

## Editorial

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# Clinical Chemistry and Laboratory Medicine: Happy 60th Anniversary

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On behalf of the IFCC organization, it is my great pleasure to congratulate the editors and publishers of *Clinical Chemistry and Laboratory Medicine (CCLM)* on 60 years of publishing cutting-edge research in all areas of laboratory medicine.

Information disseminated by *CCLM* to a global audience has surely transformed the field of clinical chemistry and laboratory medicine. Specifically, *CCLM* has taken the lead in publishing guidelines to support clinical laboratories around the world in applying up-to-date evidence in a way that improves clinical practice. This became especially important in the context of the COVID-19 pandemic, particularly in early months when little was known about the SARS-CoV-2 virus or COVID-19 disease. IFCC recognized this critical gap, and in turn, produced several guidelines on molecular, serological, and biochemical monitoring of COVID-19, as well as biosafety measuring for preventing COVID-19 in clinical laboratories. Thanks to the outstanding support of the Editor-in-Chief, Professor Mario Plebani, and the Associate Editor, Professor Giuseppe Lippi, the IFCC Taskforce on COVID-19 formed a very productive collaboration with *CCLM* to publish these recommendations alongside expert opinion pieces and original research articles in a special issue of *CCLM*. This timely special issue became a treasured resource for laboratory medicine specialists and other healthcare workers around the world. Importantly, this issue also helped to demonstrate the vital role of clinical laboratories in both patient care and public health. Following this initial series of publications, additional manuscripts were published in *CCLM* by the IFCC Taskforce on other important guidelines, such as the IFCC interim guidelines on rapid point-of-care antigen testing for SARS-CoV-2 detection.

As we look toward the future, it is clear that the field of clinical chemistry and laboratory medicine is confronting a time of many disruptive innovations that will change the face of our profession. Noteworthy innovations in laboratory automation, genomics, nuclear magnetic resonance spectroscopy, mass spectrometry, microfluidics, and electronic tools have improved the prognostic, diagnostic, and monitoring capabilities of the laboratory, enhancing the quality of patient care. For example, extensive progress in the automation of core laboratory analyzers has been shown to improve clinical workflow, reduce turnaround time and cost, and increase overall efficiency. Outside of the clinical lab, integration of novel analytical techniques with microtechnology and point-of-care testing (POCT) has narrowed the clinical-laboratory interface to facilitate a patient-centered healthcare model. Due to recent technological advances that have improved the accuracy and precision of these novel devices, POCT has become widely adopted to rapidly provide critical test results, thereby improving timely clinical decision-making. Many POCT devices are now being linked to electronic tools, such as smartphones, to improve accessibility of test result interpretation.

Certainly, one thing these innovations all have in common is that they have made it easier and cheaper than ever before to analyze patient samples, generating extremely large datasets of laboratory test results. To adequately capitalize on these advancements, new tools such as artificial intelligence and data mining are needed to harness the exciting potential of big data. Already, we are witnessing the applications of such data in the field of omics, in which these techniques and technologies converge to allow for comprehensive analysis of the genome, transcriptome, proteome, metabolome, microbiome, and more to generate a systemic profile of a biological system. Herein lies the next big key challenge for the field of clinical chemistry and laboratory medicine: how can we go beyond the current patient-centred approach and enable precision/personalized medicine to improve patient care and public health worldwide?

*CCLM* has been at the forefront of publishing such latest innovations, particularly as they relate to clinical

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laboratory science and laboratory operations, making a critical contribution to the advancement of the field of laboratory medicine and *in vitro* diagnostics. In the coming years, at the intersection of advanced technologies that produce big data and information technology to analyze it, the face of laboratory medicine will change drastically. Now more than ever, clinical laboratory

scientists need a reputable and reliable source of information to help guide us on this journey. As a lead journal in our field, I believe *CCLM* will do just that, as it has done before. My congratulations again to the Editor-in-Chief as well as its Editorial Board, authors, and readership for the growing success of the journal, and my very best wishes for continued success for many decades to come.