



## Augmenting oxygen management capacity through upskilling

A success story from Lok Nayak Jai Prakash Hospital, New Delhi, India

The 1600-bedded Lok Nayak Jai Prakash Hospital (LNJP) in New Delhi was the mainstay of the city's fight against the COVID-19 pandemic. It was identified by USAID RISE project as one of the spoke health facilities in Delhi state for strengthening oxygen management capacity. In October 2021, when a USAID RISE team, led by PATH, visited the hospital, they observed that the hospital had a combination of oxygen systems - two liquid medical oxygen (LMO) tanks, three Pressure Swing Adsorption (PSA) oxygen generation plants in one construction site and another two PSA plants located approximately 250 meters from the other three plants. The hospital also had two manifold rooms and a medical gas pipeline system (MGPS).

“Our technicians used to find handling oxygen devices very challenging as they did not possess the required skills and knowledge about PSA plants, which also affected their confidence. Their exposure to training was limited to online trainings, without any practical experience.”

*Anupam Bansal  
Biomedical Engineer, LNJP Hospital*

During a follow-up visit to the hospital in October 2021, the hospital administration expressed their concerns about inadequate human resources to handle and operate the PSA plants despite having a fully equipped and self-sufficient infrastructure and requested USAID RISE to support them by providing new human resources. The USAID RISE team, led by PATH, shared its assessment findings and discussed that there are 14 resources dedicated to managing medical equipment and biomedical systems in the hospital. PATH worked with the hospital management to roster the 14 technicians and put them in shifts so that there are at least a few biomedical technicians round-the-clock to manage the equipment in the hospital.

Furthermore, the assessment with the technicians of the hospital also highlighted the need for strengthening capacities for various oxygen systems which were relatively new to the public health systems. As a result, there were very few staff who understood the complexity of integration and maintenance of these newly deployed oxygen systems and the know-how to manage them. Based on the findings, USAID RISE proposed, and the hospital administration agreed, to strengthen capabilities, skills, and motivation of the available staff for managing oxygen systems through training and mentoring.

USAID RISE organized and facilitated a two-day training at the hospital for 14 technicians on oxygen delivery solutions, oxygen device usage, and troubleshooting. The training combined classroom, demonstrations, and hands-on sessions on oxygen devices. In addition, the trainees were also trained in identifying and troubleshooting common problems in oxygen equipment, as well as during oxygen delivery. Furthermore, PATH delivered a short training on oxygen therapy for service providers with



A classroom session on management of oxygen devices at LNJP hospital. Image: PATH/ India

the objective of creating a pool of personnel skilled in oxygen therapy. Post the classroom training and demonstration sessions, USAID RISE team, led by PATH, regularly responded to queries from the technicians to help them practice the troubleshooting solutions learnt during the training. In addition, PATH's state team of biomedical engineers regularly visited the hospital to mentor the technicians in order to reinforce knowledge and build long-lasting skills in oxygen management.

This project proved to be a crucial and timely intervention for the hospital, which was able to expand its human resource capacity manifold. The intervention not only increased the efficiency of the facility but also introduced oxygen training as a separate module in the healthcare ecosystem.

“A major issue for the hospital earlier was the dependence on external agency or vendor for minor troubleshooting and technical assistance. But that has changed after the USAID RISE training. Once during a regular inspection, the need for zeolite replacement was found. Due to the orientation and training given to technicians under USAID RISE in the operations of the PSA plant, we were able to accurately identify the problem and implement the solution internally. By using the knowledge and skill sets gained during the training to handle the zeolite, replacement of zeolite was smoothly done. This demonstration of self-sufficiency by the technicians is a significant achievement for the hospital, and it has been made possible by the PATH-led trainings under USAID RISE.”

Jitendra Kumar  
OT Technician, LNJP Hospital