

## Bio-Medical Equipment Technicians: Crucial Workforce to Improve Quality of Health Services in Rural Remote Hospitals in Nepal

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**Abstract :** Background: Continuous developments in science and technology are increasing the availability of thousands of medical devices – all of which should be of good quality and used appropriately to address global health challenges. It is obvious that bio medical devices are becoming ever more indispensable in health service delivery and among the key workforce responsible for their design, development, regulation, evaluation and training in their use: biomedical technician (BMET) is the crucial. As a pivotal member of health workforce, biomedical technicians are an essential component of the quality health service delivery mechanism supporting the attainment of the Sustainable Development Goals. Methods: The study was based on cross sectional descriptive design. Indicators measuring the quality of health services were assessed in Mechi Zonal Hospital (MZH) and Sagarmatha Zonal Hospital (SZH). Indicators were calculated based on the data about hospital utilization and performance of 2018 available in Medical record section of both hospitals. MZH had employed the BMET during 2018 but SZH had no BMET in 2018. Focus Group Discussion with health workers in both hospitals was conducted to validate the hospital records. Client exit interview was conducted to assess the level of client satisfaction in both the hospitals. Results: In MZH there was round the clock availability and utilization of Radio diagnostics equipment, Laboratory equipment. Operation Theater was functional throughout the year. Bed Occupancy rate in MZH was 97% but in SZH it was only 63%. In SZH, OT was functional only 54% of the days in 2018. CT scan machine was just installed but not functional. Computerized X-Ray in SZH was functional only in 72% of the days. Level of client satisfaction was 87% in MZH but was just 43% in SZH. MZH performed all (256) the Caesarean Sections but SZH performed only 36% of 210 Caesarean Sections in 2018. In annual performance ranking of Government Hospitals, MZH was placed in 1st rank while as SZH was placed in 19th rank out of 32 referral hospitals nationwide in 2018. Conclusion: Biomedical technicians are the crucial member of the human resource for health team with the pivotal role. Trained and qualified BMET professionals are required within health-care systems in order to design, evaluate, regulate, acquire, maintain, manage and train on safe medical technologies. Applying knowledge of engineering and technology to health-care systems to ensure availability, affordability, accessibility, acceptability and utilization of the safer, higher quality, effective, appropriate and socially acceptable bio medical technology to populations for preventive, promotive, curative, rehabilitative and palliative care across all levels of the health service delivery.

**Keywords :** biomedical equipment technicians, BMET, human resources for health, HRH, quality health service, rural hospitals

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