

## Objective

To compare the threshold prices of the Institute for Clinical and Economic Review (ICER) and current prices in the US and UK for pharmaceuticals assessed by ICER during 2016–2018

## Background

ICER is an independent research organization in the US that performs cost-effectiveness and budget impact analyses for pharmaceuticals. ICER lacks the formal authority to make reimbursement and pricing decisions; instead, ICER publishes non-binding recommendations. In the final assessment reports, ICER presents value-based prices: the price required for pharmaceuticals to achieve pre-specified cost-effectiveness thresholds.

## Methods

**Diagram 1** An illustration of the drug costing process and sources used, namely WAC and ASP for the US and MIMS for the UK.



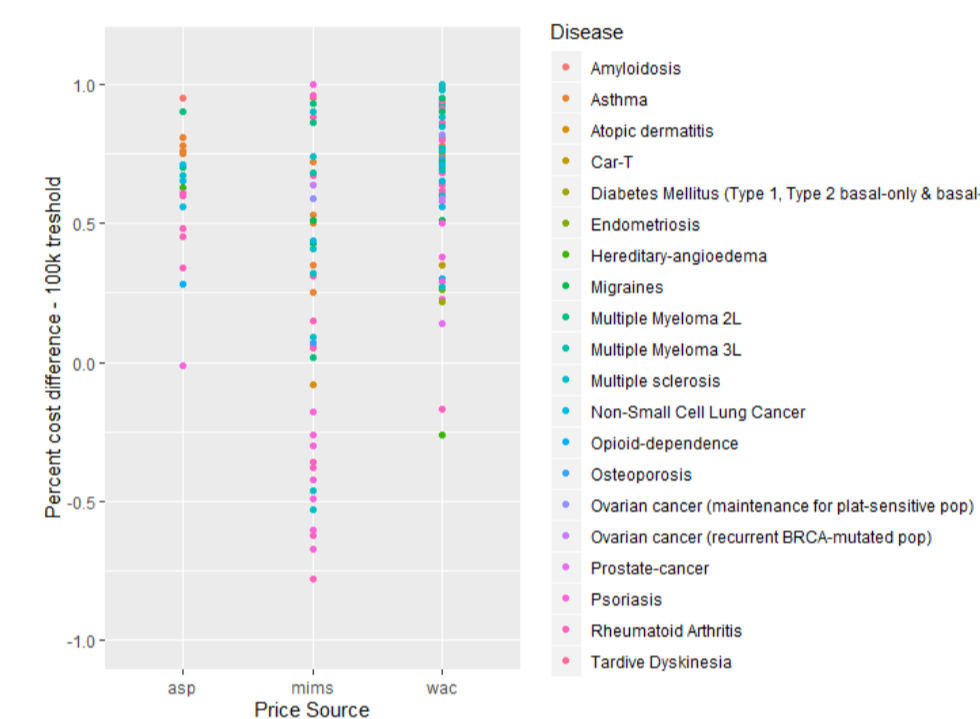
**Key:** ASP, average sales price; ICER, Institute for Clinical and Economic Review; MIMS, Monthly Index of Medical Specialties; WAC, US wholesale acquisition cost.

- We extracted the costs of new drugs reviewed by ICER between 2016 and 2018, see Diagram 1
- We sourced the most up to date costs for the US (wholesale acquisition cost [WAC] and average sales prices [ASP]) and the UK (Monthly Index of Medical Specialties [MIMS]) for the identified drugs
- We converted the drug costs to cost per unit (ml, mg or tablet), to facilitate the comparison between countries
- We compared these costs to the ICER-reported value-based prices, also converted to cost per unit, based on \$100k and \$150k cost per quality-adjusted life-year (QALY) thresholds
- The exchange rates for the US versus UK comparison were based on average purchase power parity between 2016 and 2019
- All prices are based on list price, rebate or discount (e.g. patient access scheme in the UK) were not considered

