

Reduction of Medical Verbiage: Fewer Words, More Meaning

Air traffic controllers and military personnel use an utterly unambiguous but limited vocabulary in their moment-to-moment operations. Physicians rely heavily upon a much larger, less precise terminology, much of it based in tradition and habit. In an earlier issue, Donnelly (1) reminded us of the repetitive and nonreflective use of rhetorical devices that reveal our biases about the reliability of data sources. Whereas the patient “says,” “reports,” “claims,” or “denies,” the physician “notes,” “observes,” and “finds.” Laboratory and imaging studies “show” and “reveal.”

Lawson and Ingman (2), in writing about terminology in the care of the elderly, suggest that there is “redundancy of language coexisting with poverty of concept.” They echo admonitions by Weed and Feinstein when they write that “. . . our taxonomy must honestly express the unresolved and the ambiguous as well as the diagnosed and clearly defined.” Furthermore, our vocabulary has been influenced by the growing needs of financial, quality management, and research interests. It is noteworthy that our colleagues in psychiatry, who operate in what many incorrectly assume to be a “softer” area, have evolved the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*, as a diagnostic and research tool that includes not only uniform terminology but criteria for its clinical use.

In this issue, Brown and colleagues (3) describe their elegant and ambitious efforts to distill, from the plethora of 891 770 “raw problem statements”

used in one institution, a workable canonical vocabulary. They compared it with the 1997 Unified Medical Language System Metathesaurus and tested its utility and acceptance at a second institution. The results are impressive. The initial data set was reduced by 98.3%, and the subsequent conversion of free-text problem entries yielded an amazing 84% concordance with the physicians’ intended meaning. Only 3% of the conversions were judged to be dangerous or misleading. The authors emphasize the practical, everyday importance of a uniform vocabulary in improving patient care, interinstitutional communication, links to guidelines and literature, clinical research, and billing and regulatory functions.

But there are conceptual and didactic benefits as well. Good problem lists and precise terms are important in undergraduate and graduate education because measurement of performance requires explicit structure. Imagine a race in which the finish line was indistinct or shifted from contestant to contestant. Ambiguous terms and inconsistent standards for thoroughness can produce a shifting finish line.

A complete precise problem list provides a skeleton of quintessential data reflecting diagnostic reasoning. In many cases, it is sufficient for judging the quality of that reasoning. “Complete” means that all abnormalities are represented; “precise” means there are no entries that cannot be justified by the existing facts. In other words, everything should be included, and conclusions should be carried as far as possible and no further. The entries in a complete

precise problem list should be as strictly itemized as those in a checkbook register, with everything accounted for. Precise and consistent terminology, enabled by a canonical vocabulary, is a requisite for consistency and comparison in such a system.

Ende (4), in writing about effective feedback, emphasized the need for teacher–trainee alliance toward common goals, real examples, and details regarding performance. A complete precise problem list satisfies those requirements by providing a way to assess the trainee’s comprehension and ability to correlate, separate, and prioritize elements in a given case. I (5) have likened problem formulation to putting together a picture puzzle with the additional confounders that 1) there is more than one puzzle; 2) any one or all of the puzzles may be incomplete; 3) some of the parts fit more than one of the puzzles; 4) some of the parts don’t fit any of the puzzles; and 5) parts are randomly added to or withdrawn from the pile.

Weed is fond of saying, “You can’t cut across the mound from first base to third because it’s hot today!” Imprecise terminology, the assertion that “it isn’t important anyway,” and the liberal use of question marks are akin to the shortcut across the pitcher’s mound. When ward rounds start to drag, it is fascinating to ask the team to go to the board and produce a complete precise problem list. Attempts at precision and thoroughness reveal inconsistencies within the group and produce lively arguments among those who, a few minutes earlier, enjoyed the illusion that they were of a single mind regarding what was wrong with the patient.

There is considerable evidence that a complete precise problem list, properly understood and written, reflects elements of diagnostic reasoning. Consistent patterns of error have been described. These include omission of findings (history, physical, or laboratory), inadequate synthesis, premature closure, and “wrong” information (data contradict entries). These errors have been shown to be sufficient to categorize most failings; they can be detected with remarkable interobserver reliability; and all except premature closure occur in typical patterns, depending on level of training. Premature closure seems to occur at all levels (6).

Some critics of this system for describing errors suggest that premature closure does not represent erroneous thinking but rather an unwillingness to be bound to the demands of the complete precise problem list. They regard these entries as “rule-outs” or tentative conclusions; however, in one study involving the assertion of iron deficiency anemia as a problem, it could be demonstrated that further

work-up was abandoned and treatment started despite scant or absent data to support the diagnosis (7). Furthermore, unsupported conclusions spread rapidly among team members and to subsequent care givers; it seemed to be contagious. A more critical use of words and diagnostic concepts would prevent this.

Fewer words, applied more accurately, would benefit education, evaluation, and feedback, as well as patient care. This work by Brown and colleagues represents a significant step forward. They are to be applauded for their willingness to share their efforts with the National Library of Medicine and to affirm the importance of Davidoff’s (8) plea to remember the “gift” nature of the relationships in our profession. There is more to do to establish and maintain the vocabulary and to develop criteria toward a repository of consensus. Perhaps someday, as we enter our problem statements at the keyboard or by voice recognition, the computer will call for appropriate precision for terminology, as it does for spelling.

As we move increasingly toward multidisciplinary teams, hand-offs between hospitalists and ambulatory physicians, and virtual systems, it is ever more important that we do what we can to prevent diffusion of the responsibility for thoroughness and precision. Considering the many interests, it is the patient who will benefit the most.

Anthony E. Voytovich, MD

University of Connecticut School of Medicine
Farmington, CT 06030-1905

Requests for Reprints: Anthony E. Voytovich, MD, University of Connecticut School of Medicine, 263 Farmington Avenue, Farmington, CT 06030-1905; e-mail, voytovich@nso1.uhc.edu.

Ann Intern Med. 1999;131:146-147.

References

1. **Donnelly WJ.** The language of medical case histories. *Ann Intern Med.* 1997; 127:1045-48.
2. **Lawson IR, Ingman SR.** The Language of Geriatric Care, Implications for Professional Review. North Haven, CT: Connecticut Health Services Research Series. 1975;24-33.
3. **Brown SH, Miller RA, Camp HN, Guise DA, Walker HK.** Empirical derivation of an electronic clinically useful problem statement system. *Ann Intern Med.* 1999;131:117-26.
4. **Ende J.** Feedback in clinical medical education. *JAMA.* 1983;250:777-81.
5. **Voytovich AE, Harper L, Rippey RM.** Evaluating analytic reasoning in the multi-problem patient [Abstract]. Proceedings of the Eighteenth Annual Conference on Research in Medical Education. Washington, DC; 1979.
6. **Voytovich AE, Rippey RM, Suffredini A.** Premature conclusions in diagnostic reasoning. *J Med Educ.* 1985;60:302-7.
7. **Dubeau CE, Voytovich AE, Rippey RM.** Premature conclusions in the diagnosis of iron deficiency anemia: cause and effect. *Med Decis Making.* 1986;6: 169-73
8. **Davidoff F.** Medicine and commerce. 2: The gift [Editorial]. *Ann Intern Med.* 1998;128:572-5.

© 1999 American College of Physicians–American Society of Internal Medicine