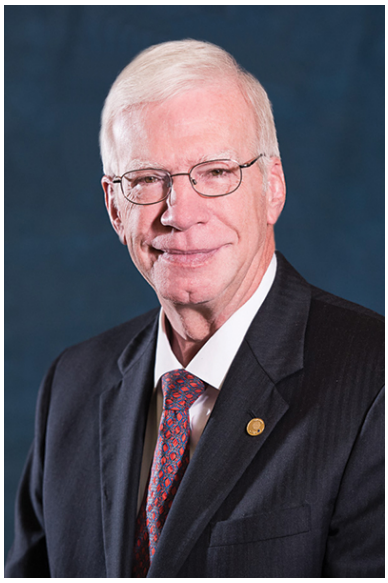
From the President's Desk: Human factors engineering



R. Bruce Williams, MD

February 2018—Last month we talked about the eighth edition of the American Joint Committee on Cancer staging manual, which was launched Jan. 1. CAP experts had undertaken a full-court press to harmonize our cancer protocols with the new edition.

The CAP protocols, controversial at first, are now tightly stitched into the fabric of laboratory practice. The one concern we do hear is that some of the protocols are too detailed, which means too time-consuming. Some members have been known to wonder aloud how we decide what to include.

The short answer is that protocols, by their very nature, will always evolve. The first protocols were essentially informal advice from one pathologist to another, although the "one pathologist" was often an elite medical text author. Today, they are framed by a small army of practicing pathologists who write, test, and refine them. There is more, of course; for that, I refer you to a fine editorial by Raouf Nakhleh, MD, et al., published in the September 2017 issue of *Archives of Pathology & Laboratory Medicine*. The authors describe the challenges in creating protocols sufficiently detailed to ensure they include all elements required for accreditation (now called core elements) without forcing pathologists and downstream users to search for what they need. Dr. Nakhleh, who chairs the Council on Scientific Affairs, has also created a new advisory group, the Cancer Protocol Oversight Project Team, charged with keeping all the moving parts properly engaged.

The Cancer Committee, chaired by Thomas P. Baker, MD, is responsible for content. The protocols are living documents, designed to educate. They have to be right. That can translate to many volunteer hours. But the protocols are ours. We own them. And to that end, please respond when there is a call for public comment. You own them, too.

Dr. Baker's group reports to the Council on Scientific Affairs, as does a platoon of formatting experts (the Pathology Electronic Reporting, or PERT, Committee) who create interoperable electronic versions of the protocols that feature discrete elements for data mining. Members of the PERT Committee, chaired by Michael A. Berman, MD, know a lot about software and human factors engineering. Once again, it's all about making tools easy to use—balancing the need for specifics against the demand for efficiency. Pathology reports that are complete, concise, and consistent will facilitate clear thinking about patient care options downstream.

Our CSA teams will soon partner more closely with members of the CAP Pathology and Laboratory Quality Center,

whose new chair, Patrick Fitzgibbons, MD, has been involved with the CAP protocols for 20 years. The Center adheres rigorously to national standards for evaluating content in accord with levels of evidence. This approach should help us isolate more clearly which items in the protocols are core content (formerly called required elements), conditional (required only if a parent question is answered in the affirmative), and optional. As they continue to evolve, the protocols will become more cleanly formatted and clearly limited to what is needed for patient care. As they become more complex, a coterie of outside liaisons will continue to contribute useful perspective.

Our professional staff is deeply engaged in protocol development and maintenance. Samantha Spencer, MD, director of the CAP Structured Data Team, works closely with vendors of electronic pathology reporting software to help them address the technical issues and recognize the human factors engineering concerns that attach. Everything matters. As Dr. Spencer likes to say, none of it means anything if we can't make it easy for the pathologist to use.

Although it is natural to think of the clinicians in our workplaces as the downstream users of our reports, that view can be shortsighted. Of course, we will put our own patients first in the moment. But we must also recognize that clear, discrete reporting is about more than the integrity of one patient's information accessed along the continuum of care. Proper refinement will better accommodate computerized data mining, which will in turn reveal patterns across thousands of patients. It will also simplify laboratory accreditation, freeing our staffs for other tasks.

Douglas Murphy, a CAP senior technical analyst who staffs the Cancer Committee, says trying to cure cancers without true structured data that 1) works in multiple systems, 2) is accessible to clinicians in distant institutions across the continuum of care, and 3) is available to researchers is setting out with one arm tied behind our back. I don't think any of us wants that.

Even when everyone agrees that universal electronic reporting would be best, the transition is no small matter. For example, concern has been expressed about a new California law taking effect in 2019 requiring that pathologists forward all cancer reports to the state cancer registry in electronic form. Legislators were persuaded by evidence that pathology reports came into the registry, on average, 15 months after diagnosis—and only about half of those involved cancer. Some reports came electronically, but many were abstracted to varying degrees by hospital medical records departments and submitted via U.S. mail or fax. Normalizing the data has been a huge ongoing task.

California was one of the first states to pilot our first protocols in 2001. They're trailblazers. The California Society of Pathologists and the California Cancer Registry took the lead in advocating for more efficient pathology reporting and have formed the Cancer Data Modernization Consortium (a multidisciplinary group of pathologists, health systems, professional organizations, and public health entities) to help lead the way. Standardized, real-time pathology reporting will be powerful. It will be a powerful tool in cancer research and help drive new and more effective therapies. That's what this is about.

As Dr. Nakhleh likes to say, pathology must keep pace with the rest of oncology and medicine, which means patients everywhere are treated in the same way for the same cancer. This is an incredible opportunity for pathology to lead a seismic shift in cancer care. Let's go for it.

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Dr. Williams welcomes communication from CAP members. Write to him at president@cap.org.