

Health – Nepal

Mobile repair service for medical equipment improves health care provision

Medical equipment such as X-ray machines, ultrasound scanners and lab analyzers are serviced regularly and defective equipment are repaired as quickly as possible to keep equipment downtime to a minimum. Based on the experiences of a successful pilot project, all districts of Nepal are benefiting since 2017 from nationwide maintenance services outsourced to private contractors in order to improve medical care. This is financed through the Government of Nepal’s budget, supported by the “Support of the Nepal Health Sector Programme”. KfW Development Bank within the framework of the financial co-operation project “Sector Programme Health and Family Planning” supports the consulting services for management support to nationwide implementation (2016 to 2018).

Context

The Nepalese public health system enjoys a less than preferable reputation among the population. Despite the fact that small primary health care stations and also larger health care facilities exist all over the country, medical treatment is still often not possible. Though the Ministry of Health & Population (MoHP) in Nepal increased the inventory of medical equipment in the country substantially since 2014 the percentage of non-functional equipment remains at around 30%. Vital equipment such as X-ray machines and ultrasound scanners are often out of service for long periods or are defective. Subsequently, patients are often referred to expensive private clinics. This has a negative impact on the population, especially those from poorer rural communities that can’t afford private medical services.

Project approach

The Federal Ministry for Economic Cooperation and Development (BMZ) had provided support through KfW since January 2009 as part of the "Sector Programme Health and Family Planning". The approach was to provide comprehensive maintenance services for the more complex medical equipment (excluding sophisticated ones which are serviced through manufacturer’s service contracts), through a suitably qualified private provider via a centrally administered contract. Within three years the rate of defective machines had fallen from 36% to under 1% proving the pilot approach a success. Out of the financial co-operation KfW provided

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Commissioned by	Federal Ministry for Economic Cooperation and Development (BMZ)
Country/Region	Nepal
Lead executing agency	Department of Health Services of the Ministry for Health and Population, Nepal





Database training, Source: KfW photo archive, photographer: Josef Riha

funding for an equipment inventory assessment in the rest of the country as basis for planning and budgeting for possible nationwide implementation of maintenance outsourcing. That survey found on average 30% of medical equipment defective in the remaining regions.

Agreement was reached by mid-2015 for the Government of Nepal to finance nationwide outsourcing contracts while KfW was able to fund the required consulting support. After a market survey the bidding process for three contract lots was launched and successfully concluded with the signing of 4-year maintenance contracts in early 2017. The contractors have recruited a total of 60 qualified biomedical engineers and technicians and establish eight workshops strategically located throughout the country as logistic bases for their mobile units.

In order to give importance to the proper and regular maintenance of health system assets the Department of Health Services (DoHS) has created a Physical Assets Management Unit (PAM Unit). A total of seven biomedical engineers have been recruited by the DoHS and coached by the consultants to provide various contract management roles, including the preparation of a sound data base to develop a future maintenance strategy. For the purpose of rendering maintenance services cost effective, the health facilities have been divided into three categories with different service models, such as 24/7 service, scheduled 6-monthly Planned Preventive Maintenance (PPM) and Corrective Maintenance services or service on demand basis. During the Mobilization Phase contractors were also to reassess and document the equipment inventory status and undertake initial repair attempts in the 178 assigned health facilities in all now 77 districts of Nepal, covering about 6,000 pieces of the more sophisticated equipment. Furthermore, a hotline was set up to take emergency calls.

The first regular PPM cycle is currently being concluded and indications are that the contractors have already succeeded to raise the functional status to well over 90% in most health facilities. During visits to health facilities the contracted field engineers are also obliged to provide training to equipment users and to in-house technicians in order to improve handling and basic maintenance skills. An IT-based system is used as principal contract management tool, including modules for inventory, maintenance and invoicing. Dedicated IT training of PAM and contractors' personnel was also essential for ensuring the smooth running of the repair and maintenance services.

Impact

The pilot project had made its mark on many levels and provided a benchmark for expectations on all sides for the nationwide implementation of the outsourcing approach. Although it is too early to talk of success, the performance of all three contractors in terms of professional engagement, fulfillment of contract conditions and cooperation with the DoHS and consultants has been exceptional so far. It is also noteworthy that all 60 qualified biomedical staff of the contractors are Nepali nationals, and the maintenance contracts therefore contribute to increased recognition and appreciation. This will be important for the long-term success of whatever maintenance approach the MoHP will choose to implement in future. With annual maintenance cost below 10% of estimated equipment replacement cost, the chosen outsourcing approach is considered cost-effective given the topography and logistic challenges of Nepal.



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