

Report from Gavi, the Vaccine Alliance

Meeting of the Strategic Advisory Group of
Experts on immunisation (SAGE)

Dr. Seth Berkley, CEO
17 April 2018, Geneva



Reach every child

www.gavi.org

Overview

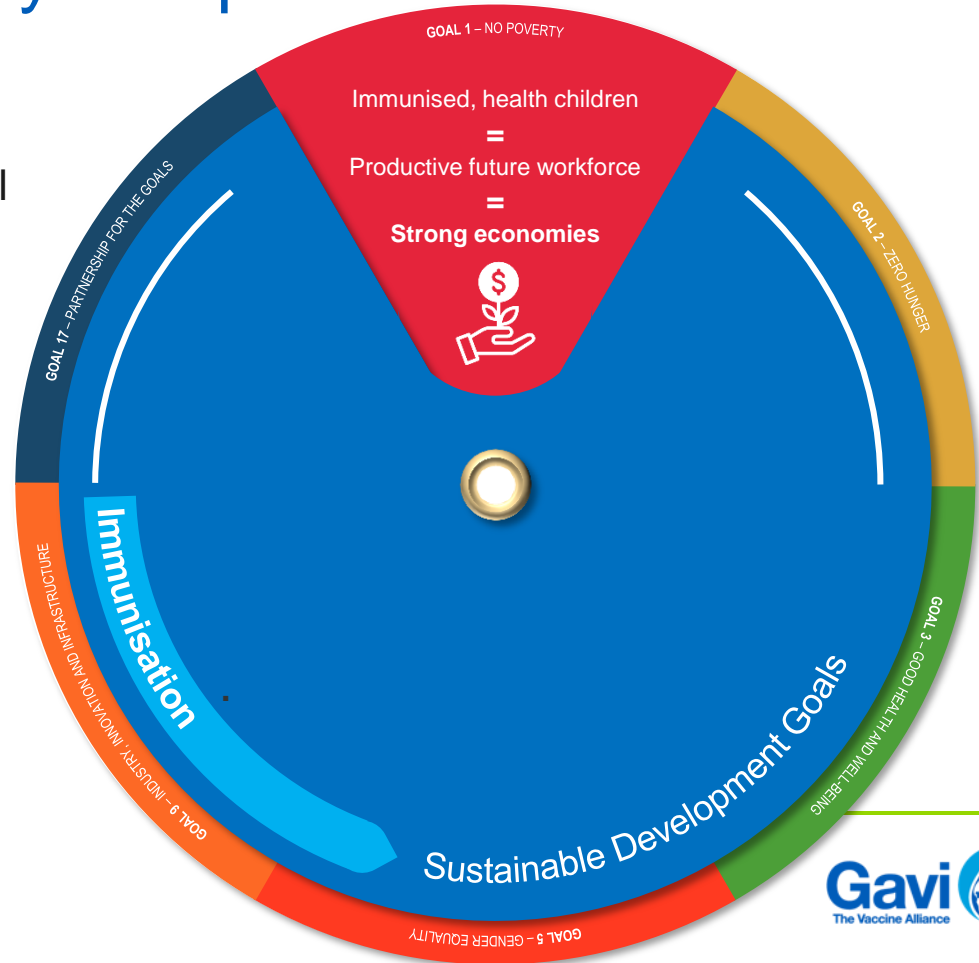
1. **Context**
2. **Looking forward to Gavi's next strategic period**
3. **Gavi updates: vaccination programmes**
4. **Gavi updates: cross-cutting challenges and opportunities**
5. **Conclusions**

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Context

Immunisation is a key component of the 2030 agenda

- One of the most effective global health intervention contributing to other SDGs.
- Best buys in global health and critical for achieving 14 of the 17 SDGs



Improved SDG indicators adopted, but work remaining to ensure it drives performance



Improved SDG immunisation indicator adopted:

3.b.1 Proportion of the target population covered by all vaccines included in their national programme

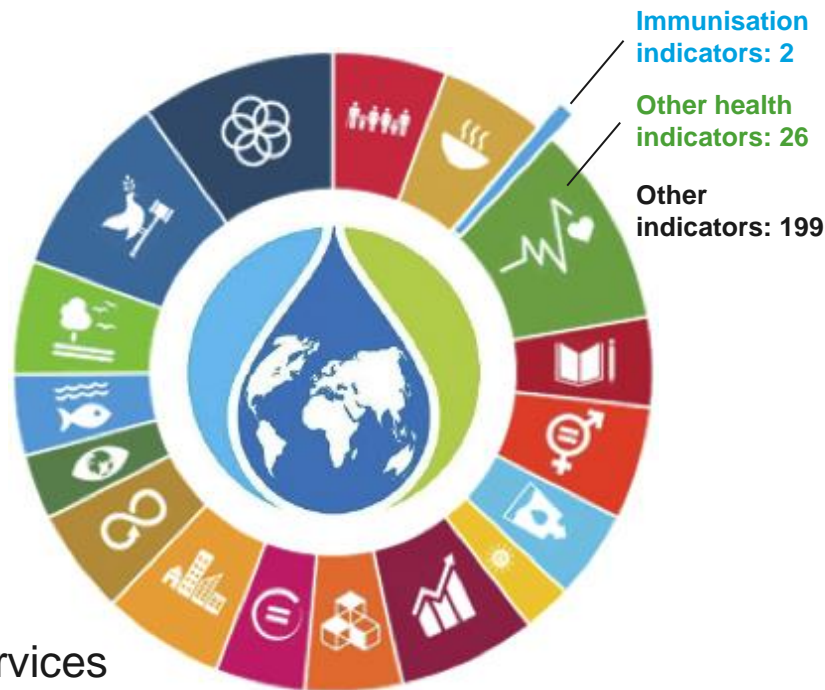
- Includes DTP3, PCV3, MCV2, HPV2 coverage



