

Policy Brief

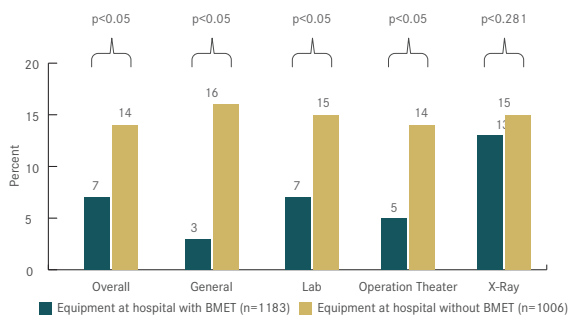
HOW EFFECTIVE IS THE DEPLOYMENT
OF BIOMEDICAL EQUIPMENT
TECHNICIANS IN IMPROVING
FUNCTIONAL STATUS OF MEDICAL
DEVICES IN THE GOVERNMENT
HOSPITALS OF RURAL NEPAL?

ENHANCING RURAL HEALTHCARE



Results

- 67% and 73% hospitals with and without BMET respectively were 15 bedded.
- A total of 2189 medical equipment (1183 and 1006 from BMET and without BMET hospitals respectively) were observed.
- Non-functional equipment in hospitals without BMETs was double that of hospitals with BMETs (14% and 7% respectively, $p < 0.005$).
- Results were similar across all departments. However, the difference was not statistically significant ($p = 0.281$) in X-ray department.



Category	Quantity of non-functional equipment requiring simple repair in hospitals with BMET (n=1183)	Quantity of non-functional equipment requiring simple repair in hospitals without BMET (n=1006)	P-Value
Overall	32 (3%)	74 (7%)	< 0.005
General	6 (1%)	28 (9%)	0.096
Lab	7 (3%)	21 (8%)	0.051
Operation Theatre	11 (4%)	19 (8%)	0.080
X-Ray	1 (2%)	2 (4%)	0.009

Hospitals with BMETs had fewer overall non-functional equipment requiring simple repair compared to hospitals without BMET [3% versus 7% ($p < 0.005$)].

Category	Quantity of non-functional equipment requiring advanced repair in hospitals with BMET (n=1183)	Quantity of non-functional equipment requiring advanced repair in hospitals without BMET (n=1006)	P-Value
Overall	48 (4%)	66 (6%)	< 0.005
General	8 (2%)	19 (6%)	0.240
Lab	12 (4%)	17 (7%)	0.021
Operation Theatre	4 (2%)	15 (5%)	0.250
X-Ray	7 (11%)	6 (12%)	0.637

Hospitals with BMETs had fewer overall non-functional equipment requiring advanced repair than hospitals without BMETs [4% versus 6% ($p < 0.005$)].

Management of Medical Equipment

- Staff working in non-BMET hospitals struggling to provide health services.
- Equipment repair mechanism- Local Level and Central level
- Local level repair mechanism (having technicians and adequate spare parts) was preferred than central level.

"Usually, if any machines such as the Blood Pressure set is damaged, I send that to the BMET and it is repaired immediately." **Staff-Hospital with BMET**

"We do not have adequate equipment as most of them are broken". **Staff-Hospital without BMET**

"....we called the central level technician team to repair the X-ray machine. They said that they would send their team members within 2-3 days but it has been 5 months and they have yet to arrive." **Staff-Hospital without BMET**

BMET Deployment

- Government Sanctioned Post- 50 bedded hospital
- NGO Deployment- as per need
- Some hospitals were unable to recruit BMET due to lack of adequate effort.

“There is a government sanctioned post for a BMET only in a 50-bedded hospital.” **Medical Chief-Hospital without BMET**

“The HMC along with the Medical Superintendent hasn’t made any efforts. If adequate efforts were made, it would be possible to have BMET in this hospital”. **Staff-Hospital without BMET**

“NSI has sent the BMET in all their supporting hospitals, so we have got one through that program.” **Medical Chief-Hospital with BMET**

Conclusions

- The deployment of BMET in rural hospitals is highly effective in reducing the numbers of non-functional equipment at the hospitals.
- Confidence level of staff working in hospital with BMET is higher.
- Favorable working environments consisting of team support and adequate spare parts enable BMETs to work to their full potential.

Recommendations

- Deploying the BMET shows the effective reductions in non-functional equipment that required simple repairs.
- BMETs should be deployed at all rural hospitals in Nepal to increase functionality of medical equipment, thereby improving the working environment and quality of health services provided at these hospitals.
- Future studies need to be conducted in the long term in order to evaluate the financial sustainability of deploying BMETs in rural Nepal.

Benefits of deploying BMET

- Repairing broken equipment is quicker and cheaper.
- Lowered operational expenses.
- Health service providers could provide services without pressure of equipment malfunction.
- Increased linkage between hospital and regional/central level workshop.

“In OT also, when there is a BMET, we feel so confident. We can tell him any time if any equipment is malfunctioning so that the OT service is uninterrupted.”

Staff-Hospital with BMET

“When I reached here the first time, equipment was not functioning and some new equipment was not in use due to lack of knowledge to operate.” **BMET**

“We buy new equipment rather than repairing broken one. If we have BMET, money would be saved.” **Staff-Hospital without BMET**

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