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SEE the Future: How Important Will Structured Expert Elicitation Become for HTA in the Next 5 Years?

Discussion Leader: Dr James Horscroft, BresMed Health Solutions

Discussants: Prof Laura Bojke, University of York; Prof Jeremy Oakley, University of Sheffield

Conflict of interest statement

James Horscroft is an employee of BresMed Health Solutions Ltd, who conduct structured expert elicitation exercises for pharmaceutical and biotechnology companies.

Laura Bojke is the recipient of research council funding in structured expert elicitation.

Jeremy Oakley has no conflicts of interest to declare.

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Introduction to SEE: Why, What, When and How?

James Horscroft, 15 mins



SEE in Health Technology Assessment

Laura Bojke, 15 mins



SHELF Methodology

Jeremy Oakley, 15 mins



Q&A

All, 15 mins

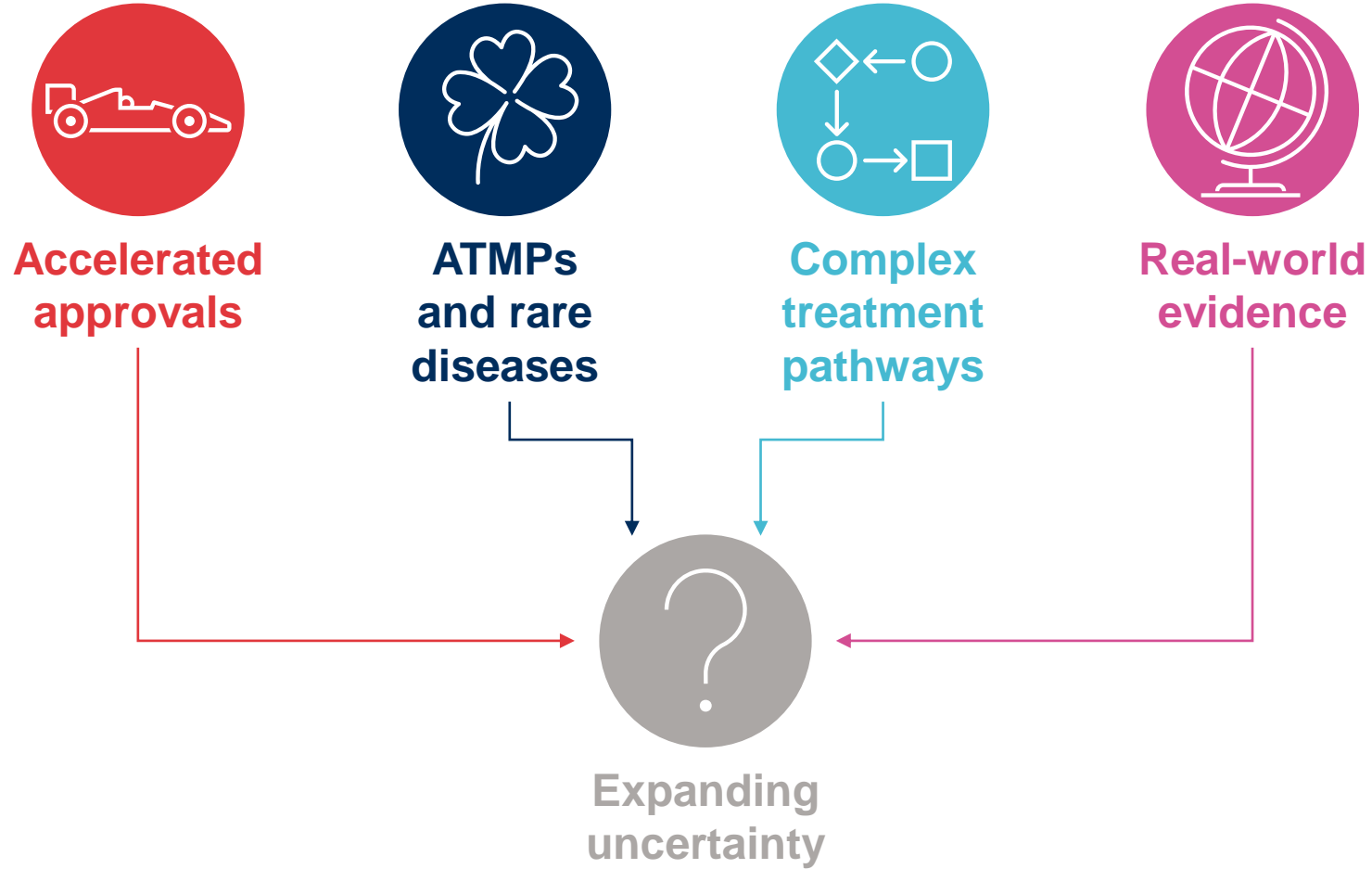
Introduction to Structured Expert Elicitation

James Horscroft, BresMed Health Solutions



Why structured expert elicitation? (1/2)

Uncertainty at the point of healthcare decision-making is increasing



Key: ATMP, advanced therapeutic medicinal product

Why structured expert elicitation? (2/2)

Is structured expert elicitation appropriate for healthcare decision-making?