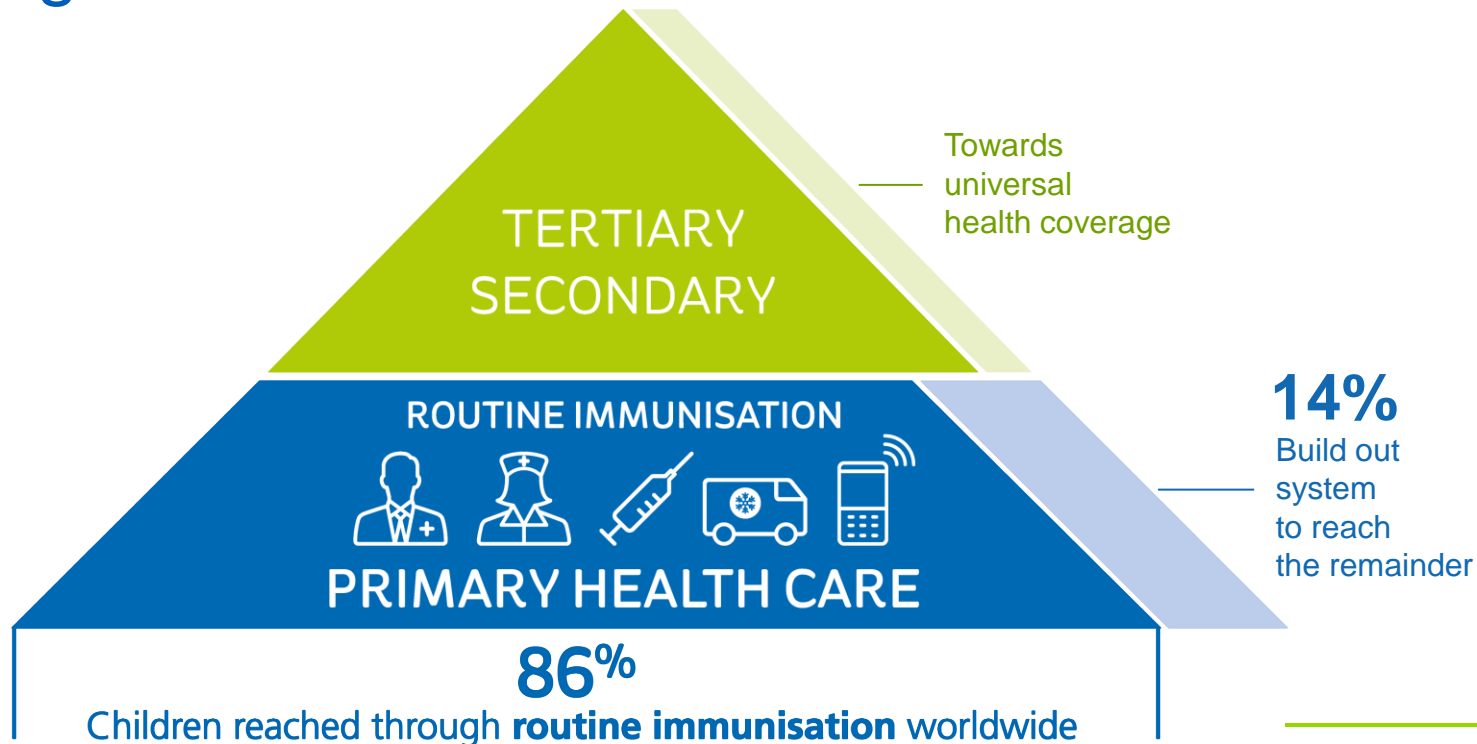
UHC indicator adopted:

3.8.1 Coverage of essential health services

- Immunisation included as a tracer intervention



Immunisation a platform for Universal Health Coverage



Gavi has started process to define 2021-2025 strategy

How does Gavi finish the job?

18 of 1,000 children will be dying of vaccine-preventable diseases in 2020; at current pace U5 mortality SDG target will be missed

How can Gavi's tools contribute to global health security?

