Immune checkpoint inhibitor (ICI) | Cost-effectiveness study

Economically justified price of an immune checkpoint inhibitor in non-small cell lung cancer

CLIENT **Medicines Patent Pool**

OBJECTIVE

To examine the **cost-effectiveness and the financial impact** of a class of ICIs versus standard of care (SoC) for first-line treatment of NSCLC patients in four LMICs, from the perspective of a **publicly funded healthcare system**.

METHODS

- **Rapid review with systematic methods to** identify previous economic studies assessing the cost-effectiveness of ICIs in LMICs to support the building of a cost-effectiveness model.
- A **partitioned-survival model** was developed to evaluate the **cost-effectiveness of three first-line ICIs** at a range of prices versus chemotherapy as SoC. Acknowledging the lack of widely accepted willingness-to-pay (WTP) thresholds, **five different thresholds** were used to identify prices at which ICIs could be cost-effective from the perspective of a publicly funded health system.
- A **budget impact analysis** measured the financial impact of incorporating ICIs into the publicly funded health system at reduced prices. The analysis was conducted for **four LMICs**: Indonesia, India, Kenya, and South Africa.

KEY MESSAGES

- For ICIs to be **cost-effective** in LMIC settings, a **discount is required** on current reference prices.
- ICIs could be cost-effective at one, two and three GDP per capita in India, South Africa and Indonesia if a discounted price is achieved, and at three times GDP per capita in Kenya if a discounted price is established.
- Discount values will depend on the country, indication, drug, therapeutic dose value, and willingness to pay thresholds.