

# **GAVI Alliance – Vaccine Investment Strategy Update**

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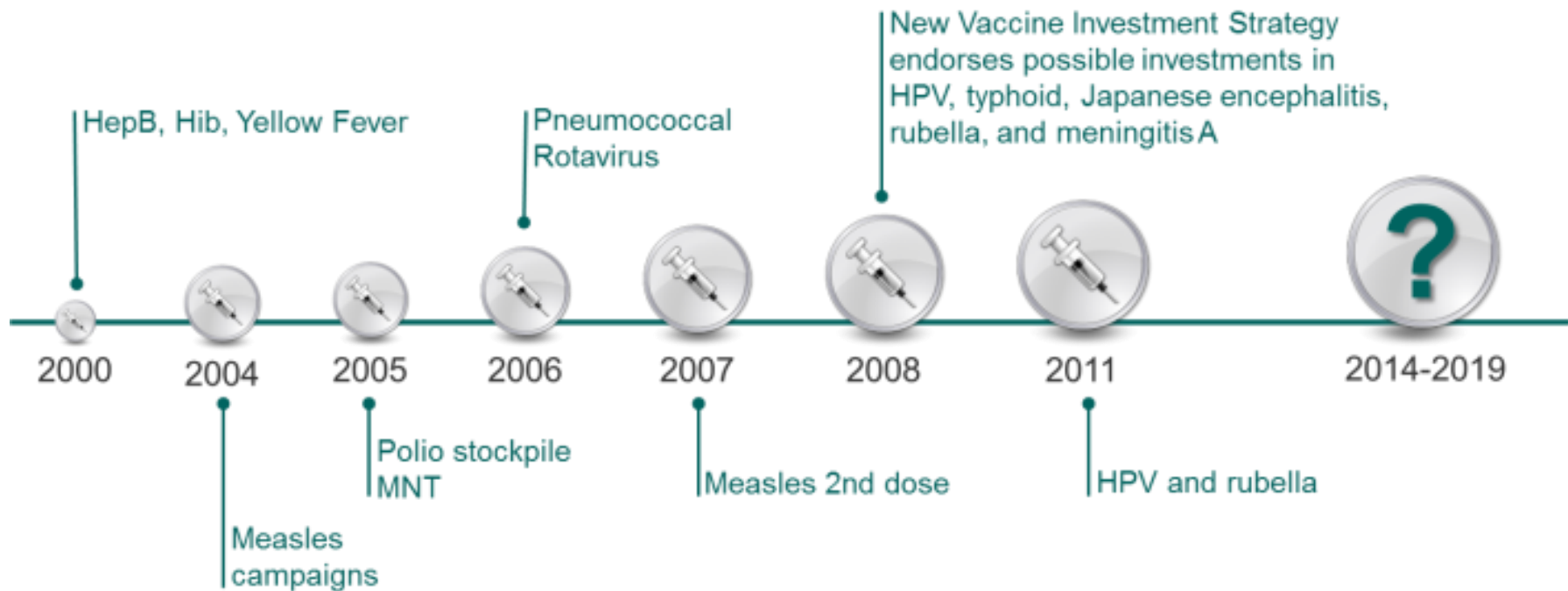
*DCVMN 14<sup>th</sup> Annual General Meeting*

