

CHALLENGES FOR CLINICAL PATHOLOGISTS IN A FAST DEVELOPMENT OF LABORATORY TECHNOLOGY

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ABSTRACT

During the last decade the development of laboratory technology has grown rapidly. This situation substantially improved the productivity of clinical laboratories. Instruments automation with smaller size replaced conventional method, allowing high throughput and decreased turnaround time. Laboratory medicine generates knowledge that can facilitate patient safety, improve patient outcomes, shorten patient length of stay and lead to more cost-effective healthcare.

In the other hand, currently, Clinical Pathologists focus mainly on analytical, technical, organizational, and managerial aspects and to a lesser extent on clinical aspects. Test selection and interpretation of results remain mostly the domain of the clinicians. In the future, the complexity of laboratory investigations has increased and clinicians will need more assistance in the use of new laboratory technology.

A new core competency of a Clinical Pathologists should improve their role in patient care by providing complementary knowledge service related to diagnostic testing. To be prepared for the future, Clinical Pathologists should redirect their thinking and engage in clinical value innovation, optimize their professional relationships with the clinicians, create additional value and serving as clinical consultants for appropriate test ordering and interpretation.

Keywords: *automation, laboratory technology development, patient care*

PENDAHULUAN

Dalam dekade terakhir ini perkembangan teknologi peralatan laboratorium sangat pesat. Pemeriksaan laboratorium konvensional telah mengalami otomasi digantikan oleh peralatan otomatis yang berkapasitas *throughput* yang tinggi dengan ukuran yang makin kecil. Hal ini menyebabkan makin kecilnya sampel yang dibutuhkan, sehingga reagen yang dibutuhkan juga semakin sedikit. Keadaan ini meningkatkan kinerja dan efisiensi di laboratorium.¹

Selain itu perkembangan bioteknologi menyebabkan jumlah parameter pemeriksaan laboratorium meningkat dua kali lipat hanya dalam satu dekade dengan tendensi mendekati