Why?

What?

When?

How?

Q We must accept that there is subjectivity in every stage of scientific inquiry, but objectivity is nevertheless the fundamental goal. Therefore, we should base judgments on evidence and careful reasoning, and seek wherever possible to eliminate potential sources of bias.'

Brownstein et al. 2018

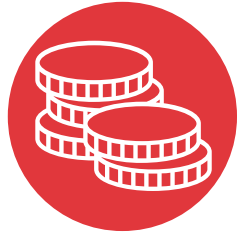
Q The use of expert elicitation should be considered in the absence of empirical evidence ... or in circumstances deemed appropriate by decision makers given the totality of the evidence ... Evidence generated by expert elicitation, either using structured or unstructured methods, is subject to risk of bias and high uncertainty. Structured methods are preferred as they attempt to minimise biases and provide some indication of the uncertainty.'

NICE draft manual 2021

Source: Brownstein N, Louis T, O'Hagan A, and Pendergast J (2018).

What is structured expert elicitation?

Frequency versus subjective probability



Coin toss

Frequency probability based on data

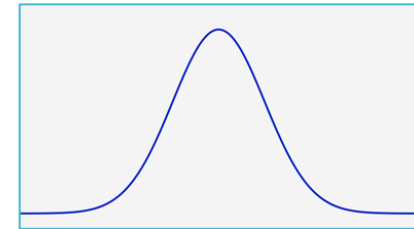


50% heads, 50% tails



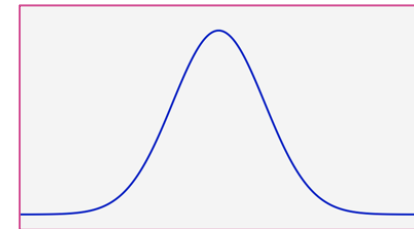
Commute time

Frequency probability based on data



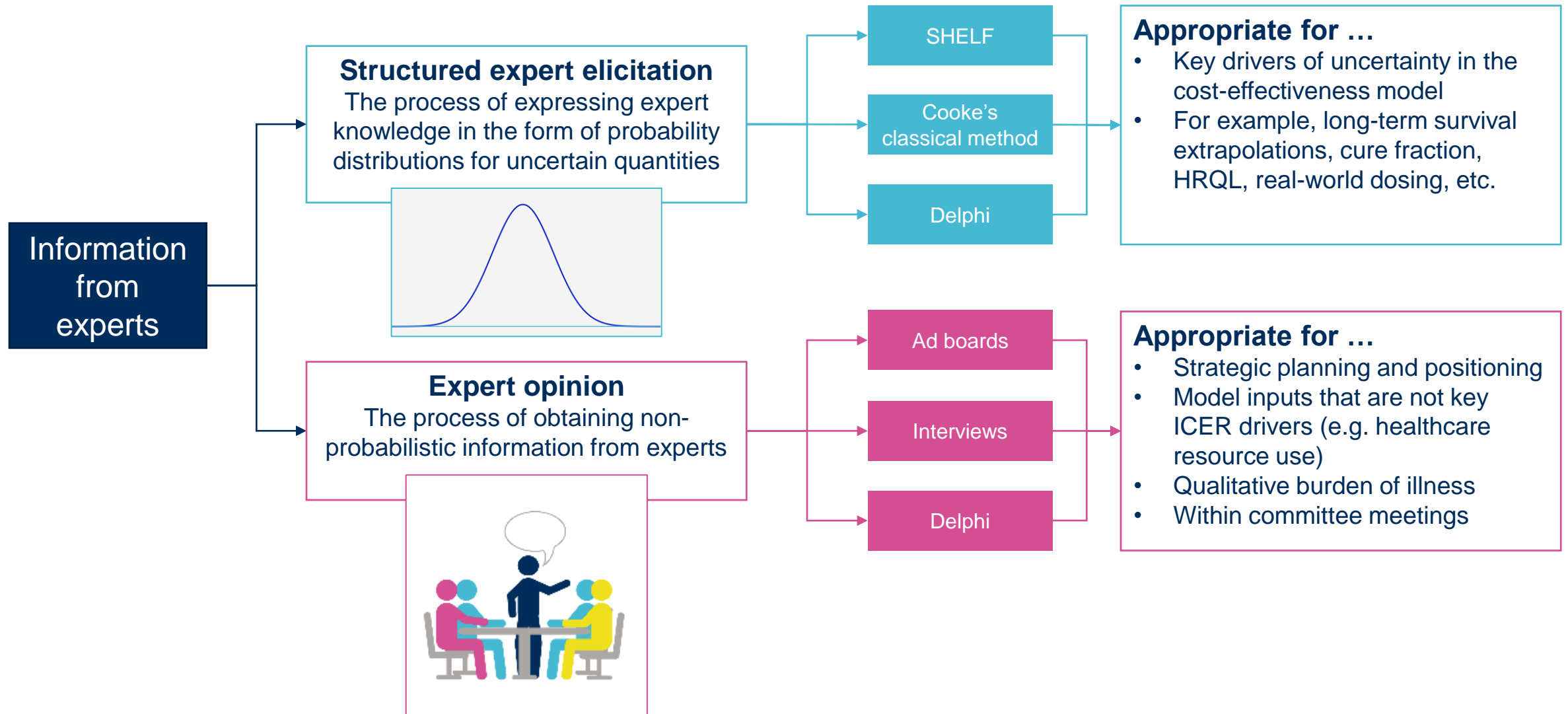
Commute time tomorrow

Subjective probability based on data and **prior beliefs**



When should structured expert elicitation be used?

Where empirical data are lacking, SEE aims to minimize the biases associated with seeking expert judgement

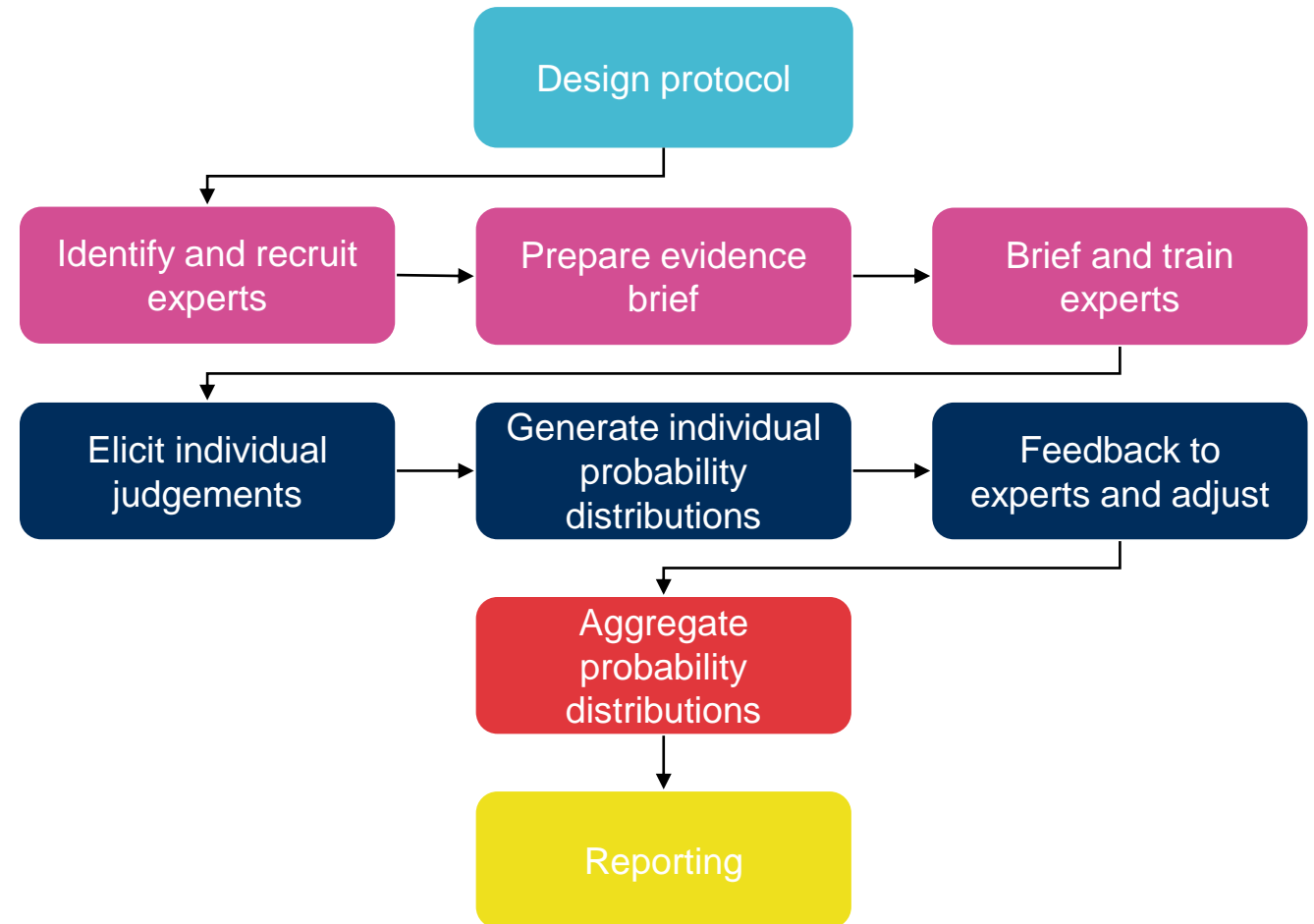


How should structured expert elicitation be conducted?

