Oxygen access has been a long-neglected element of health systems planning, despite being an essential treatment for a range of diseases. Almost half of all hospitals in low- and middle-income countries have an inconsistent supply of medical oxygen or lack it entirely. Even fewer have functional pulse oximeters—devices that measure blood oxygen levels and help health workers to determine oxygen delivery and dosages.

Translating pandemic investments into sustained respiratory care services will require coordinated efforts across financing, health system and device infrastructure, operations and maintenance, clinical training, data systems, policy design, and advocacy.

In early 2023, the World Health Organization (WHO) Executive Board recommended to the seventy-sixth World Health Assembly the adoption of the resolution on increasing access to medical oxygen. The draft decision was submitted by Uganda and co-sponsored by Australia, Bangladesh, the Central African Republic, the European Union and its 27 member states, Kenya, and Turkey.

This resolution recognizes and reaffirms the critical role of medical oxygen in resilient health systems planning and in achieving the Sustainable Development Goals for health. It upholds the urgency of sustaining investment in oxygen production and supply and calls on global stakeholders and national governments to continue alignment and coordination, including on policies and guidelines, technical documents, and training.

Taking into account their national contexts, this resolution urges WHO Member States to:

- Include medical oxygen and associated medical devices on national lists of essential medicines and medical devices for adults and children, including to address treat hypoxemia and anesthesia, for relevant communicable and noncommunicable conditions and injuries for all relevant patients, including for maternal, newborn, infants, and children.

- Develop, as appropriate, costed national plans to increase access to quality assured, affordable medical oxygen systems and personnel to meet the identified needs of all patients in the context of national achievement of the health SDG targets and universal health coverage.

- Develop national, regional, and local health regulations, policies, and plans that are informed by but not limited to WHO guidelines and technical specifications relating to medical oxygen and associated medical devices.

- Assess the scale of medical oxygen access gaps in their health systems, including at subnational- and local-level health facilities, to provide patients with the required amounts of medical oxygen and related diagnostic tools (e.g., pulse oximeters), and medical devices that deliver oxygen therapy (e.g., invasive/non-invasive ventilators, and continuous positive airway pressure), and availability of qualified staff.

- Update their national pharmacopeia as appropriate, informed by provisions on medical oxygen in The International Pharmacopoeia.
<table>
<thead>
<tr>
<th><strong>Monitor access to safe, affordable, quality-assured medical oxygen and related services throughout the health system, as part of national efforts to achieve universal health coverage.</strong></th>
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<tr>
<td><strong>Raise public awareness, as appropriate, about the life-saving role of medical oxygen as a treatment for many conditions, including the critical role of pulse oximetry as a routine screening tool, to increase public understanding of hypoxemia and its consequences, and to build confidence in health system capacities to meet medical oxygen needs.</strong></td>
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<td><strong>Consider the stepwise integration of medical oxygen and other medical gas systems into the construction of health care infrastructure to improve accessibility and reduce the risk of bottled medical oxygen shortages.</strong></td>
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<td><strong>Consider increasing domestic financing as well as international support for medical oxygen and provide transparent procurement and tendering processes, as appropriate, to ensure resilient supply chains for sustainable local manufacturing and procurement of medical oxygen and related diagnostic tools and therapies.</strong></td>
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<td><strong>Consider conducting regular assessments to provide for rational use of oxygen, in order to prevent underutilization, overuse, and/or inappropriate use of medical oxygen.</strong></td>
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<td><strong>Provide for adequate numbers of clinical staff to be appropriately trained to provide clinical assessments for hypoxemia and to administer medical oxygen therapy, including as part of comprehensive emergency, critical, and operative care services across all clinical settings.</strong></td>
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<tr>
<td><strong>Provide for availability of qualified staff including engineers and other staff required to establish demand, select, set up, operate, and maintain the equipment and all the infrastructure related to medical oxygen production, storage, and uninterrupted distribution to patients.</strong></td>
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<tr>
<td><strong>Consider including, as appropriate, access to medical oxygen, related diagnostics and therapies, and all medical oxygen systems and personnel in national strategies for pandemic preparedness and response and other health emergencies, including for infectious disease outbreaks.</strong></td>
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<tr>
<td><strong>Prevent toxic levels of medical oxygen and the provision of safe medical oxygen among preterm newborns, by using blenders, pulse oximeters, and equipment that meet global standards for technical specifications.</strong></td>
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<tr>
<td><strong>Consider setting up, as appropriate, national and subnational medical oxygen systems in order to secure the uninterrupted provision of medical oxygen to health care facilities at all levels comprising rural and urban set-ups.</strong></td>
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</table>
To support Member States in scaling these actions, WHO and international partners need to:

- Continue to **highlight medical oxygen as an essential medicine** and to highlight the related priority medical devices and infrastructure that must be available to all patients who need them as part of quality health systems contributing to universal health coverage.
- Support Member States to improve access to medical oxygen by developing **guidelines, technical specifications, forecasting tools, training materials, and other resources**, and provide technical support especially designed to meet the needs of health systems in developing countries.
- Promote **convergence and harmonization of regulations governing the provision of medical oxygen** and access to safe, effective, and quality assured medical oxygen sources and devices that meet standards set by WHO and competent authorities.
- Support Member States’ efforts to provide **adequate, predictable, and sustainable financing** for affordable medical oxygen and for the trained workforce required to safely install, operate, and maintain the medical oxygen systems.
- Include medical oxygen supply in WHO-related **pandemic, preparedness, and response efforts**.
- Review **medical oxygen innovations** and promote sharing of the innovations among Member States on voluntary and mutually agreed terms to increase access to quality, affordable and reliable supplies of medical oxygen and related diagnostic tools and therapies in low-resource settings.
- Establish a **research agenda** as needed regarding the use of medical oxygen.
- Collect and analyze data and share best practices in closing gaps to medical oxygen access.
- Regularly **consult with relevant actors** on all aspects of access to medical oxygen and to enable partnerships between non-State actors and Member States in the design and delivery of oxygen solutions.
- Promote **mutual support, assistance, and cooperation among stakeholders** to increase oxygen access.
- **Report on progress** on the resolution’s implementation to the Health Assembly in 2026, 2028, and 2030.

