Economic Evaluation for Vaccination Programs: Exploring Multiple Methods

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Different Economic Evaluation Methods for Different Decision Contexts

Decision Maker	Decision Context	Economic Analysis Method
Minister of health or private healthcare insurer	Allocating healthcare budget among different healthcare interventions	Cost utility analysis – cost/QALY gained or cost/DALY gained compared with threshold value
Individual or agency with focus on specific disease(s)	Allocating fixed budget among different prevention and treatment interventions to reduce mortality or morbidity from specific disease(s)	Constrained optimization – identify the mix of all possible interventions that results in maximum reduction in mortality or morbidity subject to budget and feasibility constraints
Minister of finance	Distributing government revenues among different infrastructure health and non-health-related interventions	Fiscal modeling – estimate the internal rate of return in revenue from investment in a health or non-health intervention





RECOMMENDATIONS AND REIMBURSEMENTS: IDENTIFYING AND ACCOUNTING FOR THE FULL SOCIETAL BENEFITS OF VACCINATION

David E. Bloom

ISPOR 2018

Workshop: "Economic Evaluation for Vaccination Programs:

Exploring Multiple Methods"

Baltimore, Maryland

21 May 2018

Recommendations and Reimbursements



21 May 2018



Recommendations and Reimbursements

Outline

- Point 1: Socially optimal decisions regarding vaccine recommendations and reimbursements require assessment from a societal perspective
- Point 2: We have a variety of tools to operationalize this perspective

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Recommendations and Reimbursements

Benefits of vaccination

Benefit categories
Health care cost savings
Health gains

Recommendations and Reimbursements

21 May 2018

Benefits of vaccination: Narrow and broad

Perspective		Benefit categories
	Narrow	Health care cost savings
	Nar	Health gains
		Outcome-related productivity gains
		Care-related productivity gains
ad		Behavior-related output gains
Broad		Health-based community externalities
		Co-morbidities
		Nosocomial infections
		Risk reduction gains
		Social equity

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Accumulating evidence: Example of AMR reduction

VACCINES AND
ALTERNATIVE APPROACHES:
REDUCING OUR DEPENDENCE
ON ANTIMICROBIALS
THE REVIEW ON
ANTIMICROBIAL RESISTANCE
ORANGE BY JAN O'NEXL

"There has been international recognition of the importance of vaccines...to combat antimicrobial resistance..." (p. 3)

"The experience of the pneumococcal vaccine...demonstrates the tremendous potential that vaccines...have in reducing...resistance as a whole." (p. 15)

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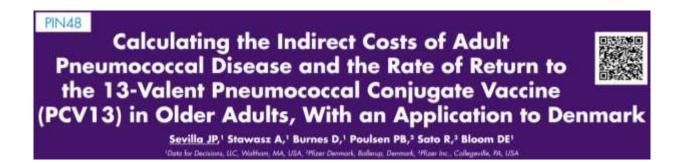
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PCV13 among Danish adults aged 50+: The value of paid and unpaid work



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Toward socially optimal decisions: Gathering and processing the inputs

- Impact inventory and deliberative processes/MCDA
- Societal cost-effectiveness analysis
- Benefit-cost analysis (and life-cycle model/social welfare function)

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Disclosure:

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- WHO
- · Bill and Melinda Gates Foundation
- GSK
- Merck
- Pfizer
- Sanofi Pasteur

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