

Supply side cost effectiveness thresholds for setting a ceiling price: some tools for unpacking the issues

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Decision problem

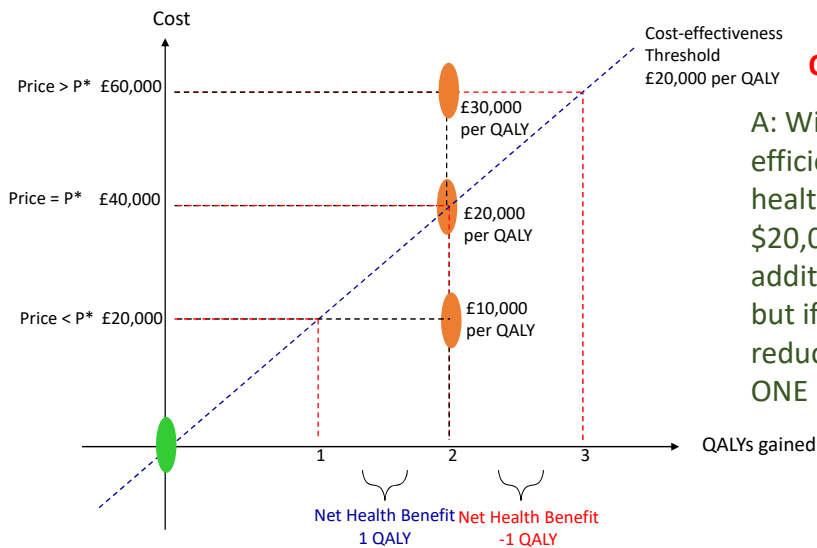
A new drug has been licensed that is expected to improve the health of recipients by two Quality Adjusted Life Years compared to current best practice.

What should the price regulator consider in arriving at a maximum price for this new drug?

1. Expected impact on population health
2. Expected impact on health system sustainability
3. Expected value of health = $f(H.(d,p,t))$
4. Reward to innovation = premium over cost of production of the innovation
5. Access to innovative treatments
6. Uncertainty

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Expected impact on health system sustainability

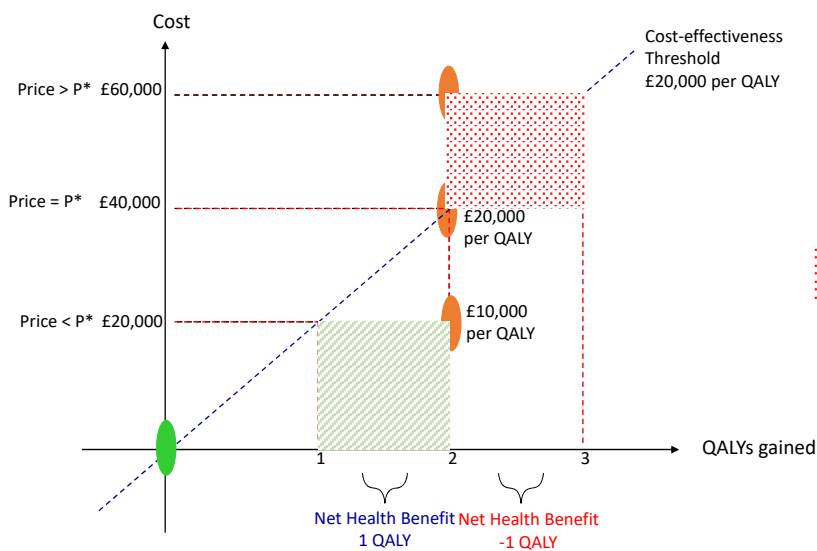



Q: What does this mean?

A: With its current budget and efficiency in producing health, if the health system budget was increased by \$20,000 it would produce ONE additional Quality Adjusted Life Year; but if the health system budget was reduced by \$20,000, it would produce ONE less Quality Adjusted Life Year.