Controlling for confounding variables, number of outbreaks has grown steadily from 1980 to 2010, over 3-fold increase

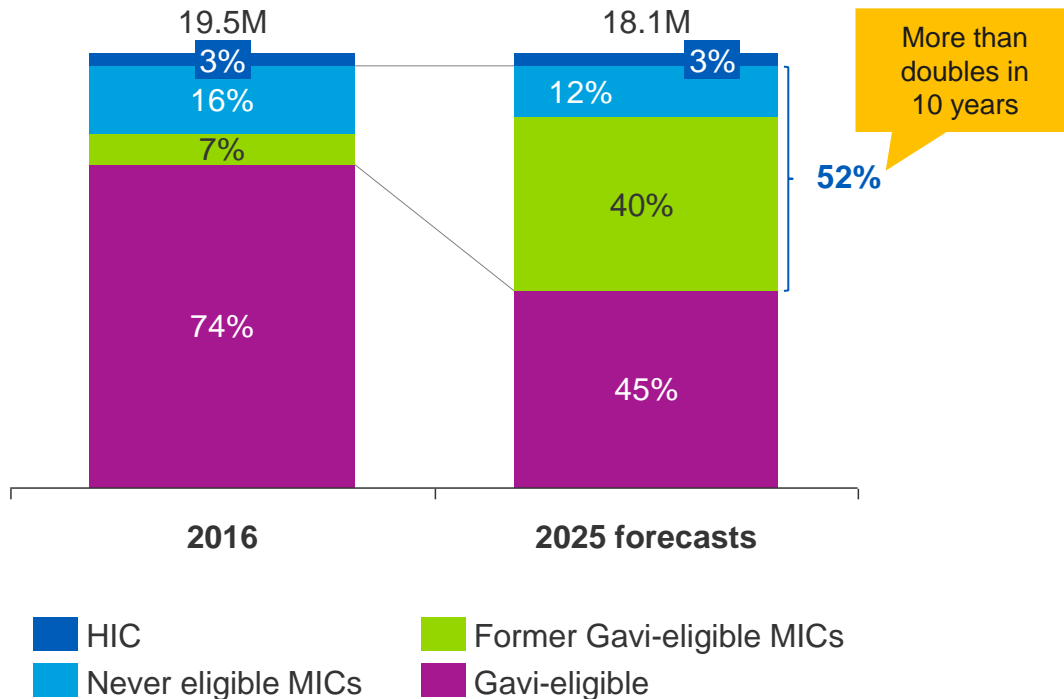
To what extent should Gavi engage in reaching the unreached in MICs?

More than two-thirds of world's poor live in MICs today; more than half of underimmunised in MICs in 2025

How can the Gavi / immunisation platform be used to accelerate the scale-up of other health interventions?

Immunisation: 8 touchpoints per child in first 9 years of life, 500m touchpoints each year worldwide

