consider a software application rule in for the third visit which adds from the well-child encounter documentation “Health maintenance visits—no health problems identified” to meet this requirement.
- » For patients who have a principal diagnosis of otitis media three times in a two-year period, a software application rule is written to add a reminder: “Chronic otitis media alert—third visit, same diagnosis” to the list.
- » For patients who have a significant procedure history with the potential to influence lifelong care, have the procedure and year of surgery added to the problem list (for example, bilateral knee replacement surgery, 2007 or stent placement, 2009).
- » For patients with a chronic condition that will likely remain a lifelong challenge, even if under control, such as diabetes, consider use of a software application rule to populate the problem list as a reminder with this information including the source.

» Other providers see this as a section where they can freely document highly sensitive data without fear of release, such as “HIV status,” sexually active 14-year-old, or the like. This perspective may originate from the misconception that problem lists are not really a part of the “official” health record.

Attitudes concerning healthcare process and information management and access have changed. We are now clearly in an era where patients expect and should have full access to all of their healthcare information. This is true not just because of federal law, but because patient engagement in health maintenance and improvement is a key success factor for meeting population improvement goals and reducing the cost of healthcare.

Organizations are challenged with systematically addressing each of these issues involving problem lists due to multiple demands for information and limited resources to accomplish reengineering of clinician workflows. Investment in an approach to improving problem list functionality and quality of content is a worthy goal.

A NEW ROLE FOR THE PROBLEM LIST IN PATIENT CARE

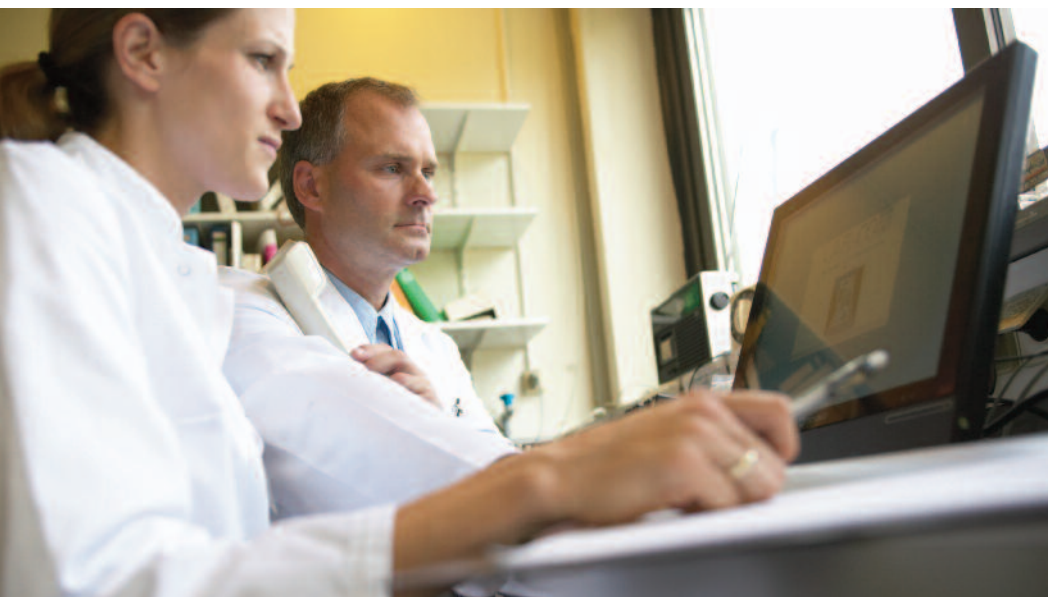
Looking ahead, we envision a time when health records are patient centered, interoperable, longitudinal, and accessible to patients whenever needed. Problem lists are a legacy tool that must be reinvented to enhance both the patient’s and the provider’s experience in the process of providing healthcare services. The new role for problem lists in the 21st century includes the following attributes about problem lists:

- » Serves as a key focus for building and maintaining patient engagement
- » Functions across the continuum of care to serve as a means of communication between patients and among care providers
- » Triggers interactive decision support to aid the patient’s personal healthcare decisions
- » Links to clinical research studies to allow for interaction between the patient and the researchers to identify potential research participants, and to other subjective data
- » Connects the patient to social networks whose members share a common problem
- » Enhances decision support activities in conjunction with other tools
- » Readily accessible to permit everyone involved with care to have access to the same information (subject to patient consent)
- » Leverages emerging informatics tools including multi-dimensional displays and hyperlinks to related section of the health records



FOCUS ON SERVICE

Properly designed problem lists in electronic environments provide useful services to organizations, clinicians, and patients. The philosophy of “capture once, use many times” enables efficiency for everyone involved with the care process. Use of technology enables care providers to track problems and re-purpose the information to benefit the patient and their caregivers and provides a summary of problems for continuing care. The ability of software to translate clinical terms into patient-friendly terms is an important tool for supporting patient engagement in the care process.



