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Health Care Delivery Systems in the Undergoing Dramatic Changes in Clinical Microbiology

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Introduction

The transition in provider payment from fee-for-service agreements to managed care contracts has been a significant driving element in this process. The establishment of national, for-profit organisations, consolidation, mergers, acquisitions, and alliances, as well as the development of regional networks, are some of the most obvious trends. The continuing shortening of stays through the transition to outpatient healthcare. Clinical Microbiology in general and based laboratories in particular, has been affected by these changes in how they operate. With the exception of tests that need quick turnaround times, consolidations sometimes lead to the elimination of many or all superfluous on-site laboratory services. Samples for tests with slow turnaround times are delivered to a central laboratory, where an economical is realised at scale [1].

Description

It is become more and harder to generate cost savings while simultaneously maintaining quality and customer satisfaction in based laboratories that aren't going through mergers. Instead of the conventional work flow organisation based on subspecialty testing like chemistry, haematology, and microbiology, many laboratories have reorganised or reengineered the work flow and division of labour on the basis of the required test turnaround time, rapid-response tests, versus non-rapid-response tests. Reengineering is a term borrowed from the industrial industry. By increasing employee productivity, the integration of testing disciplines may reduce total operating expenses. There is little to no evidence to back up the claim that a big reorganisation will significantly reduce costs [2].

Unfortunately, general laboratory integration has frequently taken place without having the traditional clinical microbiology service contribute significantly. Reengineering must cross conventional administrative boundaries in order to be successful. When possible, microbiology should be included in the integration process. Not every microbiological testing, though, can be simply modified for integration. This category includes tests that require human labour and lengthy turnaround times, like cultures. The integration of some microbiology tests or test components, however, may be successful. Future developments in automation and technology will determine how fully integrated microbiology services will be. The emergence of approaches based on probe and amplification shows that the future is quickly approaching blood cultures can currently be done using a device that continually nourishes and keeps an eye on the growth of bottles [3].

The accessioning and loading of bottles, the performing of Gram stain smears and subcultures of positive bottles, the calling of preliminary smear results, and the setting up of quick identification and susceptibility tests are all possible activities carried out in the integrated laboratory. Ideally, a day should pass between these events. In the conventional microbiology laboratory setting, additional isolation workup would be carried out "off-line." Such an endeavour calls for a large investment in the training and supervision of technologists who might not have a strong understanding of smear interpretation. Combining automated urinalysis and bacterial load test equipment would allow for an appropriate screening of urine culture specimens. The workup of positive cultures would only be conducted on urine samples that met the requirements for culture is carried out offline. The approach affects the urine screening's predictive value. Additionally, urine testing is somewhat debatable and may increase the lab's expenses.

A commercially available DNA amplification test could be used to check for Chlamydia trachomatis and Neisseria gonorrhoeae in appropriate samples from the urogenital tract. Currently, samples must be batch tested, but advancements in instrumentation may make real-time testing possible. An antigen test for common diseases like Giardia lamblia and Cryptosporidium partum could be used in the integrated laboratory to screen stool samples for ovum and parasite testing. In a typical laboratory, a microscopic examination would only be carried out when the clinical presentation or history called for it. Several specimen types, including blood and respiratory samples, were provided for viral antigen assays. Faeces and secretions may be examined using automated or non-automated techniques. Serum and currently available tools can be used to perform a variety of assays for antibodies to microbial pathogens. A conventional clinical microbiology laboratory must remain on site for mycology, mycobacteriology, and other testing that cannot be easily integrated for the reasons mentioned above or due to safety concerns, or arrangements must be made to transport specimens for such testing to a reference laboratory [4].

The evolution of the clinical microbiology laboratory's integration will be fuelled by technology and automation as well as the innovation and resourcefulness of working microbiologists. The setup, processing, and interpretation of results differ significantly between the microbiological laboratory and the field of the core laboratory's automation and represent a lot more interpretive work. For the integration process to be effective, it is crucial to acknowledge these distinctions rather than ignore them. Loss of quality due to a decline in the competence of the resulting sizable group of generalist technicians and technologists is a significant possible negative effect of integrating a microbiological laboratory into a core laboratory. For a group of non-microbiology specialised technologists, maintaining a reasonable level of skill would call for a large amount of training and continued education. In addition to cost savings, practical decisions about what and how to integrate must be made with the aim of enhancing the delivery of timely, accurate laboratory reports to enhance patient management. To It might be better to refocus employees than to cut back on them in order to attain this goal. When questions about the integration of services are taken into consideration, these specialists must be involved in the decision-making process. Additionally, microbiologists' traditional roles in teaching, evaluating and using tests and instruments, and providing advice on the use and interpretation of tests will become even more crucial [5].

There is a propensity to minimise the burden of testing on the clinical microbiology laboratory due to the existing narrow scope of testing in the majority of healthcare facilities. Despite the fact that microbiological testing is complicated It would be naive to think that technology constraints will prevent

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the development of testing in clinical microbiology, which is incompatible with the current decentralised testing environments. Automation and improvements in non-culture-dependent microbe identification techniques may enable increasingly complex tests to be carried out outside of a clinical microbiology laboratory. A critical evaluation of the current state of testing in laboratory medicine is necessary in order to predict the future of testing in clinical microbiology.

Conclusion

Hander defined testing as one of several overlapping domains of decentralised laboratory testing in an effort to clarify language. Decreased turnaround times for laboratory testing were seen as an opportunity to improve the quality of care, which sparked the movement toward decentralised testing. More real-time laboratory data would be more readily available, which would facilitate clinical decision-making. The predicted effects of diagnosis-related groups on laboratory services caused the movement to pick up speed. Fixed reimbursement based on diagnosis would turn the laboratory into a significant expense centre rather than a business that generates profits. It was anticipated that fewer inpatient testing procedures would be carried out and that a large portion of this service would move to physician office laboratories and other outpatient locations. However, the Clinical Laboratory Improvement Amendments of hindered the expansion of physician office laboratory testing because there was resistance to follow previously non-existent regulatory requirements. Vendors started focusing on sites as a way to preserve the market share of technical strategies.

Conflict of Interest

None.

References

1. Robinson, Ann, Mario Marcon, Joel E. Mortensen and Yvette S. McCarter, et al. "Controversies affecting the future practice of clinical microbiology." *J Clin Microbiol* (1999): 883-889.
2. Emori, T. Grace and Robert P. Gaynes. "An overview of nosocomial infections, including the role of the microbiology laboratory." *Clin Microbiol Rev* 6 (1993): 428-442.
3. Schuchat, Anne. "Epidemiology of group B streptococcal disease in the United States: Shifting paradigms." *Clin Microbiol Rev* 11 (1998): 497-513.
4. Murray, Clinton K, Robert A. Gasser Jr, Alan J. Magill and R. Scott Miller. "Update on rapid diagnostic testing for malaria." *Clin Microbiol Rev* 21 (2008): 97-110.
5. Cabell, Christopher H, James G. Jollis, Gail E. Peterson and G. Ralph Corey, et al. "Changing patient characteristics and the effect on mortality in endocarditis." *Arch Intern Med* 162 (2002): 90-94.

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