## **Supplemental Online Content**

Tranvåg EJ, Haaland ØA, Robberstad B, Norheim OF. Appraising drugs based on cost-effectiveness and severity of disease in Norwegian drug coverage decisions. *JAMA Netw Open*. 2022;5(6):e2219503. doi:10.1001/jamanetworkopen.2022.19503

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This supplemental material has been provided by the authors to give readers additional information about their work.

# eTable 1. Norway and Its Health Care System<sup>1,2</sup>

- Population of 5.3 million
- Single-payer tax-based health care system
- Public health care spending is 85% of total health care spending
- Per-capita health care expenditure of \$6187
- Three priority-setting criteria are applied in the health care system:
  - o The health-benefit criterion: the priority of an intervention increases with the expected health benefit from the intervention
  - o The resource criterion: the priority of an intervention increases the less resources it requires
  - o The severity criterion: the priority of an intervention increases with increasing severity of the condition the intervention is targeting

### References

1. Ord T. The moral imperative toward cost-effectiveness in global health. In: Effective Altruism. *Oxford University Press*; 2013.

2. Neumann PJ, Cohen JT, Ollendorf DA. Drug-pricing debate redux—should costeffectiveness analysis be used now to price pharmaceuticals? *N Engl J Med*. 2021;385(21):1923-1924. <u>Medline:34767318</u> doi:10.1056/NEJMp2113323

# eTable 2. Differentiated Cost-Effectiveness Thresholds According to Severity Category

Severity category (x)	1	2	3	4	5	6
Absolute QALY shortfall	0–3.9	4–7.9	8–11.9	12–15.9	16–20	> 20
ICER Threshold	32 000	45 000	58 000	71 000	84 000	97 000
(\$/QALY)						
Weight (w)	1.0	1.4	1.8	2.2	2.6	3.0

Differentiated cost-effectiveness thresholds according to severity category, as proposed by Magnussen et al.<sup>1</sup> The lower category 1 threshold is an approximation from Klaxton et al.<sup>2</sup> The other thresholds were suggested, after a review of surveys of inequality aversion, by the committees preparing the white paper. Drugs are classified into severity categories based on the estimated severity of the disease they target, measured as absolute QALY shortfall. For each category an upper ICER threshold is suggested. The weight is the relationship between the thresholds.

## eFigure 1. Flow Chart Illustrating Inclusion and Exclusion of Drug Reimbursement Decisions for Our Analysis



Figure legend: STA = Single Health Technology Assessment, HTA = Health Technology Assessment, ICER= Incremental Cost-Effectiveness Ratio



eFigure 2: Plot of Drug Coverage Decisions for 2014 to 2017 and 2018 to 2019

Figure legend: Plots for corresponding regression lines for the relationship between severity (QALY loss) and cost-effectiveness (negotiated ICER). Some observations have been omitted to keep information about individual decisions confidential. Coefficients (95% confidence intervals) were calculated based on all observations.

#### eReferences

- 1. Magnussen, J., Aserud, M., Granaas, T., Magelssen, M., Syse, A., Celius, E.G., et al. På ramme alvor -Alvorlighet og prioritering. 2015.
- Claxton, K., Martin, S., Soares, M., Rice, N., Spackman, E., Hinde, S., et al. Methods for the estimation of the NICE cost effectiveness threshold. 2013;