More than half of under-immunised children (DTP3) will be in MICs in 2025

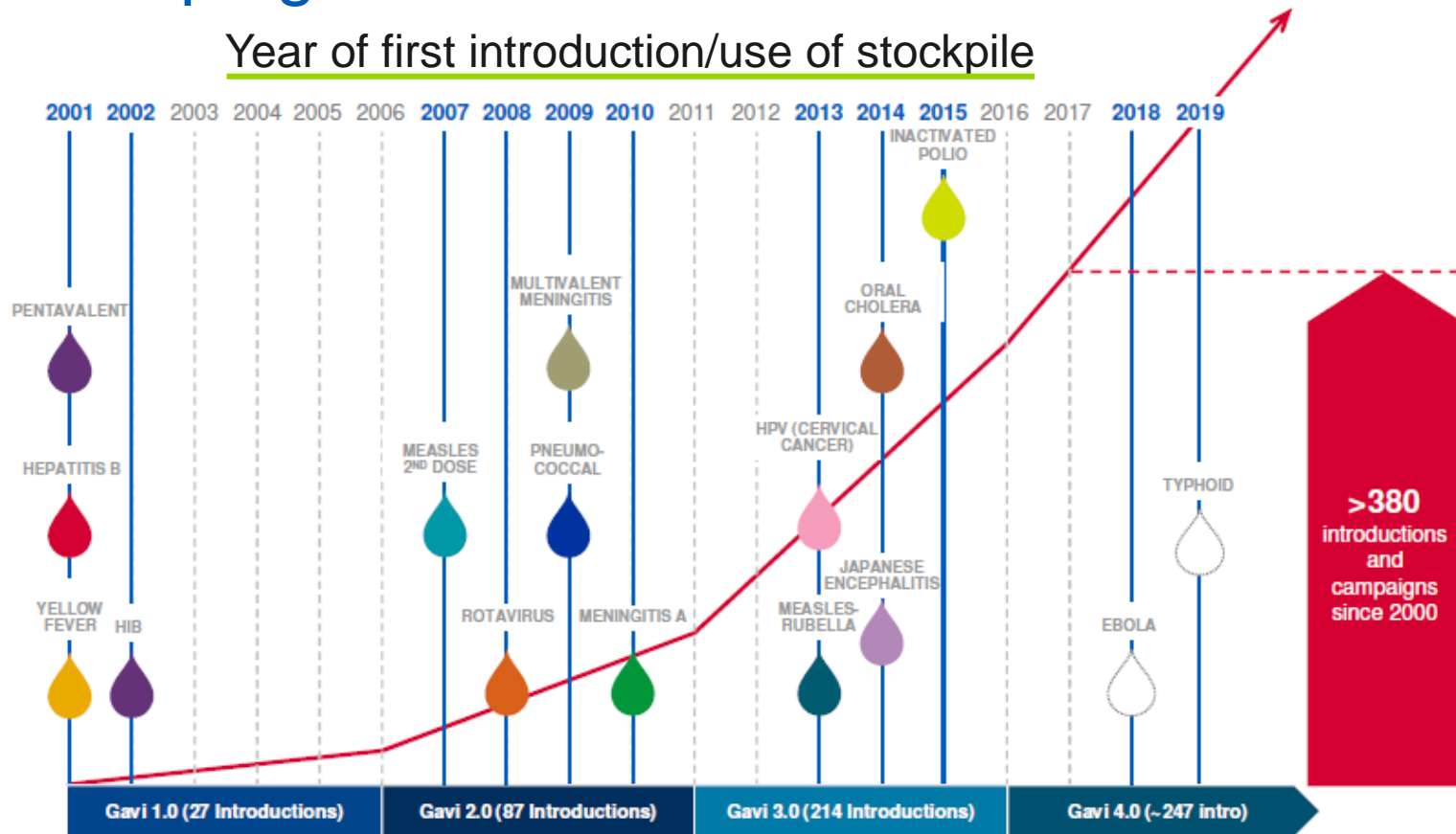


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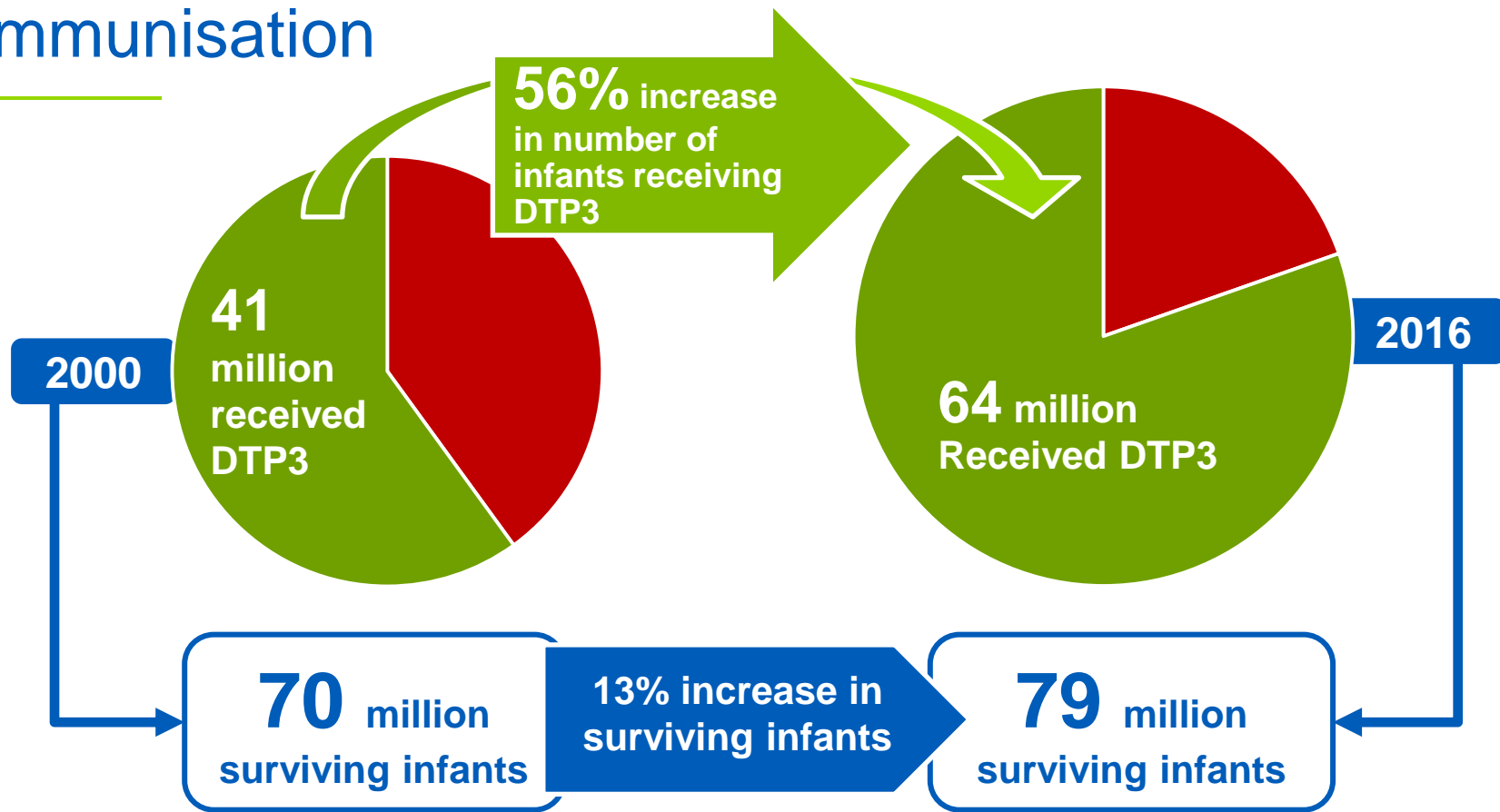
Looking forward to Gavi's next strategic period