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Expected impact on health system sustainability



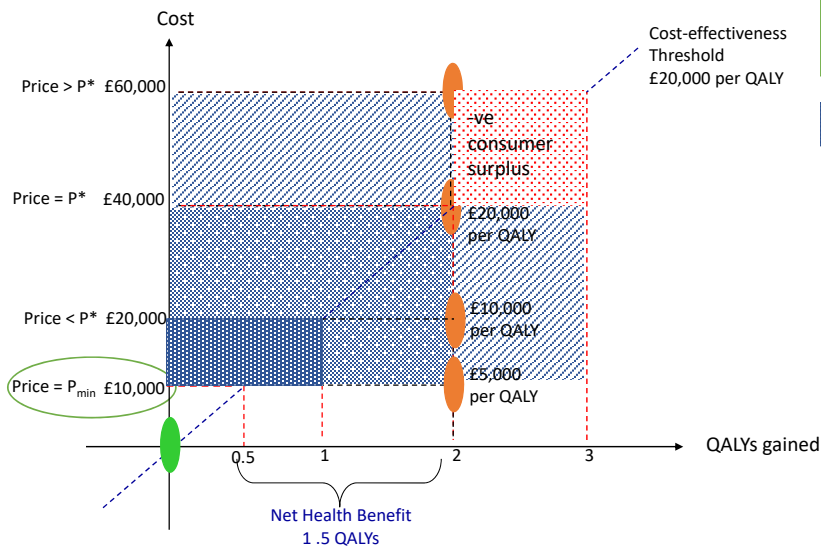
 = Difference between the maximum health system would be willing to pay (give up) for the technology and what it actually has to give up = Consumer Surplus

+ve consumer surplus contributes to health system sustainability

 -ve consumer surplus risks health system sustainability


4

Rewarding Innovation



P_{min} = price which just covers the costs of production.

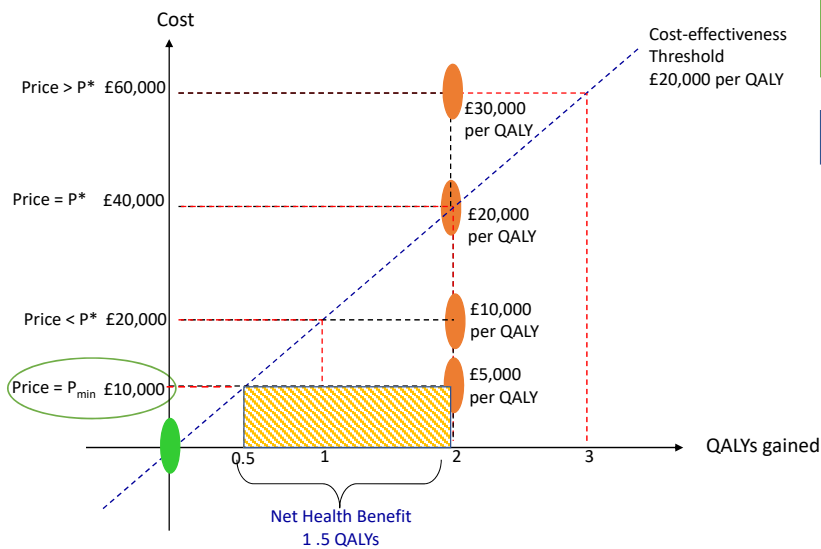
Price < P_{min} = Drug will not be supplied to the market.

 Difference between minimum price and the price received = Producer Surplus

Value of Innovation = Consumer Surplus plus Producer Surplus


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Rewarding Innovation



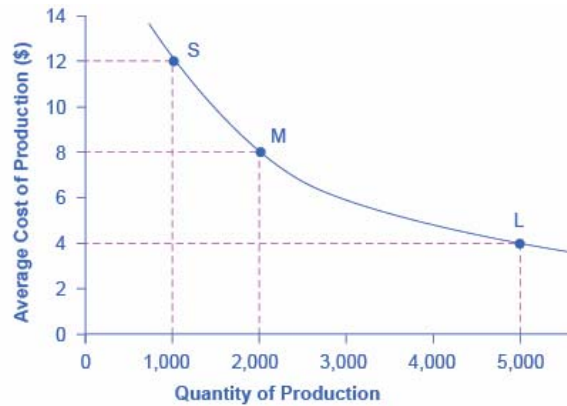
P_{min} = price which just covers the costs of production.

Price < P_{min} = Drug will not be supplied to the market.