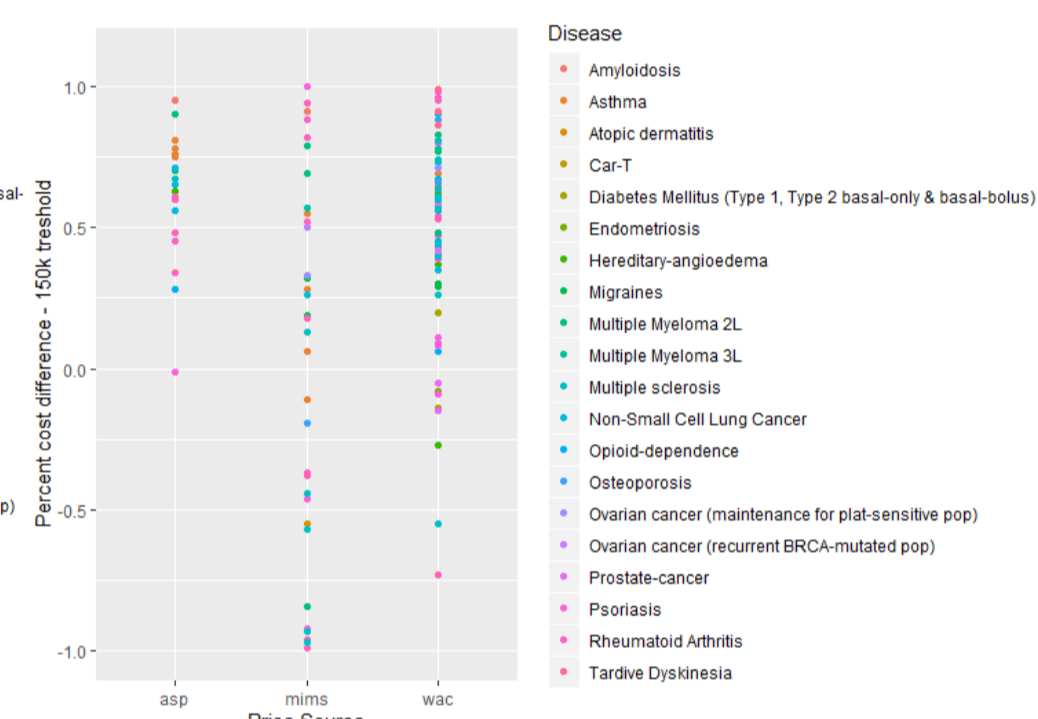
## What is the real impact of US ICER's cost-effectiveness recommendations?

### Results

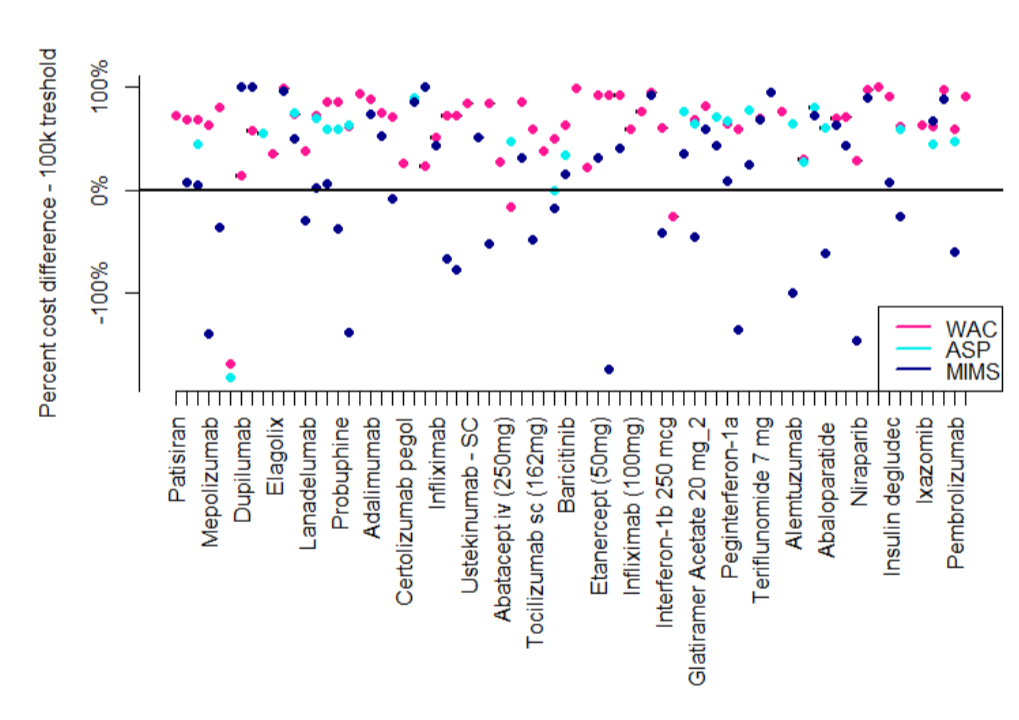
**Figure A:** Percent drug price difference - 100k threshold (by disease)