*October 2013*

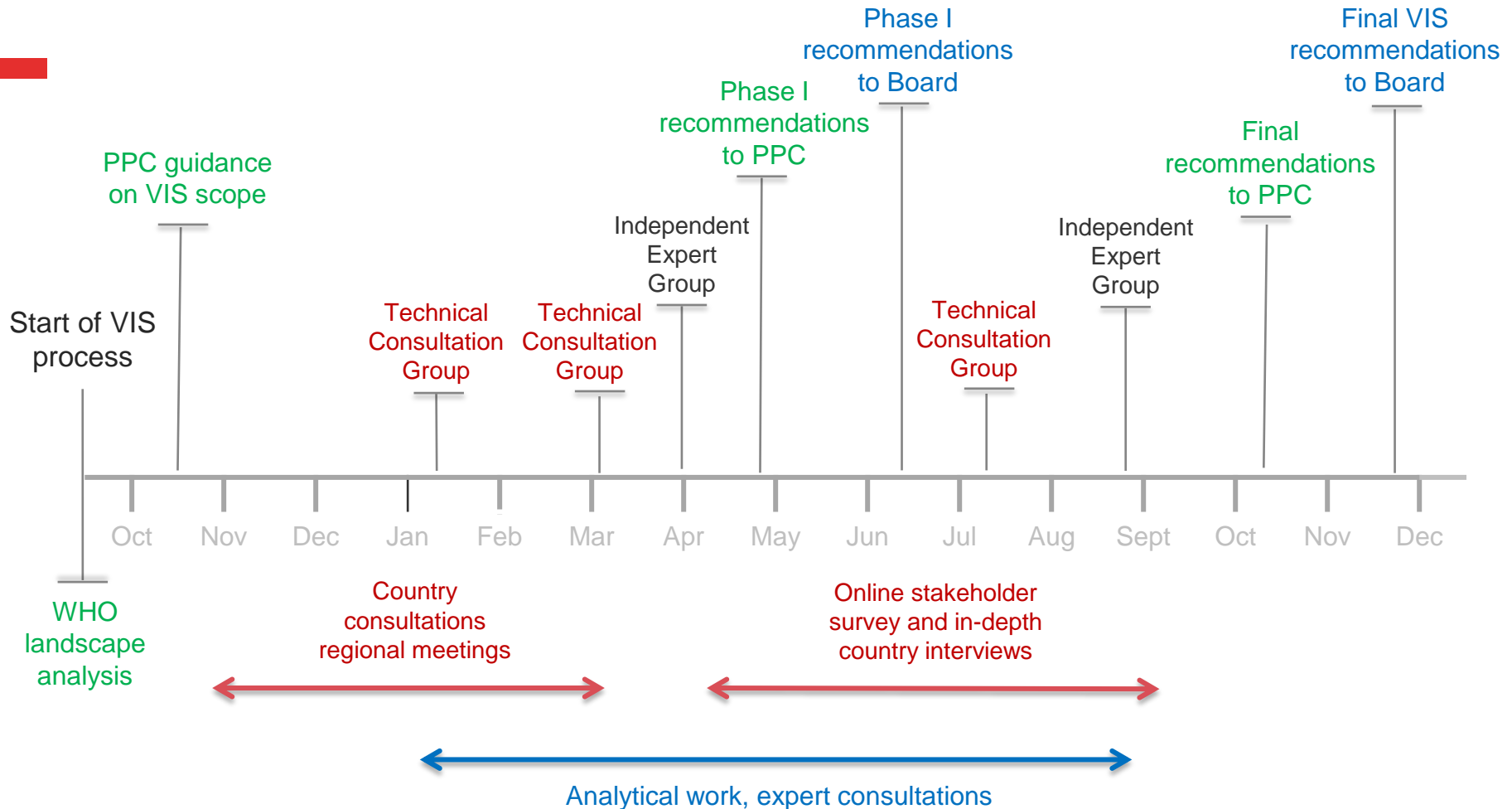


# Vaccine Investment Strategy 2014-2019

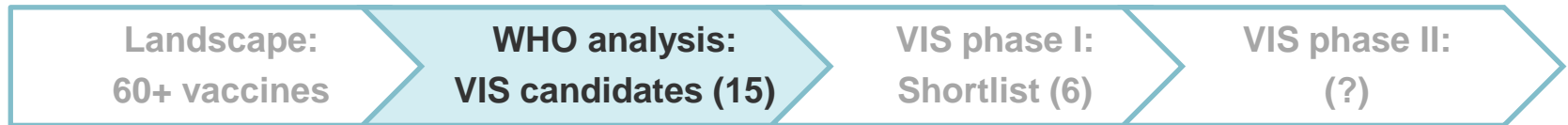
*In development*



# VIS process



# Scope of vaccines considered

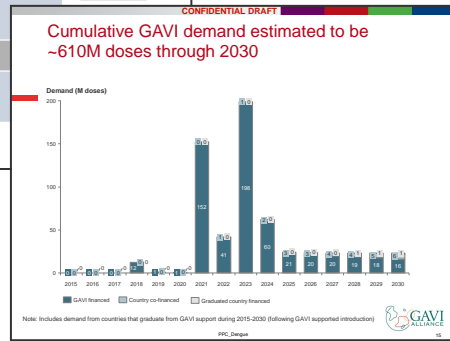
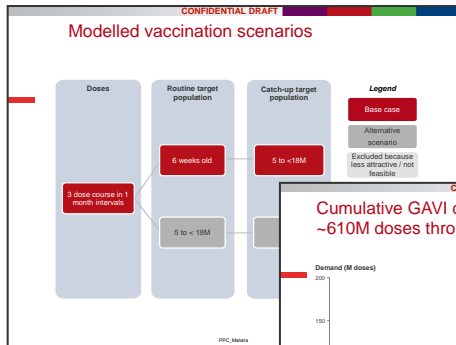