 Welfare loss associated with drug not being supplied

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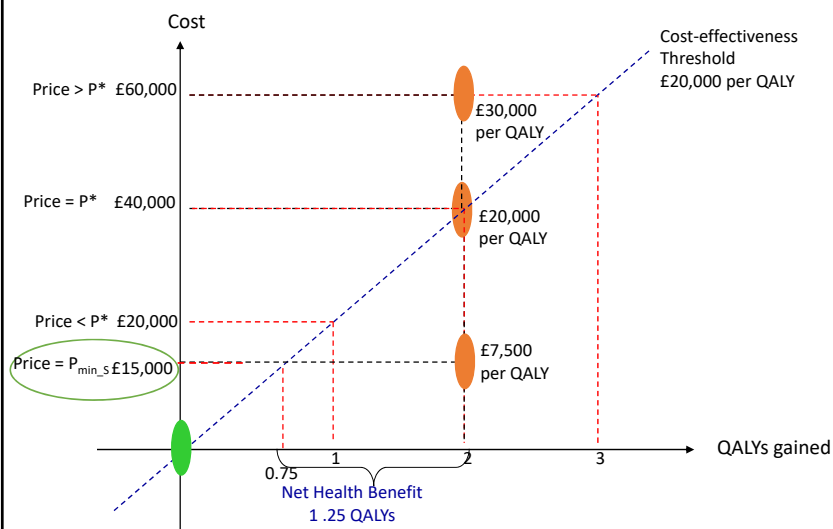
Unpacking market size: Market Size and Reserve Price (P_{\min})



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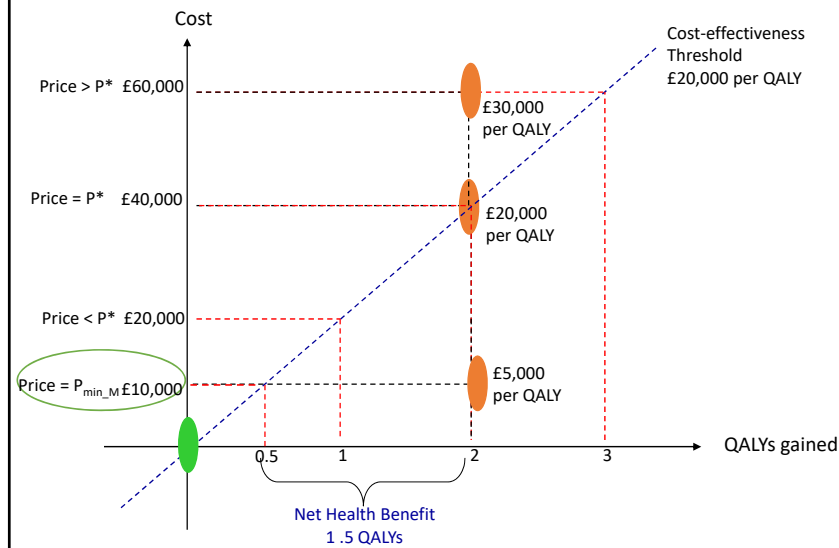
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Market Size and Reserve Price: Orphan



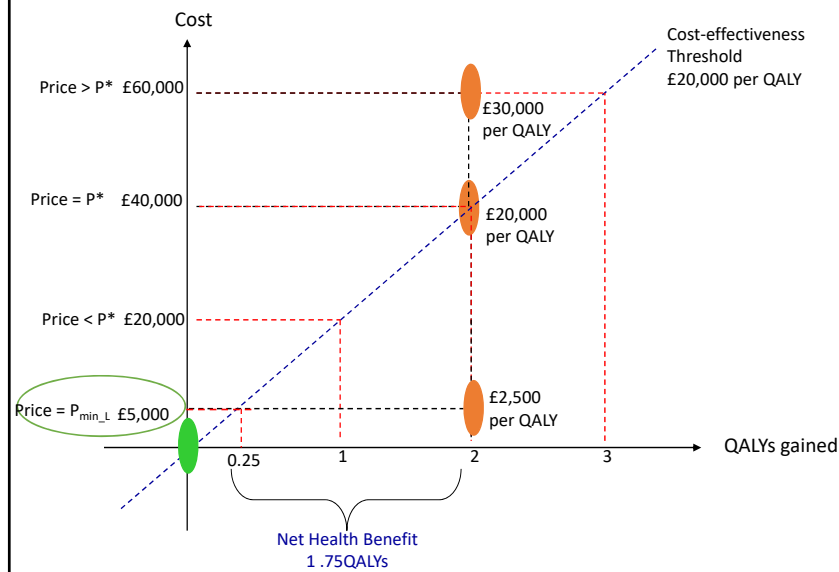
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Market Size and Reserve Price: Standard