Gavi has supported >380 vaccine introductions and campaigns

Year of first introduction/use of stockpile

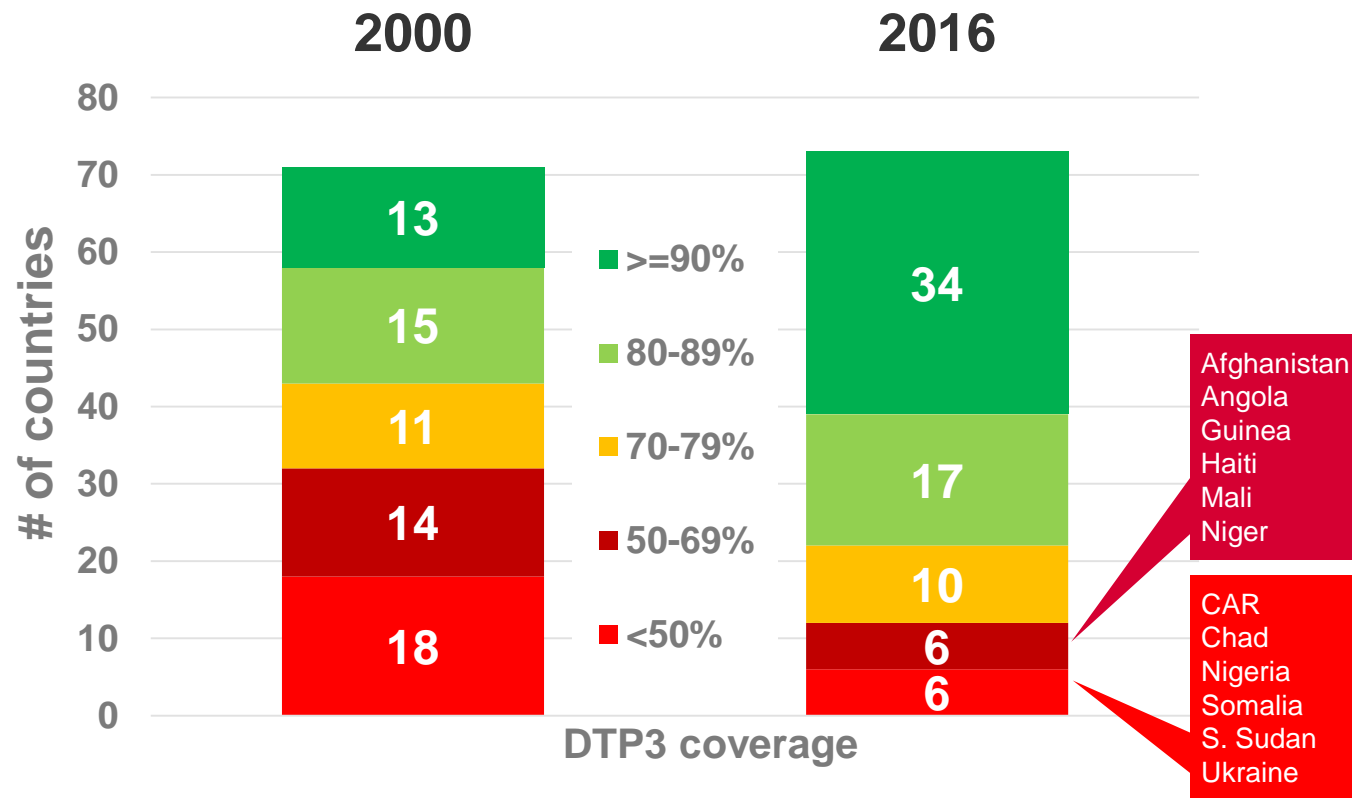


Significant gains made in increasing access to immunisation



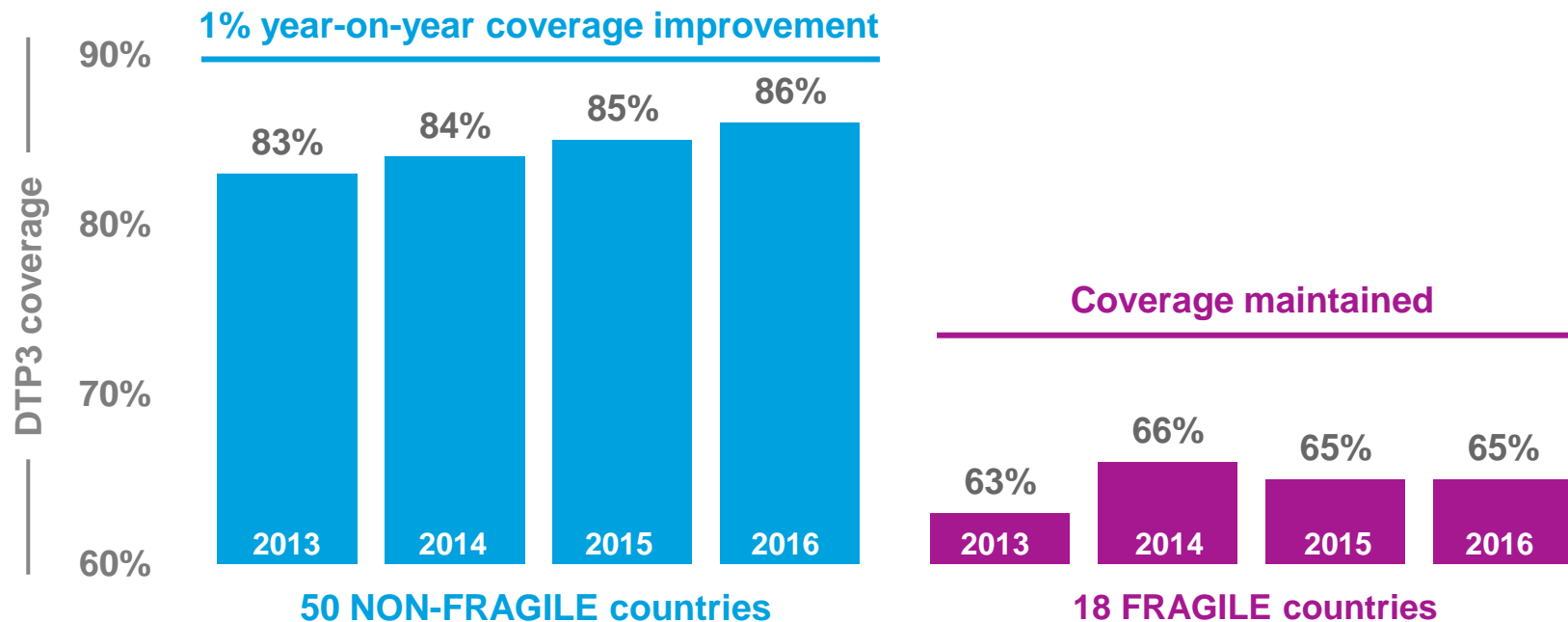
Based on Gavi 68 countries.
Source: WUENIC and UNWPP estimates