- Inclusion criterion: anticipated licensure by 2019
- Out of scope: vaccines primarily indicated for emergency response or biosecurity purposes
- 15 vaccine candidates for VIS review:

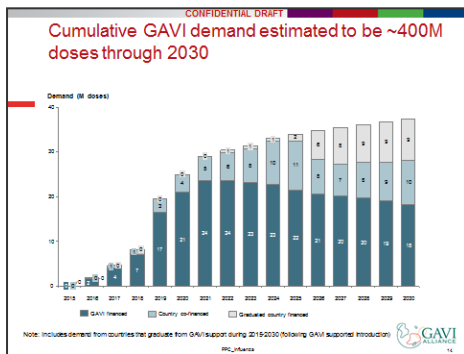
Potential expansion of GAVI vaccine support	Existing vaccines not supported by GAVI	'Pipeline' vaccines
DTP (booster)	Cholera	Malaria
Hepatitis B (birth dose)	Hepatitis A	Dengue
Measles (additional campaigns)	Hepatitis E	Enterovirus 71
Meningococcal (additional serotypes)	Influenza	
Yellow Fever (additional campaigns)	Mumps	
	Poliomyelitis	
	Rabies	

# Demand, cost, impact and other features were analysed and documented for each vaccine

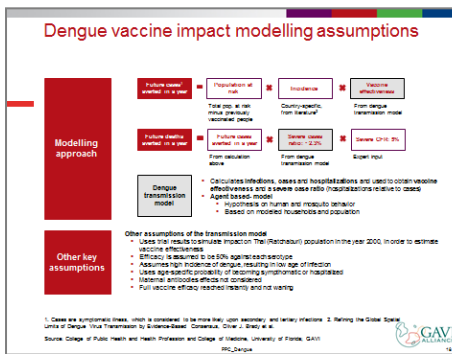
## 1. Identify vaccination scenarios



## 2. Develop demand forecast



## 3. Develop cost estimates



## 4. Develop impact estimates

**CONFIDENTIAL DRAFT**

Scoring methods for implementation feasibility criteria (I)

Criteria	Indicators and thresholds		
	Current / planned capacity to meet <75% GAVI demand	Current / planned capacity to meet 75-100% GAVI demand	Current / planned capacity to meet >100% GAVI demand
Capacity and supplier base	3+ manufacturers by 2020	Green	Green
	2 manufacturers by 2020	Yellow	Yellow
	1 manufacturer by 2020	Red	Red

## 5. Assess other disease/vaccine features

**CONFIDENTIAL DRAFT**

Hepatitis E Phase I Scorecard

Baseline: Routine immunization at 10 years

Category	Phase Indicator	Phase I Evaluation
Health impact	Impact on child mortality: 0 US future deaths averted 2015-2030 (population at age 10)	Red
	Impact on overall mortality: 0 US future deaths averted per 100K unvaccinated population	Red
	Impact on overall mortality: 0 US future deaths averted per 100K vaccinated population	Red
Additional target populations	Gender equity: 0 US future deaths averted per 100K unvaccinated population	Yellow
	Gender equity: 0 US future deaths averted per 100K vaccinated population	Yellow
	Gender equity: 0 US future deaths averted per 100K vaccinated population	Yellow
Implementation feasibility	Baseline: Routine immunization at 10 years	Red
	Baseline: Routine immunization at 10 years	Red
	Baseline: Routine immunization at 10 years	Red

## 6. Populate scorecards

# Consultations identified 5 key criteria to drive initial prioritization in phase I

Category	VIS Criteria
Health impact	Impact on child mortality
	Impact on overall mortality
	Impact on overall morbidity
Additional impact considerations	Epidemic potential
	Global or regional public health priority
	Herd immunity
	Availability of alternative interventions
	Socio-economic inequity
	Gender inequity
	Disease of regional importance
Implementation feasibility	Capacity and supplier base
	GAVI market shaping potential
	Ease of supply chain integration
	Ease of programmatic integration
	Vaccine efficacy and safety
	Vaccine procurement cost
Cost and value for money	In-country operational cost
	Procurement cost per event averted

