



## Letter to the Editor: Cli/Lab 2018 Conference

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### Dear Editor,

In November 2018, the first joined clinical and paraclinical conference in the field of infectious diseases, named Cli/Lab 2018, was executed in Tehran, by the prominent professors of infectious diseases (ID) and was welcomed by many ID physicians. In this conference, one of the most important challenges of infectious diseases, antimicrobial resistance, was discussed by some experts. It also addressed the use of multiplex PCR (polymerase chain reaction) system for diagnosis of infectious diseases, and the results of this system in a referral laboratory center in Tehran were presented. This system will be a promising diagnostic system in the field of infectious diseases in our country and may lead to a great revolution in the diagnosis of infectious diseases, especially for viral infections or slow-growth microorganisms in the near future. However, using this system may have some challenges at this time, which are cited below:

1. Currently, in regards to the economic condition and international sanctions against Iran, the most significant limitation for introducing this diagnostic system is to provide the required currency and process of entering this system into the country. Therefore, it is recommended that some focal-referral points of molecular diagnosis of infectious diseases should be determined and this system should be bought in the limited number, only for these referral points.

2. A significant proportion of antimicrobial administration is performed in outpatient clinics by almost all medical groups. In addition, using multiplex PCR in this setting is not cost-effective, due to the large number of patients and the cost of the test, except in the special condition such as the severe or unusual disease or need for identifying the microorganisms during an outbreak. It is suggested that an alternative method for the diagnosis of infectious diseases in outpatient clinics is provided, such as

rapid diagnosis kits.

3. As introducing this technology, its requirements, including insurance coverage and adequate training of the target groups, especially ID physicians, have to be carried out. Furthermore, this test must not be widely prescribed by any medical groups. Therefore, it is recommended that the regional guideline of indication of administration the multiplex PCR should be provided by an expert team of ID professors and made available for the target groups, concomitant with other necessary proceedings, such as insurance coverage and training course. It seems that like the antimicrobial stewardship program, the most target physicians for requesting multiplex PCR tests are ID physicians and some subspecialists' physicians in the next level.

4. In regards to the occurrence of over-diagnosis due to the high sensitivity of these devices, the clinical judgment of the physicians must be prioritized to the device reporting for management of the patient. Furthermore, using advanced technology may not be effective if another treatment is necessary, especially if the connection between medical groups, such as clinical microbiologist or virologists and ID physicians is not fully developed.

5. One of the main goals of the multiplex PCR system is to identify the exact pathogens to prescribe effective and limited antibiotics. However, other facilities for limiting the administration of antibiotics, such as replacing the MICs (minimal inhibitory concentration) system in the hospitals' microbial laboratory instead of conventional disk diffusion must be provided for the evaluation of antimicrobial sensitivity.

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