Example project flow for an SEE exercise

Why? ▶ What? ▶ When? ▶ How?

- 1 Protocol
- 2 Preparation
- 3 Individual elicitation
- 4 Aggregation
- 5 Reporting

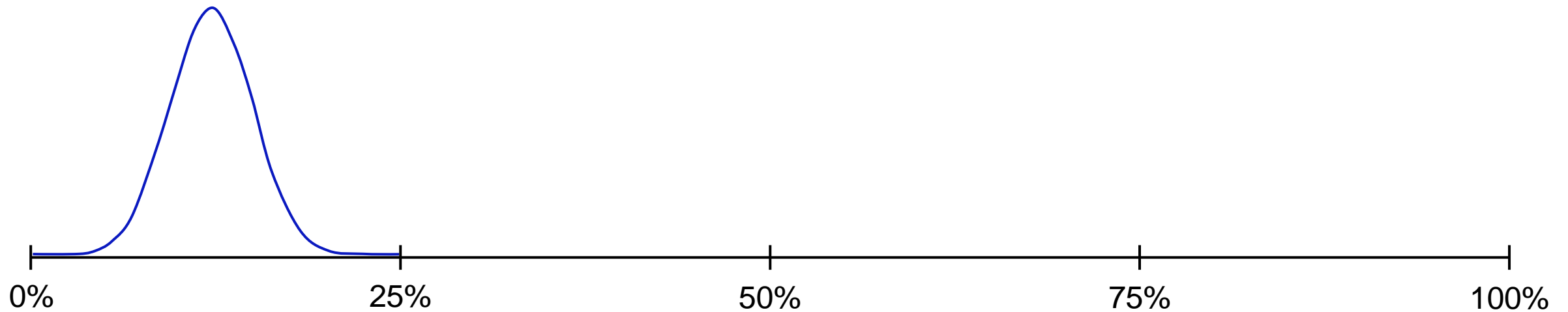


Time to get involved!

The future of SEE in HTA

Quantity of interest (X)

The percentage of manufacturer submissions to NICE in the year 2026 that include a structured expert elicitation exercise

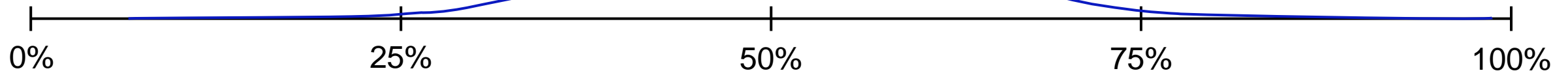


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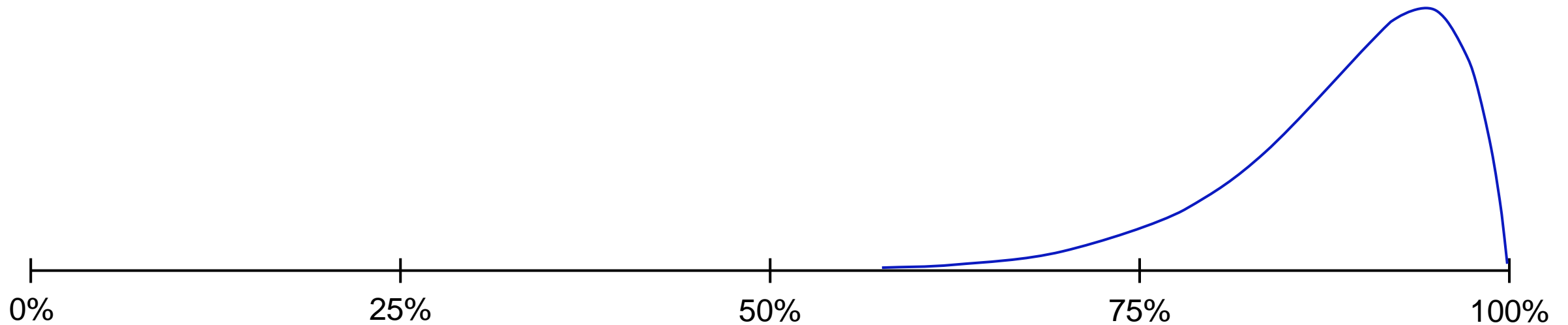
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Quantity of interest (X)

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Question

Which of the following best reflects your beliefs about X?

- I think $X < 25\%$ is more likely than $X > 25\%$
- I think $X < 25\%$ is equally likely as $X > 25\%$
- I think $X < 25\%$ is less likely than $X > 25\%$