- Health impact (mortality and morbidity) most important
- Also consider epidemic diseases and value for money



- Verify additional benefits and implementation feasibility
- In phase II, the full scorecard will be (re-)considered to inform final prioritization

# Five vaccines prioritised for further analysis + IPV



	<i>Health impact</i>	<i>Epidemic potential</i>	<b>Phase I assessment and expert guidance</b>
<b>Malaria</b>	✓		<ul style="list-style-type: none"> <li>• High impact on mortality and morbidity</li> <li>• Major public health priority</li> </ul>
<b>Influenza (maternal)</b>	✓		<ul style="list-style-type: none"> <li>• Impact on maternal and child mortality</li> <li>• Opportunity to strengthen antenatal contact point</li> </ul>
<b>Cholera</b>		✓	<ul style="list-style-type: none"> <li>• Mortality impact + prevents epidemics; pro-poor</li> <li>• Oral vaccine with strong herd effects</li> </ul>
<b>Yellow Fever (mass campaigns)</b>		✓	<ul style="list-style-type: none"> <li>• Reduce epidemics; no alternative intervention</li> <li>• Regional importance; small overall investment</li> </ul>
<b>Rabies (Post-Exposure)</b>	✓		<ul style="list-style-type: none"> <li>• Prevents mortality of suspected cases</li> <li>• Pro-poor; Asia elimination goal; small overall investment</li> </ul>
<b>Polio (IPV)</b>	<i>Special case: opportunity to contribute to eradication</i>		<ul style="list-style-type: none"> <li>• Major global public health agenda</li> <li>• Time-sensitive decision</li> </ul>

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October 2013



# Assessment framework for shortlisted vaccine investments

## Step 1: analysis

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Direct health impact

Potential to prevent disruptive epidemics

Country views

Global/country implementation requirements

Cost and value for money (relative to current portfolio)

Market-shaping potential

## Step 2: synthesis

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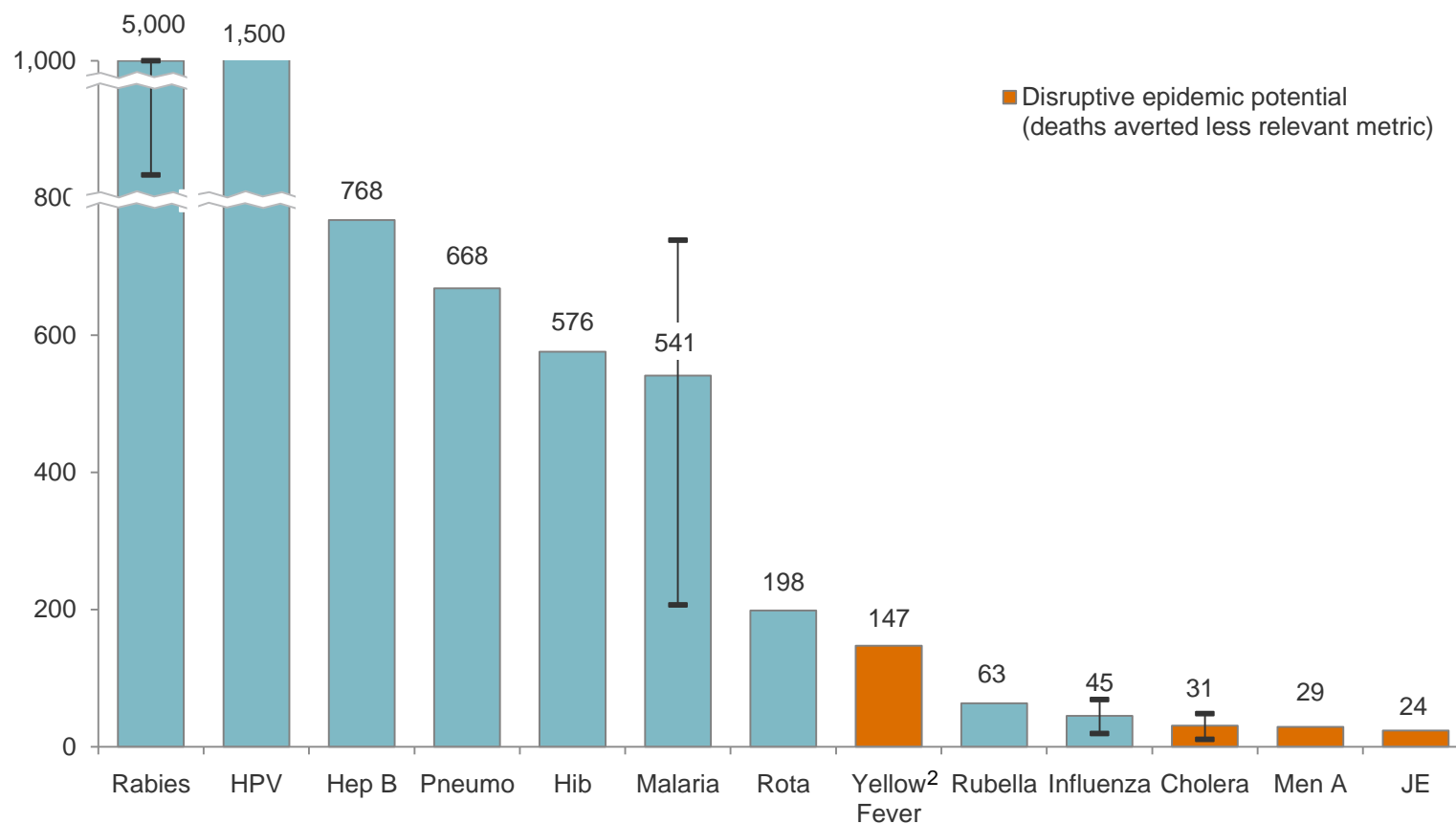
## Step 3: recommendation

