Recognising the Broader Value of Meningococcal Vaccination: a Matter of Evidence, Ability or Willingness?



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RATIONALE AND OBJECTIVES

- It is widely argued that the value of meningococcal vaccination extends beyond the *narrow* value elements traditionally considered in health technology assessment (HTA) [1,2].
- However, measuring broader value presents challenges, while assessment methods and outcomes vary widely across countries [2,3].
- This methodological work investigated the extent to which the broader value of meningococcal vaccination is recognised as a function of three enabling factors: (1) evidence demonstrating the value (2) decision maker's methodological approach to assess this evidence and (3) ability to consider it.

METHODS Broader Value Framework We defined broad value based on a framework including both independent of disease [4] and meningococcal vaccine-specific value elements [1,2,5]. **Evidence** Identification of relevant value elements Literature review and classification of broader value elements according to their relevance to meningococcal vaccination and the quality of evidence with good evidence Case Studies Assessing the Impact of Value Elements Case studies on HTA of meningococcal B vaccination in England and the Netherlands reviewing if these value elements were considered, how they were evaluated and if alternative approaches captured value more comprehensively.

RESULTS

Broader Value Framework

- The resulting framework consists of four categories of value: 1) healthcare sector value elements: capturing the patient's health effects and costs to the healthcare system, 2) health-related externalities: capturing the health benefits beyond the vaccinated individuals; 3) allocative value: capturing the fulfilment of societal preferences for prioritising health improvement in certain patient populations; and 4) societal economic effects: capturing the economic effects beyond the health system.
- Value elements of high relevance to meningococcal vaccination with good quality evidence include caregivers' health gains, patients' lifetime productivity gains, and disease severity (as part of burden of disease).
- Meningococcal vaccination is also likely to impact social equity, health system capacity value, caregiver' productivity gains, but more evidence is needed.
- Due to a combination of evidence gaps and challenges related to methods, the relevance of several value elements remains unclear for now.

	Judgement	Coding		
Relevance	High			
	Mixed			
	Low			
	Unclear			
	Judgement	Coding		
	Judgement Good	Coding		
Evidence Quality		Coding		

Low

Value categories	Value Elements	Heatmap
Healthcare sector value elements	Health system capacity value	
Health-related externalities	Transmission value	
	Caregivers' health gains	
	Risk reduction gains	
	Prevention of changes to and emergence of previously underrepresented serogroup variants	
Allocative value elements	Burden of disease	*_
	Social equity	
Societal economic effects	Macroeconomic effects	
	Patients' lifetime productivity gains	
	Caregivers' productivity gains	
	Public sector costs	
	Indirect patient costs	

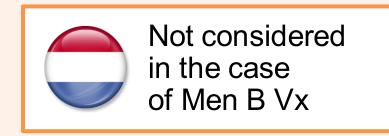
IVIIXed relevance purden of disease results from low prevalence of IIVID and high severity of IIVID.

Case Studies Assessing the Impact of Value Elements

Caregivers' Health Gains



Considered in the case of Men B Vx



Methodology

• In England, a multiplication factor of Men B vaccine QALY gains was used to consider caregivers' quality of life loss due to long term sequalae (1.48) and bereavement (1.09) [6,7].

ICER w/o carer's QoL £221,000/QALY

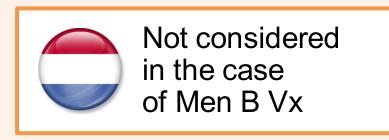




ICER w carer's QoL included £161,500/QALY

Disease Severity (as Part of Burden of Disease)





Methodology

• Use of a quality-of-life adjustment factor, inflating QALY gains of Men B vaccine accrued to survivors with long-term sequelae by three [4].

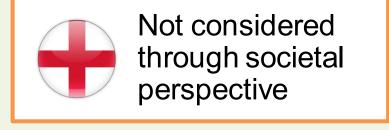
ICER w/o adjustment factor £365,300/QALY

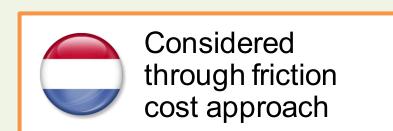
Including Premature Death

39.5% reduction

ICER w adjustment factor £221,000/QALY

Patients' Lifetime Productivity Gains





Methodology

- Assessment of Men B vaccination in the Netherlands included only productivity gains from averting the acute disease **phase** [8], evaluated according to the friction cost approach [9].
- We re-estimated productivity gains including also premature death and long-term sequalae [10].

Acute Disease

	Phase Only	and Long-term Sequalae	
Friction cost approach	€44,779	€91,698	x2 increase
Human capital approach	€44,779	€3,520,444	x78 increase

CONCLUSION

- Current evidence confirms that the value of meningococcal vaccination spans beyond healthcare sector effects to health-related externalities, allocative value and societal economic benefits.
- Methodological approach and ability to incorporate broader value-elements into value assessments have been mixed. This is often attributable to the scope of the value assessment perspective which does not allow the inclusion of broader value elements.
- To ensure that the most efficient resource allocation outcomes are achieved, countries should consider how to widen their perspective to include all the societal costs and benefits and improve the methodological approaches to assess broader value elements more accurately.

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DISCLOSURES

This study was supported by Pfizer Inc. SA, AC are employees of Pfizer Ltd and may hold stocks or stock options, MN, SB, LS are employees of OHE Consulting Ltd which received funds from Pfizer Inc. For the execution of the study. KS is an employee of Pfizer GmbH and may hold stocks or stock options.