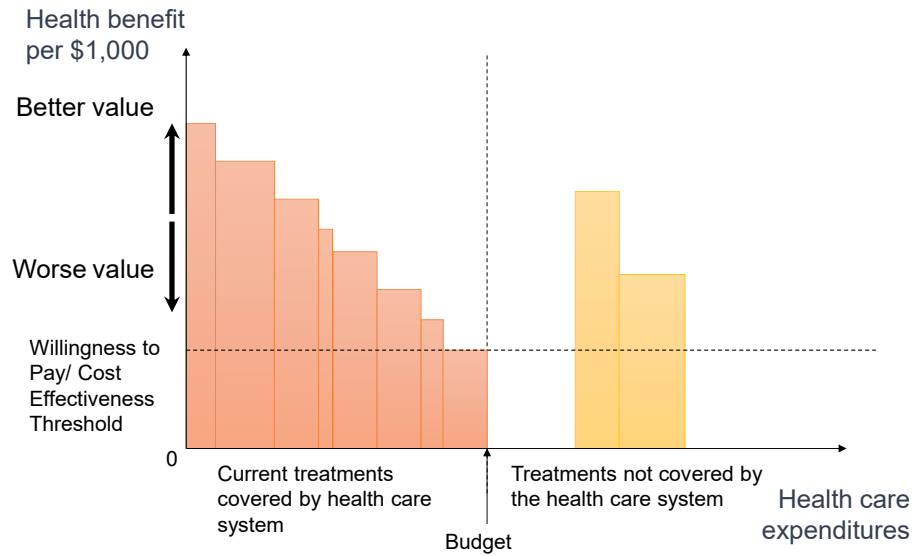
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Market Size and Reserve Price: Blockbuster



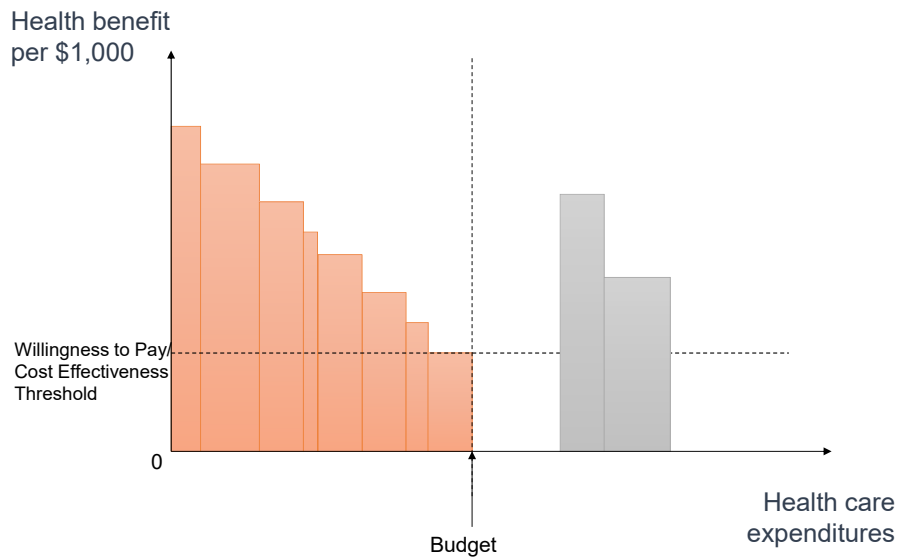
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Market size and budget impact



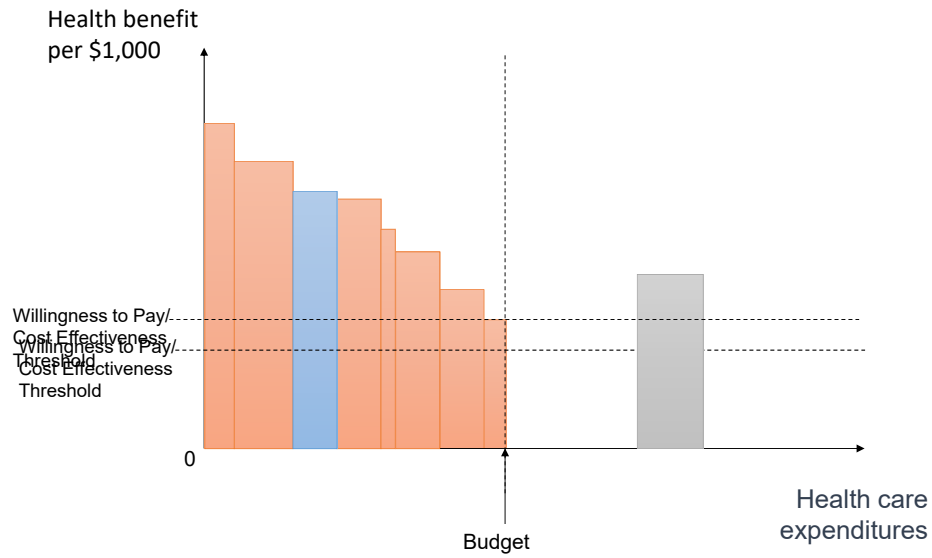
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Market size and budget impact