However, opportunity for substantial improvement in many countries



Data Source:
WUENIC estimates
South Sudan and
Timor-Leste
added for 2016

Plateaued coverage in fragile countries, which contain half of under-immunised

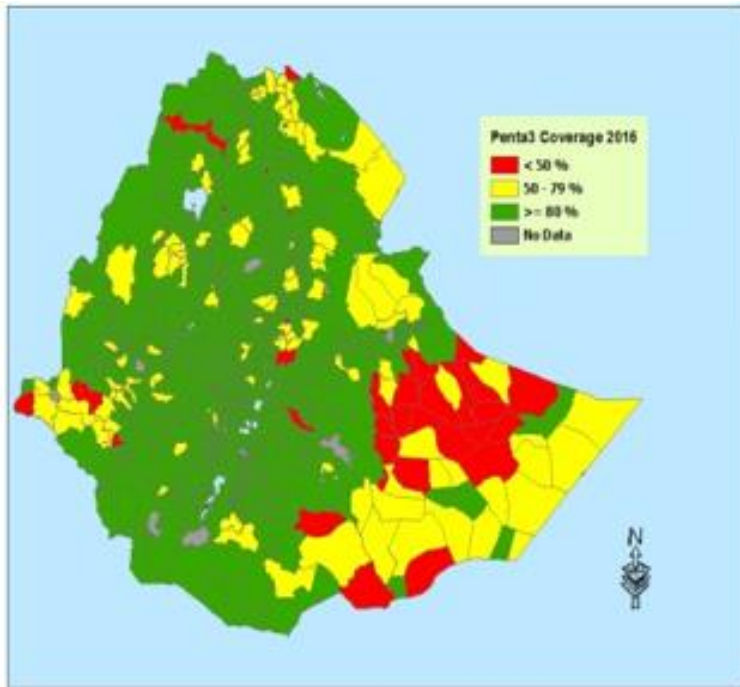


The list of 18 fragile countries includes Afghanistan, Burundi, CAR, Chad, Congo, DRC, Eritrea, Ethiopia, Haiti, Mali, Nigeria, Papua New Guinea, Solomon Islands, Somalia, South Sudan, Sudan, Yemen & Zimbabwe

Data Source: WUENIC estimates

Sub-national data allows Alliance to engage with countries on targeted plans to improve coverage

