

Preface

Enhancing the Value of the Laboratory with Clinical Decision Support



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Editor

It is 2019, and it is clear that the machines have won. Virtually all aspects of the health care experience have been, for better or worse, computerized. Within the laboratory, this has mostly been a positive development, with end-to-end barcode tracking of samples, advanced LIS systems, improved middleware, and analytics all improving patient safety and efficiency and enabling complex workflows, monitoring, and reporting.

On the broader electronic health record (EHR) front, many of the new laboratory-related workflows are still a work in progress. The ever-growing complexity of the modern EHR has facilitated both the need for clinical decision support (CDS) and the growth of CDS. CDS encompasses a variety of tools both within and outside the EHR to enhance decision making during the clinical workflow. CDS has the promise to improve the quality of care, reduce errors, enhance efficiency, and improve utilization and value. In this issue of *Clinics in Laboratory Medicine*, leaders in the field of CDS have written reviews that demonstrate the need, utility, and promise of CDS in virtually all aspects of the clinical laboratory.

The need for the laboratory to contribute to the EHR has never been greater. The rapid growth of diagnostic laboratory testing, combined with the ever-expanding amount of clinical data, has created a gap between practice and potential. Virtually all test-ordering processes are now within the EHR, and the EHR is often the only location where providers review results. The challenge for the laboratory is how to insert itself into these new workflows that are already shaping its future. One first step for “a seat at the table” is for the laboratory to fully understand the workings of the EHR. With this understanding inevitably comes the realization that there are in fact many opportunities for the laboratory to contribute to CDS.

To be accepted into the clinical workflow, CDS must deliver the right information, at the right point in the workflow, to the right person, and with the right format to optimize an individual provider's and patient's outcome. The modern EHR contains an array of CDS tools that impact laboratory workflows, including order sets, duplicate checking, search engines, passive information displays, result-reporting displays, alerts, templates, worklists, and reports. CDS is probably most associated with the dreaded interruptive or "pop-up" alert in the EHR. However, it is important to appreciate that often the best CDS is invisible and presents itself as a user-centered design of ordering and resulting workflows. Moreover, even the much maligned interruptive alert can be well received if targeted to the situations where the alert is most likely to be clinically useful.

It is important to remember that laboratory CDS is a team sport. The governance of EHR CDS often falls outside the laboratory, so it is essential that the laboratory demonstrates its value and works closely with the CDS team. CDS must be developed using a collaborative approach with analysts, providers, pathologists, laboratory staff, and project managers all playing important roles. A successful CDS program also requires a long-term commitment to continually evaluate existing CDS to optimize its value, as well as the monitoring of laboratory trends to identify new areas where CDS may be valuable.

Finally, it has been a pleasure to serve as guest editor for this issue of *Clinics in Laboratory Medicine*. I am extremely grateful to each of the authors for contributing their time, effort, and expertise to this work. I hope that this issue will give the reader a sense of how organizations are using CDS now to transform their operations as well as a glimpse into the future of CDS.

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