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# Analysis example: deaths averted per 100,000 vaccinated

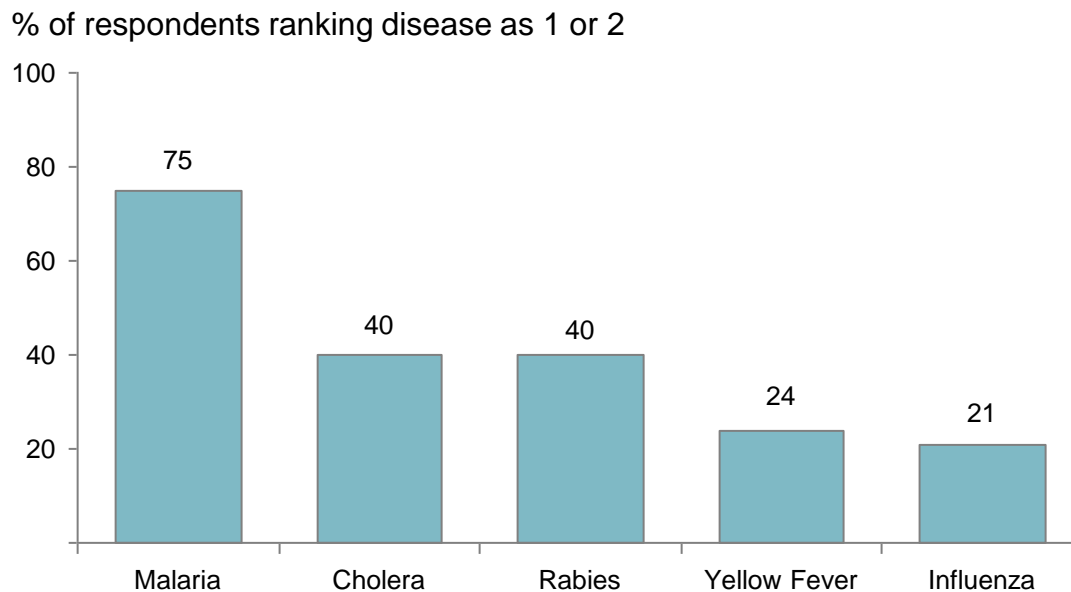
Future deaths averted per 100k vaccinated<sup>1</sup>