Problem lists should be standardized and designed to be dynamic tools used throughout an episode of care or patient visit. Changing the view of how problem lists are displayed and used is very important to support an interdisciplinary and patient-centered approach for health record entries. Industry standardization will facilitate interoperability and ease of exchange between patients and providers. Along with software improvements, specific policy requirements, and standardization will keep the use of problem lists efficient and meaningful for all stakeholders.

PATIENT FRIENDLY

A foundational element of incentivizing “meaningful use” of health information technology is the engagement of patients and families. This is impossible without a common reference of the issues or problems at hand to provide a communication bridge. Current research shows there are many barriers to health information literacy and patient/family engagement in healthcare related to recognition and understanding of medical terms and the concepts they represent. There are efforts to help patients benefit from and contribute to problem list content and maintenance by developing tools that are written using a literacy level that is common to specific audiences.

Additionally, a number of teaching hospitals and learning institutions are researching methods for mapping patient descriptions of their signs and symptoms to more standardized taxonomies. For example, a consumer health vocabulary initiative is underway to develop applications that can link common non-technical terms to a standardized set of clinical concepts.² An application developed for use in a patient health portal or personal health record could function so that when the patient clicks on a term that describes health status or a complaint, the formal clinical term or concept would register in the system, and the clinician could update the patient problem list as needed.

Some state health departments and physician practices use summary forms for patients to fill out and bring with them when they see a provider. This form can be used to help a clinician update a problem list, although the information in it would still require entry into an electronic record. The issue here involves the manner in which the summary information is stored as free text or linked to taxonomy, as determined by the patient's role in the maintenance of the problem list. In the introductory scenario, Rose's family has more specific information on discharge than was made available to them at the close of the emergency room visit. The entries in this list inform the transition of care to another setting and are useful in using a new physician or nursing facility in the future.

INFORMATION MANAGEMENT

Construction of a patient-centered problem list can be repurposed and reordered as required to meet clinician-patient requirements, but it requires more than technology. Many of the issues related to dysfunctional problem lists are a combination of poorly designed data management tools and a lack of clear policy for problem lists. When developing policies and procedures for a patient-centered problem list, the patient and the care providers who are serving the patient should be considered the primary customers, with equal interest in functionality available to clinicians to meet customer (patient) expectations. A clear policy on structure, the authority to make or remove entries, maintenance responsibility, and the choice of encoding to support information retrieval and additional data processing is needed.





POLICY SHOULD BE BASED ON:

- » Defining the role of the problem list as a tool to support patient care
- » Defining the philosophy about patient involvement in their care
- » Workflow efficiency and organizational requirements

POLICY MUST BE CLEAR ABOUT:

- » Who may add, modify, and delete a problem. Any care provider should be able to add problems within their scope of practice in compliance with organizational constraints concerning the authority to make entries in health records.
- » Changes to the list. No one should be authorized to delete problems from this list without following the standard process for correction or amendments to the health record
- » Linkage to source documents (where possible) should be permitted
- » Safeguards for authentication, security, and reliability must be in place
- » Items affecting patient safety (e.g. allergies) should always be prominently displayed. Ideally these items appear at the top of any problem list for emphasis
- » Who has access and retrieval privileges of the list
- » The process for creating and using specific “views” of the list to improve functional utility for problem entry, user access and maintenance efficiency
- » The process for resolving disagreements between providers concerning problem list content
- » Policy governs the process for accommodating differing views between patient and provider on the list
- » Groups or persons that have access to the problem list
- » The role of the clinician in this person’s care
- » When (exact date and time) a list entry was made or last edited

- » Where the list is viewed and stored
- » How and when the list is maintained for accuracy and completeness
- » When updating takes place (items added, archived, or marked as resolved)
- » Tools or vocabulary sources (if any) required to support interoperability and information retrieval
- » Standards (if any) that govern the use or content of problem lists literacy level

A general rule can be agreed upon that whoever enters a problem on the active problem list remains accountable for the list entry until another clinician or other authorized individual(s) updates it. This makes it critical that the author of the entry is properly identified in any system used. This also facilitates contact of the author for additional information when appropriate.

