

## COMMISSION ON MEDICAL OXYGEN SECURITY

### SPOTLIGHT BRIEF

#### 10 Oxygen Coverage Indicators

##### **Introduction**

**The Lancet Global Health Commission on Medical Oxygen Security** recommends the following 10 indicators for monitoring universal access to safe, affordable, quality pulse oximetry and medical oxygen services at national and sub-national levels.

The indicators are most useful when used together, as no single indicator provides an adequate representation of oxygen-related service provision in isolation.

All targets should be adapted to the local context and given a timeline. Items in bold are regarded as highest in terms of priority and feasibility, while others are highly desirable but may be more challenging to assess.

For more information, see the Commission report: **Reducing global inequities in medical oxygen access: The Lancet Global Health Commission on medical oxygen security.**

*How to  
measure  
access to  
safe, quality,  
affordable  
pulse  
oximetry and  
medical  
oxygen...*



#InvestinOxygen

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### 10 Oxygen Coverage Indicators

Domains	Definition	Target
Pulse oximetry coverage	<i>Proportion of patients presenting to hospital with acute illness or undergoing surgery with SpO2 documented on triage/admission (or during non-emergency surgery)</i>	>80%
Oxygen production and storage capacity	<i>Mean (and maximum) monthly production volume (Nm3) of medical oxygen, and storage capacity, of each production facility (PSA/VSA or ASU)*</i>	Individualised country targets
Pulse oximeter and oxygen availability	<i>Number and proportion of acute ward areas in health facilities with a functional pulse oximeter and oxygen supply sufficient to meet patient need in the past month</i>	100%
Pulse oximetry and oxygen service accessibility	<i>Proportion of the population that can access, within two hours, a health facility that provides low-flow oxygen services with pulse oximetry measurement and monitoring</i>	100%
Hypoxaemia prevalence	<i>Proportion of patients attending a health facility with hypoxaemia (SpO2&lt;90%) on triage/admission</i>	No target – reflects magnitude of oxygen need
Oxygen coverage	<i>Proportion of patients with hypoxaemia (SpO2&lt;90%) on triage/admission to a health facility who receive oxygen therapy within one hour</i>	>80%
Hypoxaemia-related mortality	<i>Proportion of patients attending a health facility with hypoxaemia (SpO2&lt;90%) who die before discharge, or within 30 days</i>	Individualised country targets
Clinical workforce	<i>Number of doctors, nurses, and midwives, per 10,000 population</i>	≥44.5 per 10,000 population
Biomedical engineering workforce	<i>Number of biomedical engineers (defined broadly as per WHO),** per 10,000 population</i>	≥0.4 per 10,000 population
Protection against catastrophic health expenditure	<i>Proportion of patients receiving medical oxygen services with out-of-pocket expenditure on oxygen services greater than 1% of total annual household expenditure or income</i>	<5%

ASU – Air Separation Unit (cryogenic production of liquid oxygen); PSA/VSA – Pressure- or Vacuum-Swing Adsorption oxygen plant; SpO2 – oxygen saturation (oxygen concentrations in peripheral blood).

\*\*Human resources for medical devices, the role of biomedical engineers. Geneva: World Health Organization, 2017.

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### ABOUT THE COMMISSION

**Announced** in September 2022, *The Lancet Global Health* Commission on Medical Oxygen Security provides a thorough exploration of medical oxygen coverage gaps, with recommendations to ensure that no patient dies for lack of access to this essential medicine, including during public health emergencies like COVID-19.

The Commission was led by 18 Commissioners - multi-disciplinary academics with clinical, economic, engineering, epidemiological, and public policy expertise - representing all regions of the world. Forty Advisors representing United Nations and global health agencies, donors, academic institutions, and non-governmental organizations provided guidance. A large global network of Oxygen Access Collaborators provided constant input to the Commission and included representatives from industry and Ministries of Health. Special consultations were conducted with patients, caregivers, and clinicians to ensure that their voices and experiences shaped the Commission's recommendations.

An Executive Committee coordinated the work of the Commission and included representatives from **Makerere University**, Uganda; **International Centre for Diarrheal Disease Research (icddr,b)**, Bangladesh; **Murdoch Children's Research Institute (MCRI)**, Australia; **Karolinska Institutet**, Sweden; and **Every Breath Counts Coalition**, USA.

You can find the Commission report [here](#) and the advocacy package [here](#), including:

- **Report with Comments**
- **Policy Brief (English, French, Spanish, Arabic, Chinese, and Russian)**
- **Spotlight Brief: Access to Medical Oxygen Scorecard (ATMO<sub>2</sub>S)**
- **Spotlight Brief: Patient and Caregiver Testimonials**
- **Spotlight Brief: 10 Oxygen Coverage Indicators**
- **Spotlight Brief: 20 Priority Areas for Oxygen Innovation**
- **Country Case Studies**