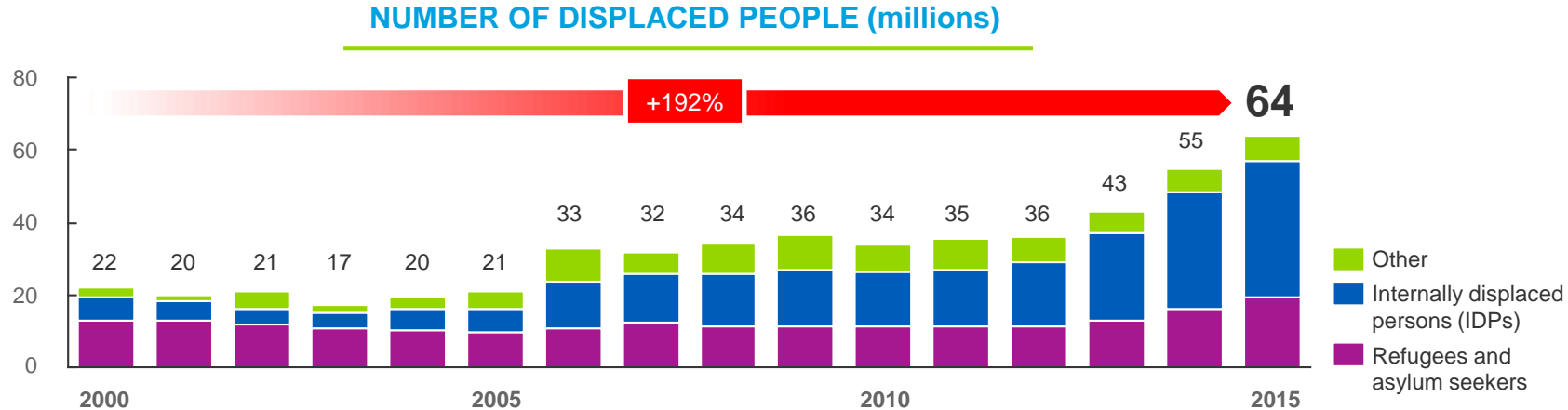
Ethiopia – 2016 penta3 coverage



- In-country, multi-stakeholder Joint Appraisal discussions
- Sub-national data allows for identification of targeted strategies
- Critical that this level of granular data becomes standard for planning and implementation

Data Source: JRF 2017

The number of displaced has risen significantly, reaching 64 million people in 2015



CHALLENGES TO REACH THE DISPLACED:



- Lack of infrastructure (living in camps)



- Stigma / fear within displaced



- Constant inflow and outflow of people



- Lack of data



- Lack of medical supplies & medical staff



- Increased risk of outbreaks in poor conditions

Increasing focus on ensuring refugees receive life-saving vaccines

REFUGEES IN BANGLADESH



Over **600,000** refugees from
Myanmar

**Flexibilities offered
to refugees include:**

- Additional vaccine support (Cholera, Penta, PCV, MR, fIPV injections)
- Additional operational support

REFUGEES IN UGANDA

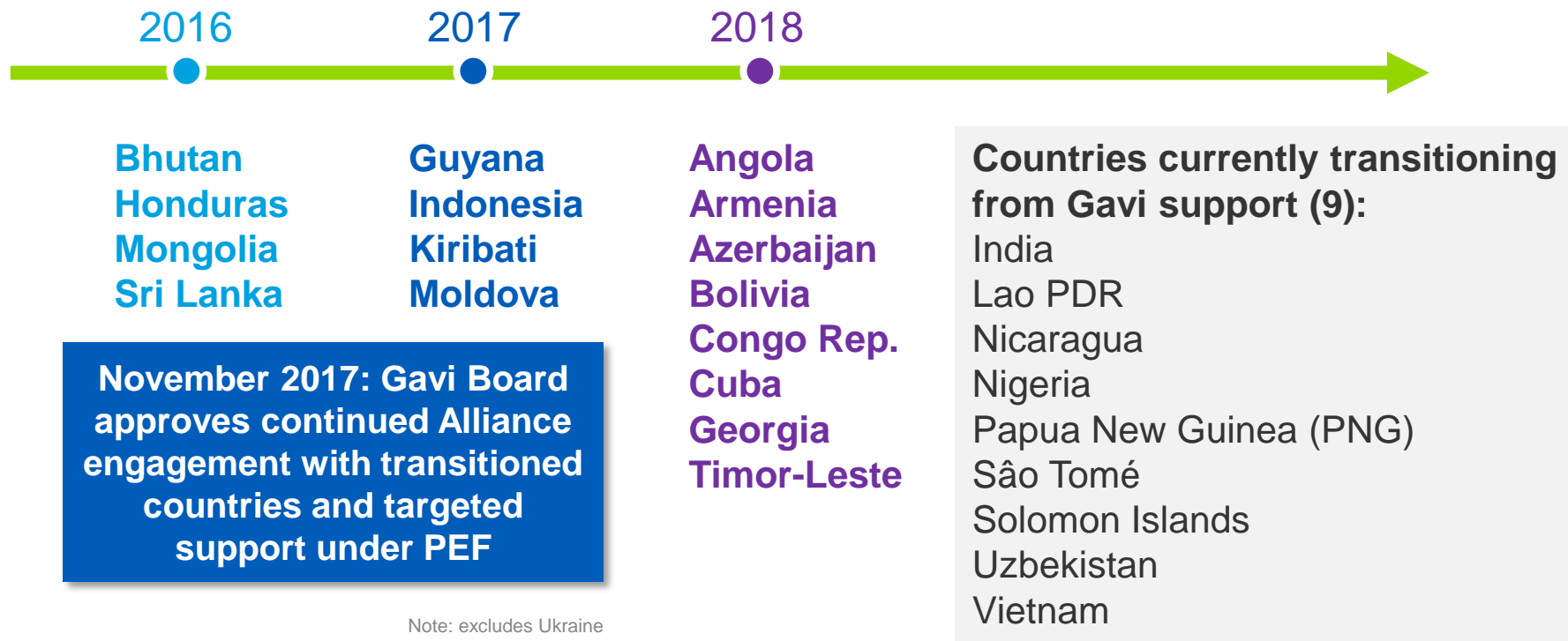


Over **1 million** refugees from
South Sudan

**Flexibilities offered
to refugees include:**

- Additional vaccine support (Penta, PCV, Rota, IPV, HPV, MSD, injections)

Country transition from Gavi support of growing importance: 8 additional countries in past year