1. Based on deaths averted over 2015-2030; 2. VIS only

# Consultation example: country views on vaccine priorities from online survey

**Survey respondents:  
malaria ranked as highest priority for country introductions**



**Average  
priority**

**1.9**

**2.8**

**3.1**

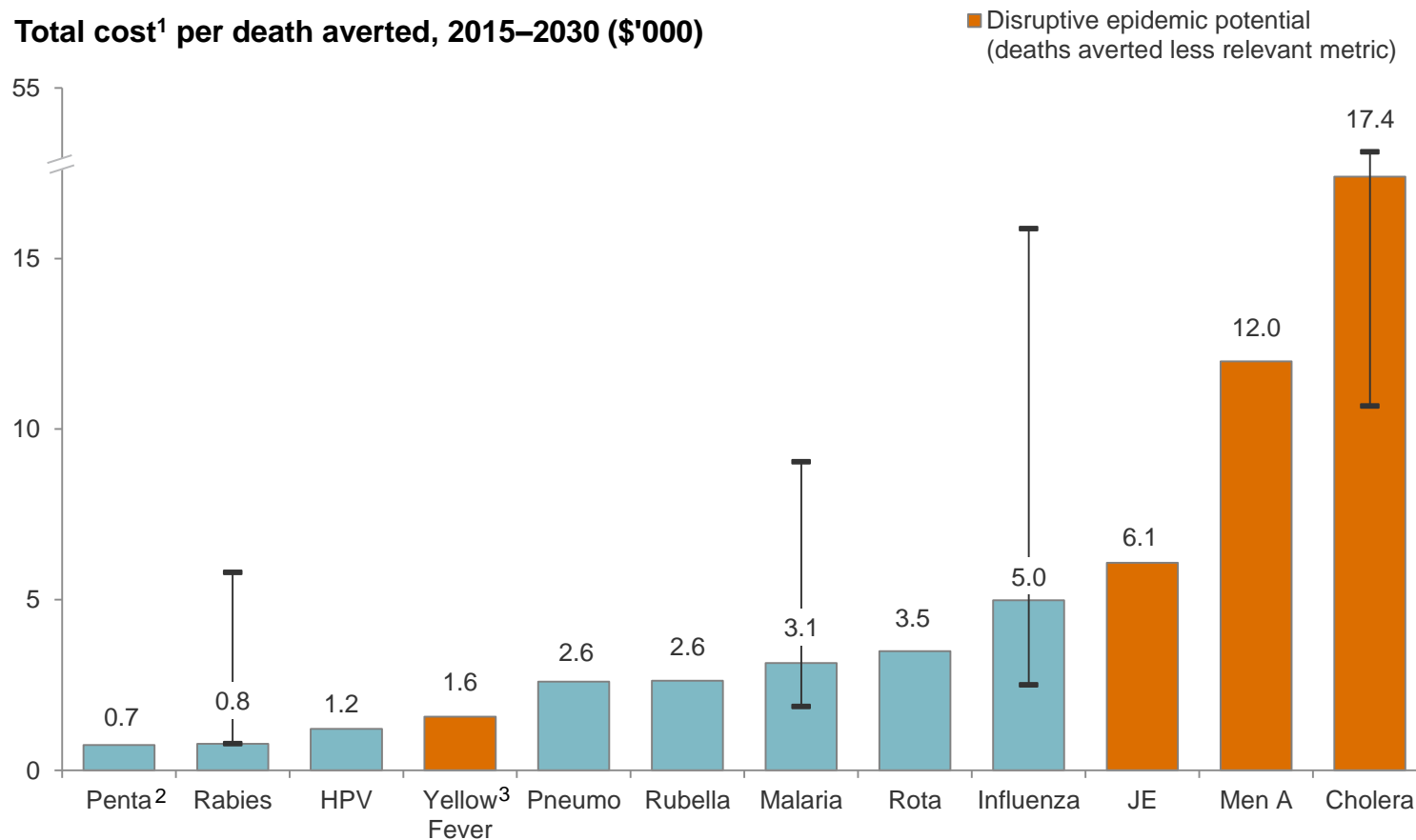
**3.8**

**3.4**

Source: 2013 GAVI country consultation survey, total responses = 182,  
Question: Please rank all of the following vaccines in terms of prioritisation for future introduction in your country

# Analysis example: cost per future death averted

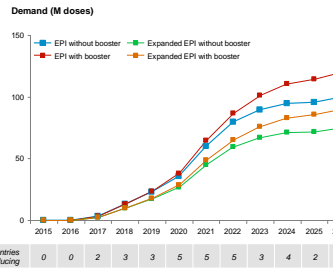
Total cost<sup>1</sup> per death averted, 2015–2030 (\$'000)



