

## SUMMARY

## Proposal for inclusion of oxygen as a medical gas on the World Health Organization Model List of Essential Medicines

Oxygen is currently listed in the anesthetics category on the World Health Organization (WHO) Model List of Essential Medicines (EML) and List of Essential Medicines for Children (EMLc) because of its proven lifesaving properties, safety, and cost-effectiveness. Oxygen is a well-established medical gas frequently used for the management of hypoxemia—a common complication of serious illnesses and conditions affecting newborns, children, and adults globally. Some examples of medical conditions for which oxygen might be needed for the management of hypoxemia include respiratory complications of preterm birth (such as neonatal respiratory distress syndrome), severe infections (such as sepsis), acute respiratory infections (such as pneumonia, bronchiolitis, and disease pandemics), chronic respiratory diseases (such as asthma and chronic obstructive pulmonary disorder), and emergency care (such as obstetric complications and trauma).

Despite the risks of hypoxemia and the effectiveness of oxygen therapy, oxygen remains a scarce resource in low- and middle-income countries (LMIC). Each year lack of access to oxygen supplies contributes to thousands of deaths, including an estimated 122,000 child deaths from pneumonia globally which could be averted if oxygen systems were strengthened.<sup>1</sup> Critical deficiencies in oxygen access for patient care in LMIC<sup>2</sup> have prompted a review of the listing of oxygen on the WHO EML and EMLc to ensure that it complements and underscores efforts to improve global access to oxygen therapy as an essential medicine.

PATH submitted an application to the WHO EML Secretariat for the inclusion of an additional listing for oxygen as a medical gas to clarify its importance as a medicine that should be made widely available and affordable for its broader clinical indications. Consensus was achieved among technical focal points at the WHO to propose an additional listing for oxygen under a new category for medical gases to support its broader indications outside settings of anesthesia use. This additional listing of oxygen will reinforce its use for the management of hypoxemia and achieve harmonization with standard

treatment guidelines and pharmacopeial monographs. Subsequently, this addition to the EML and EMLc may stimulate increased coverage of oxygen therapy in LMIC where it is most urgently needed. Decisions related to the application will be made during the 21<sup>st</sup> Expert Committee meeting at the Geneva WHO Headquarters in March 2017.

The expected benefits of the proposed additional listing for oxygen on the WHO EML and EMLc include:

- Increased recognition among national-level policymakers and health care providers about the importance of oxygen as a therapeutic medical gas for hypoxemia.
- Improved selection and utilization of oxygen in health facilities in LMIC, enhancing quality of care.
- Reinforcement of standardized processes and clinical guidelines to improve safe administration of oxygen.

### Proposed additional inclusion of oxygen as a medical gas on the WHO EML and EMLc (new text in blue fields).

<b>1. Anaesthetics</b>	
<b>1.1 General anaesthetics and oxygen</b>	
<b>1.1.1 Inhalational medicines</b>	
halothane	<b>Inhalation.</b>
isoflurane	<b>Inhalation.</b>
nitrous oxide	<b>Inhalation.</b>
oxygen	<b>Inhalation (medicinal gas).</b>
<b>X. Medical gases</b>	
oxygen*	<b>Inhalation (medicinal gas).</b> Use for the management of hypoxemia. *No more than 30% oxygen should be used to initiate resuscitation of neonates ≤32 weeks of gestation.

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<sup>1</sup> Catto AG, Zgaga L, Theodoratou E, et al. An evaluation of oxygen systems for treatment of childhood pneumonia. *BMC Public Health*. 2011;11(Suppl 3):S28.

<sup>2</sup> Manasyan A, Saleem S, Koso-Thomas M, et al. Assessment of obstetric and neonatal health services in developing country health facilities. *American Journal of Perinatology*. 2013;30(09):787-94.