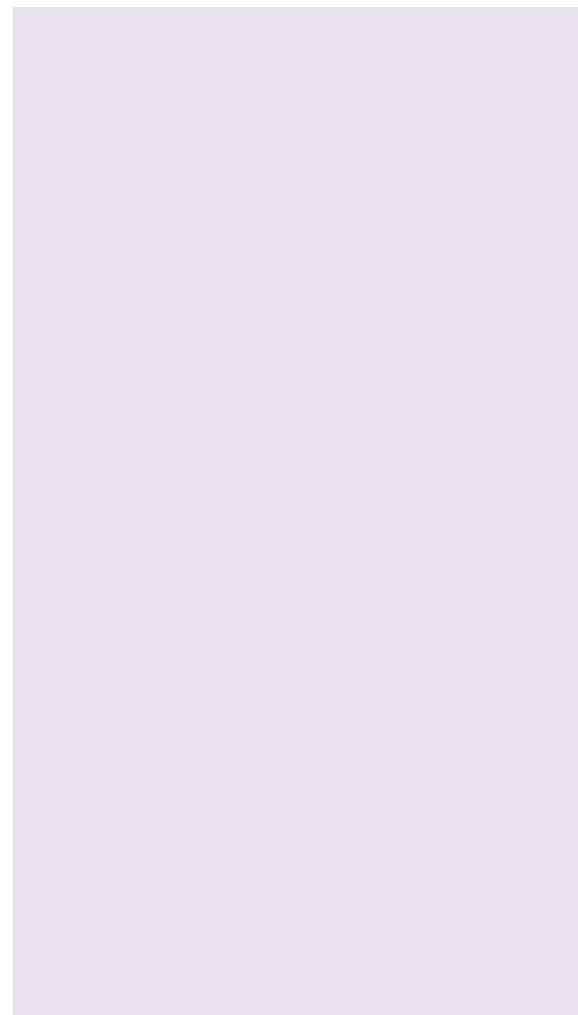
All these activities involve workflow design principles. HIM professionals are experts in providing guidance for efficient workflow design and information management planning. Engaging qualified help in the workflow process is the first step towards problem list standardization and improvement.

The captured problems are often reportable diagnostic conditions or administrative information. It is tempting to create a system-generated list using existing patient records or problem list to justify other secondary uses of the data. This is a dangerous practice and may affect information integrity and create compliance issues if clear policies are not in place.

The clinical record should be used primarily as a system for documenting diagnosis and care of the patient at the current episode. Data capture from the record is considered a secondary and administrative use of protected health information. Problems are an important label in health records enabling an organized look at patient conditions and health status. A strong and agreed-upon policy approved by all stakeholders is required for successful use of the problem list in new roles.

CONCLUSION

Standardization of problem lists in the healthcare industry is needed to enable more efficient exchange of information between health providers and especially to patients. Paper-based structures do not work in electronic environments and some forms of problem list preparation, such as auto-population of lists, represent significant compliance and patient safety concerns. In 2008, the Office of the National Coordinator for Health Information Technology (ONC) published content considerations for the “Medical Home: Problem Lists & Patient-Based Registries” dataset that may inform an eventual framework for a standardized list similar to the three-dimensional list model featured on page 3. In 2012, confusion remains about what does or does not belong on a problem list, who should provide entries and then maintain them by moving them to appropriate status, and most of all, how to design systems that support use in more than one use case and care setting. A standard approach is needed to enable interoperability between systems and to provide an easy to access view of health conditions for everyone involved in the process. Let’s work together to advance a new model to achieve meaningful use of problem lists to support the needs of everyone involved in patient care services—especially the patient.



NOTES

1. Department of Health and Human Services, Centers for Medicare and Medicaid Services. “Medicare and Medicaid Programs; Electronic Health Record Incentive Program; Final Rule.” July 28, 2010. Available at <http://edocket.access.gpo.gov/2010/pdf/2010-17207.pdf>.
2. Consumer Health Vocabulary Initiative. <http://layhealthinformatics.org/>
3. Weed, Lawrence L. “Medical Records that Guide and Teach.” *New England Journal of Medicine* 278, no. 11 (1968): 593–600.
4. Office of the National Coordinator. “Medical Home: Problem List & Practice-Based Registries Data Set.” December 31, 2008. Available at http://healthit.hhs.gov/portal/server.pt/community/use_cases_and_requirements_documents/1202/medical_home:_problem_lists_&_practice-based_registries/15661.

REFERENCES

- AHIMA Best Practices for Problem Lists in an EHR Work Group. “Best Practices for Problem Lists in an EHR.” *Journal of AHIMA* 79, no. 1 (January 2008): 73–77. Available at http://library.ahima.org/xpedio/groups/public/documents/ahima/bok1_036244.hcsp?dDocName=bok1_036244.
- AHIMA Workgroup. “Problem List Guidance in the EHR.” *Journal of AHIMA* 82, no. 9 (September 2011): 52–58. Available at http://library.ahima.org/xpedio/groups/public/documents/ahima/bok1_049241.hcsp?dDocName=bok1_049241.
- AHIMA. “Stage 1 Meaningful Use Objectives, Measures, and Corresponding Initial Set of Standards, Implementation Specifications, and Certification Criteria.” 2010. Available in the AHIMA Body of Knowledge at ahima.org.
- Holmes, Casey. “The Problem List beyond Meaningful Use: Part I: The Problems with Problem Lists.” *Journal of AHIMA* 82, no. 2 (Feb. 2011): 30–33. Available at http://library.ahima.org/xpedio/groups/public/documents/ahima/bok1_048603.hcsp?dDocName=bok1_048603.
- Holmes, Casey. “The Problem List beyond Meaningful Use: Part 2: Fixing the Problem List.” *Journal of AHIMA* 82, no. 3 (Mar. 2011): 32–35. Available at http://library.ahima.org/xpedio/groups/public/documents/ahima/bok1_048699.hcsp?dDocName=bok1_048699.