1. Includes operational + procurement cost to GAVI and country; 3. Includes deaths averted for Hep B and Hib; VIS only

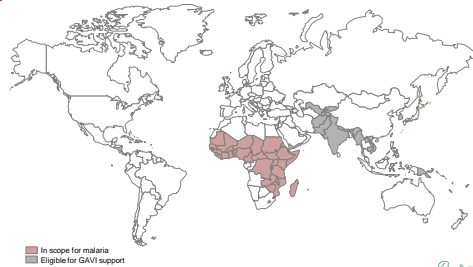
# Detailed vaccine assessments

## Cumulative demand estimated to be 760M – 1.2B doses through 2030



Note: Includes introductions in African countries only (both vaccine licensure and a WHO recommendation likely to be restricted to Africa; vaccine indication for use in Asia is not expected in the near term). Excludes countries that graduate from GAVI support during 2015-2030 (following GAVI supported introduction).

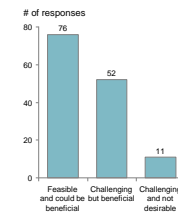
## 37 countries in scope for malaria (Africa)



## Country openness to new schedule and awareness that vaccine cannot replace other interventions

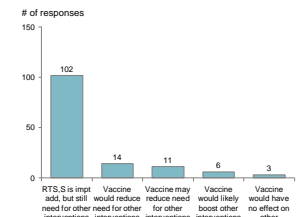
Respondents positive on ability to add new visits for 5-17M age group

Question: Please indicate the statement(s) that most closely apply in your country



Respondents emphasized that vaccine could not displace other malaria interventions

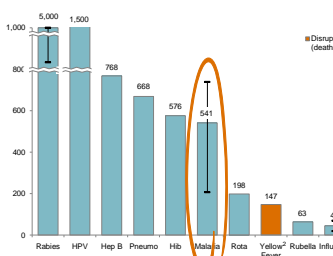
Question: Please indicate the statement(s) that most closely apply in your country



Source: 2013 GAVI Phase II country consultation survey  
Note: question only posed to 136 respondents ranking malaria as first or second priority for introduction.

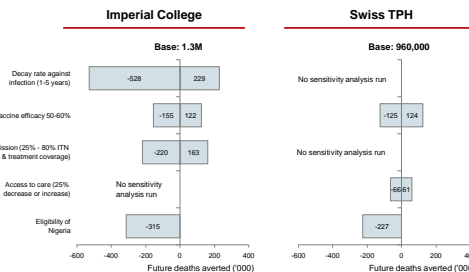
## Malaria vaccine may have impact comparable to Hib

Future deaths averted per 100k vaccinated<sup>1</sup>



1. Based on deaths averted over 2015-2030; 2. VIS only  
Note: Model outputs shown for Expanded EPI with booster scenario, for illustrative purposes; error bars lowest value generated by malaria sensitivity analyses and are driven by decay rate of protection; point midpoint of Imperial and Swiss TPH models

## Vaccine duration of protection is biggest sensitivity of high impact



Note: For illustrative purposes base case is shown as expanded EPI with booster scenario (midpoint between Imperial College and Swiss TPH model outputs)

