Editorial

Health Laboratory and Future Advancement

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Health Laboratory is one of the vital components that provide investigation of disease, surveillance, control, and management. But due to lack of different hidden factors and not having reasonable access to meet quality-assured laboratory diagnosis, there has been found many challenges in developing countries including Nepal. Due to lack of quality assurance most of the laboratory finding are different from provisional diagnosis. Moreover, there has been delay in receiving the laboratory report which ultimately affects appropriate treatment. Many health care institutions of Nepal has additional challenges including limited resources, absence of essential infrastructure, laboratory supplies, basic equipment, skilled personnel, supply chain management and lack of equipment maintenance.

In the past till 19th century, disease diagnosis was based on history taking and physical examination. But due to revolution in medical science and technology, the traditional diagnostic method of history taking and physical examination have been replaced by the use of health laboratory investigation. There is every reason to believe that this trend will continue into the 21st century. Moreover, it will continue against a background of continuing advances in information technology and computer-based electronic communications advances that could revolutionize the provision of medical care through online communication among patients, clinicians, microbiologists/pathologists/ biochemists/ and other laboratory professionals. These changes in the health care system are likely to have profound effects on the practice of health laboratory services that will be determined by the competing demands of cost containment, assurance of quality, and financial support of education and research.

The next generation, will find molecular advances with automation including specimen preparation, amplification and detection of disease pattern using microarray probe technology.

Moreover, future advancement on health laboratory development will be more versatile with the innovative technology with emphasis on modular robotic automation.