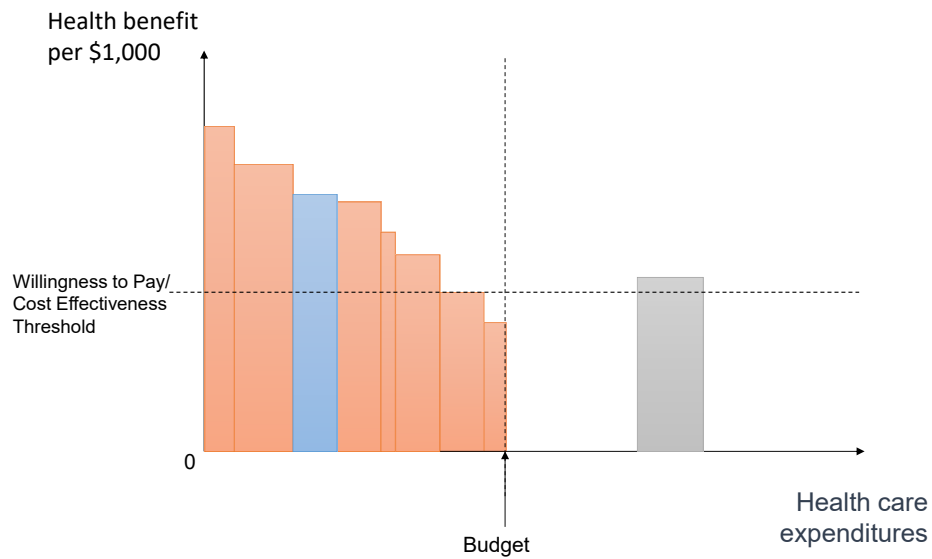
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Market size and budget impact



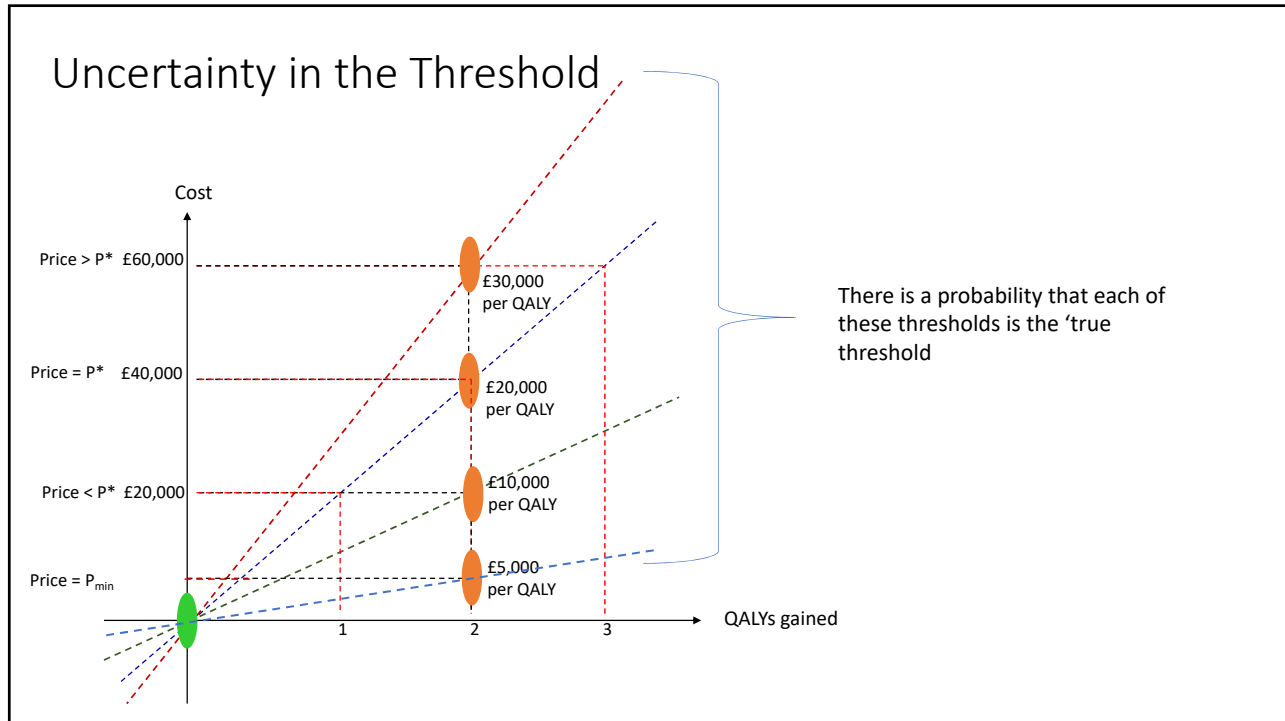
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Market size and budget impact