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**Integrate medical oxygen data into routine health information systems.**

**Promote mutual support, assistance, and cooperation** to increase access to medical oxygen.

**Promote research**, including translational research, to improve access, quality, and safety of medical oxygen in health care settings.

Invest, as appropriate, in **medical oxygen innovations** with the potential to increase access to quality assured, affordable, and reliable supplies of medical oxygen and related diagnostic tools and therapies, including those suitable for low-resource settings.
The resolution includes the following pre-ambulatory clauses, which highlight the urgency and importance of medical oxygen access and outline past international action on the issue. The 76th World Health Assembly:

1. Recognizes the inclusion of medical oxygen as a life-saving essential medicine with no substitute on the 22nd World Health Organization Model List of Essential Medicines and the 8th World Health Organization Model List of Essential Medicines for Children, where it is an indication for the management of hypoxemia, including for vulnerable groups, and anesthesia that is essential for surgery and trauma.

2. Reaffirms the critical role of medical oxygen in the achievement of the Sustainable Development Goals (SDGs) for health, including reducing maternal mortality (SDG target 3.1), newborn and child mortality (SDG target 3.2) and premature mortality from chronic conditions (SDG target 3.4), and that medical oxygen has a role in the acute treatment of some AIDS-, tuberculosis- and malaria-related conditions (SDG target 3.3) and road traffic injuries (SDG target 3.6), and accelerating progress towards universal health coverage (SDG target 3.8).

3. Notes that the wide application of medical oxygen is essential for the treatment of hypoxemia across many communicable and noncommunicable diseases and medical conditions, across the life course, to which older persons in particular are vulnerable, including but not limited to coronavirus disease (COVID-19), pneumonia, tuberculosis and chronic obstructive pulmonary disease, and situations requiring surgery, emergency and critical care, and therefore necessary for the achievement of the goals and targets in the Global action plan for the prevention and control of NCDs 2013–2020, the End TB Strategy, the WHO package of essential noncommunicable (PEN) disease interventions for primary health care and WHO Guidelines for Safe Surgery 2009.

4. Underscores that medical oxygen access is particularly critical for pregnant women during and after delivery, newborns in respiratory distress and children with pneumonia, and therefore necessary for the achievement of the goals and targets in the Global Strategy for Women’s, Children’s and Adolescent’s health, the Every Newborn Action Plan and The integrated Global Action Plan for Pneumonia and Diarrhoea.

5. Is concerned that complications due to preterm birth are the leading cause of global neonatal mortality and recalling that WHO recommends support for respiratory distress syndrome and the importance of safe medical oxygen use to prevent injury from toxic levels of oxygen in the blood resulting in retinopathy of prematurity (one of the leading causes of child blindness) and chronic lung disease.

6. Is concerned that in developing countries not all health facilities have uninterrupted access to medical oxygen, and that lack of access is contributing to preventable deaths – a problem that has been exacerbated by the COVID-19 pandemic when the need for medical oxygen has exceeded the capacities of many health systems.

7. Recalls the publication of WHO medical oxygen treatment guidelines, good practices, technical specifications, forecasting tools, training videos, consultations, safety guidelines and the 2022 revisions to the monograph on Medicinal Oxygen that was adopted at the 56th meeting of the WHO Expert Committee on Specifications for Pharmaceutical Preparations for publication in the 11th Edition of The International Pharmacopoeia, which collectively aim to improve access to medical oxygen through the appropriate selection, procurement, instalment, and operation and maintenance of medical oxygen systems and related infrastructure by Member States.

8. Acknowledges the inclusion of pulse oximeters and other medical oxygen-related devices as priority medical devices listed in Core Medical Equipment, the Interagency list of medical devices for essential interventions for reproductive, maternal, newborn and child health, the WHO list of priority medical devices for cancer management, The Priority medical devices list for the COVID-19 response and associated technical specifications, WHO-UNICEF Technical specifications and guidance for oxygen therapy devices, and the List of Priority Medical Devices for management of cardiovascular diseases and diabetes, and that medical oxygen devices are also regularly highlighted in the WHO compendium of innovative health technologies for low-resource settings.

9. Acknowledges the role of the ACT-A Oxygen Emergency Taskforce in helping developing countries finance urgently needed medical oxygen supplies to meet the surging demand during the COVID-19 pandemic and recognizing that large gaps in access to medical oxygen remain globally unaddressed, especially in developing countries.

10. Highlights the opportunity to consider medical oxygen in pandemic preparedness and response efforts, including through domestic and international funding.

11. Recognizes resolution WHA72.8 (2019) on improving the transparency of markets for medicines, vaccines, and other health products, in order to enhance availability and affordability of medical oxygen, particularly in developing countries.