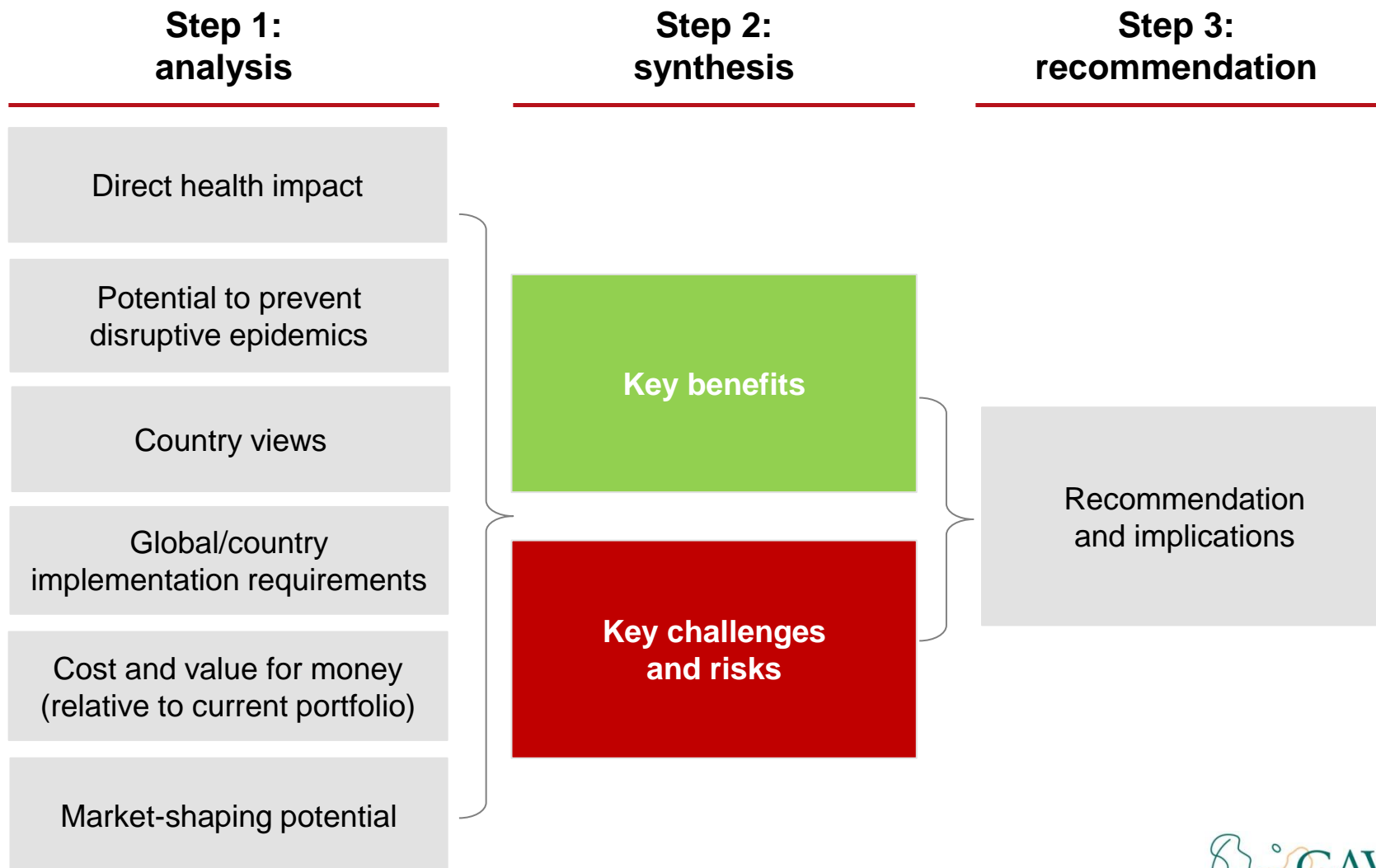
## Implementation would require managing possible global supply shortage and communication needs

	Area of focus	Unique implementation requirements	Unique costs
Global level	Policies and processes	• WHO position TBD; few required GAVI policy changes currently foreseen; coordination with the GFATM required	• N/A
	Supply	• Account for supply constraints through 2020 (impact likely small)	• No direct costs
Country level	Health workforce	• HR/training requirements for RTS,S similar to those for vaccines already in health system	• N/A
	Social mobilisation, education, communication	• Manage risk to program credibility if efficacy lower than other vaccines in use (eg. r0ta) • Additional training/social mobilisation/programmatic investments for initiating new routine visits for immunisation (expanded EPI scenario only)	• Cost accounted for in operational costs <sup>1</sup>
	Supply chain infrastructure and logistics	• Requirements for RTS,S similar to those for vaccines already in health system	• N/A
	Surveillance	• No unique surveillance requirements	• N/A
	Planning, coordination, integration	• Expanded EPI scenario would require infrastructure to support at least one additional touch point • Manage potential for older (not eligible) age groups to present for vaccination (implications for forecasting in intro year) • Coordinate with malaria control program to ensure vaccine does not undermine the use of other malaria interventions	• Focused organizational effort
			<ul style="list-style-type: none"> <li>Unique but manageable</li> <li>May not be manageable in short term / within current GAVI model</li> </ul>

1. Expected to be covered by GAVI Vaccine Introduction Grant, M&P, partners



# Assessment framework for shortlisted vaccine investments



# Next steps

- 8 October: PPC review of Vaccine Investment Strategy
- 21 November: PPC recommendation to GAVI board on vaccine investment decisions
- Implementation of future vaccines depends on
  - vaccine development outcomes
  - WHO normative guidance
  - country demand
- GAVI application process review prior to opening funding window
- 2018: re-evaluate vaccine landscape



[www.gavialliance.org](http://www.gavialliance.org)