

Karnataka health department launches blueprint for the National Medical Oxygen Grid

Our Bureau, Bengaluru, Thursday, October 20, 2022, 16:45 Hrs [IST]

Karnataka health and family welfare department has launched the Blueprint for a National Medical Oxygen Grid in India. This is in an effort to support the objective of the Oxygen-for-India campaign, with USAID-RISE, the Bill & Melinda Gates Foundation, and the Swasth Alliance, the One Health Trust (OHT). They embarked on an effort to develop a national oxygen grid, that can ensure timely availability of medical oxygen which can save lives, including those of children suffering from respiratory ailments, pregnant women, patients with severe malaria, cardiovascular disease, and traumatic injuries.

In Karnataka, this was launched by the State health commissioner and Additional Charge, State Mission Director, ABDM D. Randeep to herald the advent of self-reliance in the supply of medical oxygen throughout the country.

The report presents a comprehensive assessment of the current and future medical oxygen needs of India and the design and implementation of a National Medical Oxygen Grid (NMOG). It finds that the lack of utilization of medical oxygen, especially outside of major metros, meant that there was both a lack of supply as well as a lack of personnel trained to use medical oxygen. It is vital to fix the problem and ensure that oxygen is widely available and used in the farthest corners of the country during normal times so that the country's infrastructure is ready for any future crisis.

An ideal oxygen grid for the country would work much like an electricity grid, with central generation (liquid medical oxygen), transmission (tankers and cylinders), storage (liquid and gaseous), and decentralized production (pressure swing adsorption generators and oxygen concentrators). No electricity grid would rely on just decentralized solar or micro-hydro plants without centralized transmission and distribution; similarly, a reliable national oxygen grid should have multiple generation and storage components. The National Medical Oxygen Grid, if executed, will be a far-reaching endeavour that would unify the medical oxygen supply and consumption industry for the efficient management of the medical oxygen supply in the country, especially during health crises.

The report lays the groundwork for the design and implementation of the grid. It recommends a four-step approach for the design of the NMOG. The first step is to model and plan exercises to forecast the demand that must be met. The second is to divide the demand into manageable distribution areas to ease distribution. The third step is to create a detailed supply-side assessment so that the demands forecasted in step 1 may be met. The final step is to design the grid network that would include detailed steady-state and exigency operational plans.

Some other features of the proposed NMOG are the creation of a large storage reservoir capacity to meet any future demand spurt and an interconnected network allowing for a smooth flow from surplus to deficit areas. Public-private partnership models are deemed imperative for the achievement of oxygen self-sufficiency. The authors propose a robust IT platform that includes IOT devices for sensing and automatic data collection, and GPS systems to enable supply-side management. The report also recommends the drawing of new clinical protocols and training mechanisms for doctors and other health professionals for optimal usage of medical oxygen.

Pilot projects are proposed in some states like Uttar Pradesh and Karnataka, as a collaborative effort between different government departments, refillers, and hospitals in the division, experts and IT professionals, and funding agencies.

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