Journal of Analytical & Bioanalytical Techniques

Wang, J Anal Bioanal Tech 2020, 11:4

Editorial Open Access

The COVID-19 Pandemic May Speed the Development of Point-of-Care Diagnostic Devices

Wang B*

Department of Chemistry, Marshall University, Huntington, WV, USA

Corresponding author: *Bin Wang, Department of Chemistry, Marshall University, Huntington, WV, USA, E-mail: wangb@marshall.edu*

Received Date: August 03, 2020; Accepted: August 17, 2020; Published Date: August 24, 2020

Citation: Wang B (2020) The COVID-19 Pandemic May Speed the Development of Point-of-Care Diagnostic Devices. J Anal Bioanal Tech 11:e132

Editorial

The ongoing coronavirus disease (COVID-19) pandemic is changing our world, and these changes will be long-lasting. In this "new normal" era, gatherings are strictly prohibited; social distancing must be followed. Shopping malls, restaurants, hotels, and city downtowns are no longer packed with people; skyscrapers full of offices stand empty. Moreover, the general public is avoiding routine and emergency hospital visits for fear of contracting COVID-19. As technology allows people to work remotely, more and more residents are reconsidering city living: Modern cities are vibrant and dynamic, however, they are also crowded. Is it still desirable to live in densely-packed areas, which were not designed with highly transmissible respiratory diseases in mind?

The trend toward a migration of residents leaving large cities for the suburbs or rural towns is accelerating. Because there are fewer medical/hospital resources in rural areas than in their urban counterparts, the increase in rural residents requires more point-of-care (POC) testing to be available in areas without major medical centers. Therefore, it is likely that the development of POC diagnostic devices for a variety of diseases, especially COVID-19 and related illnesses, will dramatically increase during and after the COVID-19 era.

The miniaturization and automation of complex laboratory procedures onto small microchips with integrated detection capabilities makes microfluidic devices a natural and ideal fit for POC diagnostic applications. Until recently, typical microfluidic devices consisted of microstructures embedded into a glass, silicon, or polymer substrate fabricated using photolithography, chemical etching, hot embossing, or micro-molding techniques, all of which are time-consuming, labor-intensive, and expensive. The emergence of innovative 3D printing technology, with its enormous savings of time, labor, and cost, can completely change the field of microfluidic device fabrication as well as medical device manufacturing. Additional low-cost microfabricating materials such as paper and thread would be necessary to meet the booming needs of the POC diagnostic market, especially in developing countries.

From this global disaster, a new era of introspection, awareness, progress, and evolution will emerge. As analytical/bioanalytical chemists, we should seize this opportunity to contribute to a greater cause that will affect humanity's present and future. The Journal of Analytical and Bioanalytical Techniques is a fitting platform for presenting our research, as it publishes original and creative ideas, mature biotechnological products, and innovative bioanalytical techniques for medical and clinical applications.