

Chauhan AS¹, Rose J¹,
Bajre M¹

¹ Health Innovation Oxford and Thames Valley, Oxford, UK

Integrating Stakeholder Willingness-to-Pay Using the Van Westendorp Price Sensitivity Meter into Cost-Effectiveness Analysis: A Mixed-Methods Pricing Framework

Introduction

Adoption of digital health technologies in the NHS depends not only on clinical evidence but also on economic feasibility, typically assessed against willingness-to-pay (WTP) thresholds. However, conventional cost-effectiveness analyses often lack direct integration of stakeholder perspectives on value and affordability.

Aims

To explore NHS stakeholder perspectives on willingness-to-pay and quantitatively translate these into structured price thresholds, operationalised within cost-effectiveness modelling to inform value-based adoption.

Objectives

- Explore NHS stakeholder perspectives on acceptability, perceived value, and pricing expectations.
- Derive stakeholder-informed WTP thresholds using the Van Westendorp Price Sensitivity Meter.^{1,2}
- Quantitatively integrate WTP thresholds into decision-analytic cost-effectiveness models to evaluate economic feasibility.
- Assess cost-effectiveness across varying pricing and diagnostic performance scenarios using ICER and NMB metrics.
- Provide a mixed-methods framework to align pricing decisions with NHS procurement priorities and value-based adoption.

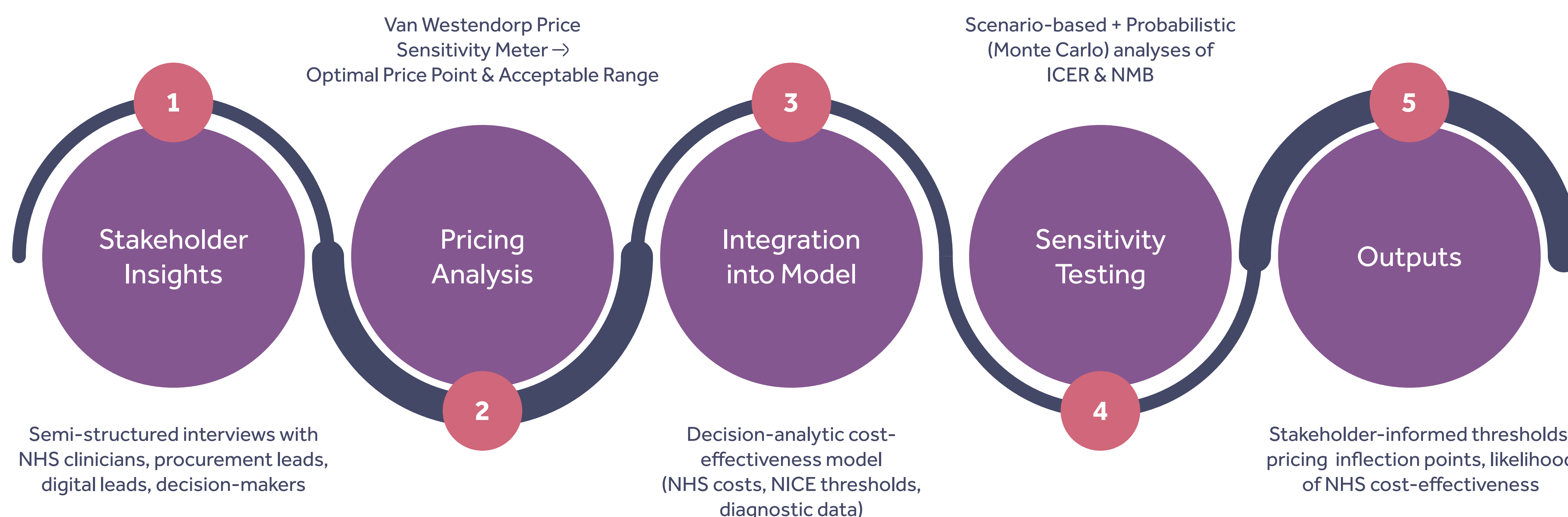
Methods

- **Qualitative strand:** Semi-structured interviews with NHS clinicians, procurement leads, digital leads, and regional decision-makers to elicit perspectives on value and affordability.
- **Quantitative strand:** Application of the **Van Westendorp Price Sensitivity Meter** to quantitatively estimate price thresholds.
- **Economic modelling:** Thresholds incorporated into a decision-analytic cost-effectiveness model developed and reported in line with international standards for health economic evaluation (CHEERS 2022).³ Model inputs—including unit costs, clinical probabilities, and outcome estimates—were based on NHS reference costs, NICE guidance, and published literature.
- **Analyses:** Scenario-based and probabilistic sensitivity analyses (Monte Carlo) to test robustness of cost-effectiveness outcomes.

Findings

- **Stakeholder-informed thresholds:** Identified clear optimal and acceptable price ranges that reflected perceived value and affordability.
- **Integration into modelling:** Thresholds were operationalised within cost-effectiveness analysis, influencing incremental cost-effectiveness ratios (ICERs) and net monetary benefit (NMB).
- **Sensitivity analyses:** Demonstrated how variations in price and performance shaped the likelihood of cost-effectiveness under NHS-relevant conditions.
- **Pricing inflection points:** Highlighted thresholds that determined the likelihood of cost-effectiveness across scenarios.
- **Methodological contribution:** Validated the feasibility of embedding stakeholder-derived parameters directly into early-stage economic evaluation.

Mixed-Method Pricing Framework



Conclusion

This study demonstrates a methodological approach to embedding stakeholder-informed WTP thresholds, derived via qualitative interviews and Van Westendorp analysis, into early-stage cost-effectiveness modelling. The framework enables NHS decision-makers to assess affordability and value alignment, supporting strategic procurement and adoption of digital health technologies.

References

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Ankur Singh Chauhan
Ankur.Chaughan@healthinnovationoxford.org



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