

## Affordability calculation

A medicine is **affordable** when no extra daily wages (EDW) are needed for the lowest paid unskilled government sector worker (LPGW wage) to purchase a daily dose of a monthly treatment of this medicine after fulfilling core needs represented by the national poverty line (NPL).

Three variables are required to estimate the EDW needed to purchase a medicine:

1) *Defined daily dose (DDD) of treatment* is an average maintenance dose per day for a medicine used for its main indication in adults.<sup>1</sup> DDDs allow unit comparisons of medicine use despite differences in strength, quantity or pack size.

2) *National poverty line (NPL)* is the benchmark for estimating poverty indicators that are consistent with the country's specific economic and social circumstances. NPLs reflect local perceptions of the level and composition of consumption or income needed to be non-poor. Relative poverty line may also be used to estimate medicines' affordability when NPL is not accessible.

3) *Wage of the lowest paid unskilled government worker (LPGW)* is a minimum living wage that employees are entitled to receive in order to avoid poverty and reduce inequalities.<sup>2</sup>

$$\text{Extra daily wages (EDW)} = \frac{\text{NPL} + \text{price per DDD}}{\text{daily wage of LPGW}}$$

The number of extra daily wages is measured as a ratio of 1) the sum of the NPL (per day) and the price per daily dose of treatment of the medicine (DDD), over 2) the daily LPGW salary. This ratio can vary between 0 and infinity.

The computed EDW ratio aims to indicate whether the LPGW wage is sufficient for the individual who earns the lowest possible income to cover 1) the daily expenditures for food and non-food items used to define (relative or absolute) poverty using national standards (NPL) and 2) the daily needs for a medicine (DDD). This ratio then requires transformation into a binary variable where medicine is affordable when zero extra daily wages are required to purchase it and not affordable otherwise.

Affordability of a medicine identifies how many (if any) extra daily wages are needed for an individual who earns the LPGW wage to be able to purchase a medicine, when calculating SDG indicator 3.b.3.

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<sup>1</sup> [https://www.whocc.no/ddd/definition\\_and\\_general\\_considera/](https://www.whocc.no/ddd/definition_and_general_considera/)

<sup>2</sup> <https://www.ilo.org/global/topics/wages/minimum-wages/definition/lang--en/index.htm>