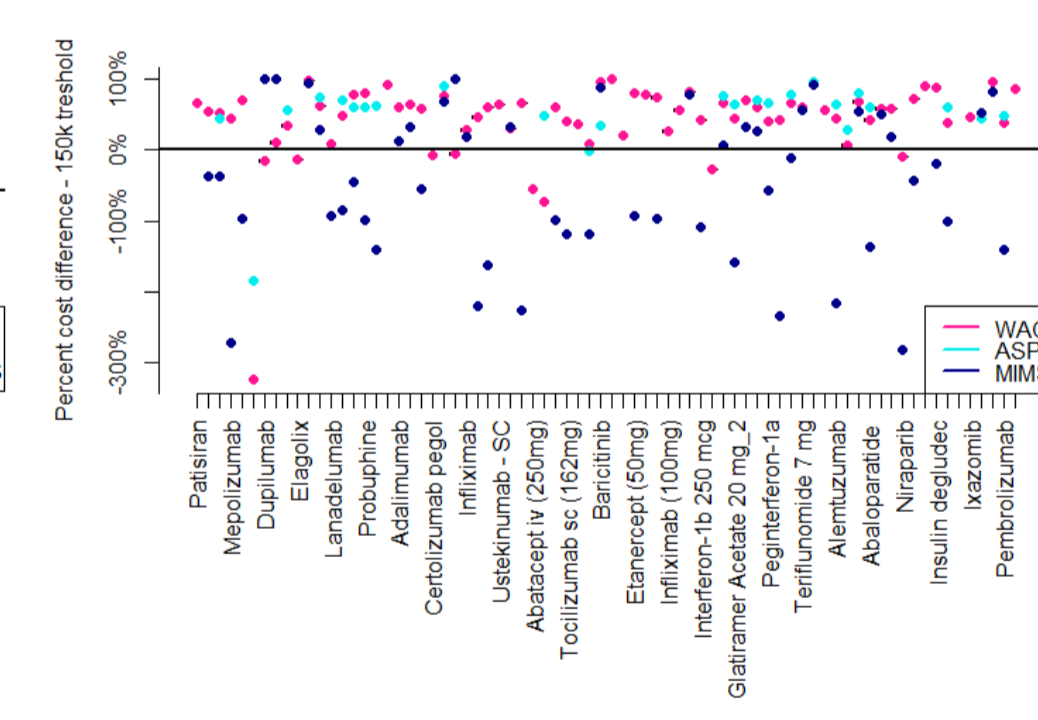
**Figure B:** Percent drug price difference - 150k threshold (by disease)



**Figure C:** Percent drug price difference - 100k threshold (by treatment)



**Figure D:** Percent drug price difference - 150k threshold (by treatment)



**Key:** ASP, average sales price; ICER, Institute for Clinical and Economic Review; MIMS, Monthly Index of Medical Specialties; WAC, US wholesale acquisition cost.

- Figure A and B show, by disease type, the percentage difference in price between ICER's value-based prices and the list prices, for ICER's thresholds of \$100k and \$150k
- Figure C and D show the price differences by treatment
- Although there is a huge variation in the price difference by disease type and treatment, we can see that the UK prices are generally lower than the US prices
- Most percentage price difference values are positive (both US and UK), meaning that the list prices are higher than ICER's value-based prices

## Analysis

- We calculated the relative change in price using US (WAC and ASP) and UK (MIMS) sources, and compared the results

$$\text{Relative change in price} = \frac{\text{List price} - \text{ICER value} - \text{based price}}{\text{ICER value} - \text{based price}}$$

- The price per unit was calculated based on ICER's reported dose and dosing schedule
- Treatment discontinuation was not considered
- When an annual value-based cost was reported, the treatment was assumed to be taken for the entire year

## Conclusion

- ✓ US drug prices based on ASP and WAC are generally higher than the value-based prices recommended by ICER using the \$100k cost per QALY threshold
- ✓ The drug prices in the UK are, on average, similar to ICER's value-based price
- ✓ A key limitation of this analysis is that list prices were used given the non-transparent nature of US pharmaceutical pricing and drug discount information being commercial confidential in the UK

## References

- ICER. 2020. <https://icer-review.org/topics/>. Accessed: 12 March 2020
- RED BOOK. 2020. <https://www.ibm.com/products/micromedex-red-book>. Accessed: 12 March 2020
- Centers for Medicare and Medicaid Services. 2020. <https://www.cms.gov/>. Accessed: 12 March 2020
- MIMS. 2020. <https://www.mims.co.uk/>. Accessed: 12 March 2020