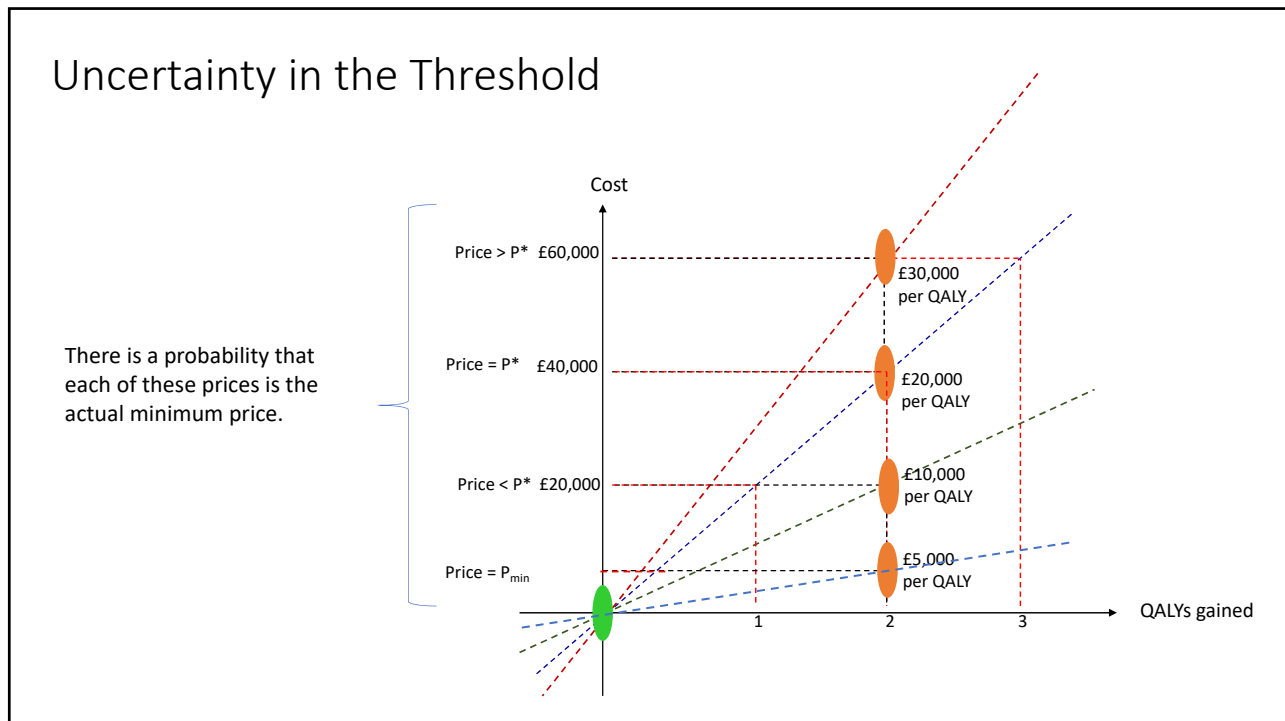
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Uncertainty in the Threshold



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Uncertainty in the Threshold



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Uncertainty in the Threshold

For any given ceiling price we can calculate and seek to minimise the expected value of the uncertainty (paying too much, paying too little, and losing access completely).

