Evolving Paradigms of Clinical Pathology Resident Education and Consultation

In the complex arena of medical resident education, real-time tools have become increasingly valuable for documenting medical knowledge and practice-based learning, as well as providing, in some cases, training exercises in and of themselves (1–4). For clinical pathology in particular, the myriad of consultative activities of the laboratory medicine resident have always been a difficult area for documentation since these consultations are not routinely included in the patient chart in most institutions. Moreover, this lack of a common venue for documentation of direct patient care activities in clinical pathology limits appropriate dissemination of this information among pathology (and other) house staff and similarly can limit “institutional memory” of important clinical principles and facts, especially those that may be quite specific to the particular institution.

Residents in clinical pathology rotations should develop and document the ability to handle laboratory methodology issues while carrying out broader clinical diagnostic consultations (5). Clinical pathology residents participate in, and may even direct, therapeutic decisions based on the combination of laboratory and clinical evidence, furthering their own education and the care of those patients served by these activities, but the knowledge and wisdom obtained in such interactions is not necessarily transmitted to other pathology house staff. Furthermore, any documentation of such actions may be short-lived. For these reasons, the database proposed and implemented by Hoofnagle and colleagues in this issue of Clinical Chemistry (6) is an important potential tool for pathology programs. This database can be used for clinical pathology on-call activities that supplement other aspects of the curriculum by (a) demonstrating the educational value of consultations and problem handling, (b) documenting resident competency and progression to graduated responsibilities, and (c) generating institution-specific knowledge archives.

One particular advance established by this on-line database is the benefit of rapidly tracking different types of on-call activities and codifying these via curriculum-dependent categories. Hoofnagle et al. show that this educational tool allows identification of laboratory-specific problem areas. Moreover, by requiring detailed documentation, the database can be used to understand the underlying basis for the particular problem and further track how changes in laboratory policies and procedures can ameliorate a particular residency issue. By carrying this function one step further, each laboratory has the potential to use such documentation to assure the quality of testing, reporting, and troubleshooting clinical pathways. Hence, the authors’ educational contribution also provides an excellent means of promoting patient safety and other aspects of quality assurance as well as encouraging direct participation of residents in these important activities. Finally, for the broader goal of residency education and documentation, full-time use of this database serves as a 24/7 adjunct to “morning report” and to other teaching modalities outlined in the clinical pathology curriculum guidelines developed by the Academy of Clinical Laboratory Physicians and Scientists (4).

The database described in this article is an efficient tool for its current application, but it is also a window into the potential wider use of this sort of relatively straightforward technology. With this database, residents are continuously generating clinical pathology-oriented medical knowledge archives. Journal clubs and case conference presentations, as well as research seminars, could similarly be included in the database to upgrade this archive and provide footnotes for various controversial laboratory issues. Another possible function would be to use subsets of the database to further enable a program’s ability to showcase self-improvement, not only by providing consistent solutions to frequently asked questions, but also by evaluating the efficacy of new policies to upgrade both laboratory diagnostics and resident education. Therefore, the utility of this approach extends beyond pathology residency education into the effective management and upkeep of an efficient laboratory practice.

Finally, taking the overall approach one step further into the future, one can envision how such a laboratory database could also potentially provide one part of a more comprehensive system for improved real-time documentation of many clinical pathology consultative activities, even at the attending level. Laboratory physicians and scientists have always been directly involved with individual patient diagnostic and therapeutic dilemmas. Consultations on specific patients are often requested by other clinicians, but because such consultation frequently occurs only orally, documentation is confined to the laboratory proper rather than being available in the patient chart. Many (indeed most) of these consultations are therefore invisible to the other providers caring for the patient. Yet many of these “curbside” pathology consultations are extensive and provide key information that more appropriately should be documented in the patient chart for future reference. With broader implementation of improved electronic medical records, laboratory medicine faculty can begin to think of routinely providing requested interpretation of laboratory testing that is readily available to all providers “at the bedside” and hence incorporated more consistently and accurately into decision-making by the healthcare team. Of course, such an approach has a variety of associated issues to work through and goes far beyond the current goal of the work of Hoofnagle et al. Nevertheless, it may be time to take activities such as those proposed for the more limited but quite worthy goal of residency education and use them as a springboard to consider innovative use of modern informatics to further patient care and safety by developing new paradigms of laboratory medicine consultation at
all levels of training and practice. In any case, leaving the future to return to the present, the work of Hoofnagle and colleagues is a relevant and refreshing addition to the overall practice of clinical pathology as well as the training of our residents and fellows, and should spark further creativity on the part of residency programs.

References


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