Countries can now apply for new vaccine introduction during transition from Gavi support

- In November 2017 Gavi Board approved the extension of the grace period for new vaccine introduction during the accelerated transition phase from one year to the full five years
- These transitioning countries have an opportunity to apply for the following new vaccine support (NVS):

Country	Current portfolio	Applied (not introduced)	Potential new vaccines introductions	Opportunity to apply
Lao PDR	Penta, PCV, MR, JE	Rota, HPV	Typhoid	2018 -2021
Nicaragua	Penta, PCV, Rota, YF		HPV, Typhoid	2018-2020
São Tomé	MR, Rota, YF, Penta, PCV		HPV, Typhoid	2018-2022
Solomon Isl	PCV, Penta, MR,	Rota, HPV	JE, Typhoid	2018 -2021
Uzbekistan	PCV, Penta, Rota	HPV	Typhoid	2018-2019
Vietnam	Penta, MR		HPV, PCV, Rota, Typhoid	2018-2019

Gavi Board to take decisions at upcoming meeting on transition / post-transition support

Transitioning Nigeria from Gavi support

- Potential Gavi support for achievement of coverage & equity targets and new vaccine introductions

Engagement with countries post-transition

- Angola
- Congo Republic
- Timor-Leste

Vaccine Investment Strategy (VIS) ongoing – one approach to continue delivering health impact

WHO landscape analysis informs the VIS list of candidates

WHO Analysis:

26 vaccines recommended (out of 60+ considered)

Recommended

- Meningitis C
- Mumps/MMR
- Typhoid
- OCv
- Diphtheria (d)
- Diphtheria (d)
- Hep B birth (d)
- Pertussis (d)
- PCV catch-up
- IPV
- Tetanus toxoid
- Ebola (pre-exposure)

Candidate vaccines

Link to current investment

- Diphtheria
- Oral cholera vaccine
- Tetanus
- Meningitis C, Y, W, X
- Hepatitis A
- Dengue

New disease area

- Hepatitis A
- Dengue

Endemic diseases: Confirmed final list of indicators

Criteria	Proposed indicators
Health impact	Total future deaths averted 2020-2035, and per 100,000 vaccinated and per 100,000 cases averted 2020-2035
Value for money	Total US deaths averted 2020-2035, and per 100,000 vaccinated and per 100,000 cases averted 2020-2035

Criteria	Proposed indicators
Other impact	Total DALYs averted 2020-2035, and per 100,000 vaccinated and per 100,000 cases averted 2020-2035
Value for money	Total DALYs averted 2020-2035, and per 100,000 vaccinated and per 100,000 cases averted 2020-2035

Cholera scorecard

VIS criteria	Indicator	Evaluation
Health impact	Impact on deaths averted: <21,150; future deaths averted, 2020-2035, 9.50 per 100,000 vaccinated population	High
Value for money	Impact on cases averted: <2,14,801; future cases averted, 2020-2035, 960-1,801 per 100,000 vaccinated population	High
Other impact	Vaccine procurement cost per DALY averted: <\$400; procurement cost per death averted: <\$400	High

Responses grouped in two shortlisting

Option A

Health impact + Value for money

Option B

Health impact + Value for money

Applying options, three shortlists emerging

	Option A	Option B	Option C
Vaccine 1	✓	✗	✗
Vaccine 2	✓	✓	✗
Vaccine 3	✓	✓	✗
Vaccine 4	✗	✓	✗
Vaccine 5	✗	✓	✗

1. WHO landscape analysis

2. VIS candidate list

3. Evaluation framework

4. Vaccine analyses

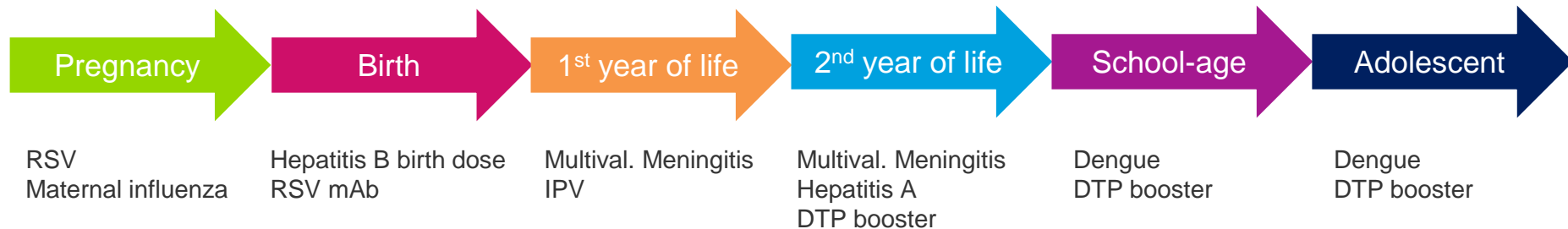
5. Prioritisation methodology

6. Shortlist options

VIS decision-making timelines:

- Nov 2017 – Methodology
- Jun 2018 – Prioritised shortlist
- Nov 2018 – Investment decisions

VIS: candidate vaccines span delivery timepoints and present integration opportunities



Other

Rabies – PEP, RIG
Cholera (preventive)
Pandemic flu

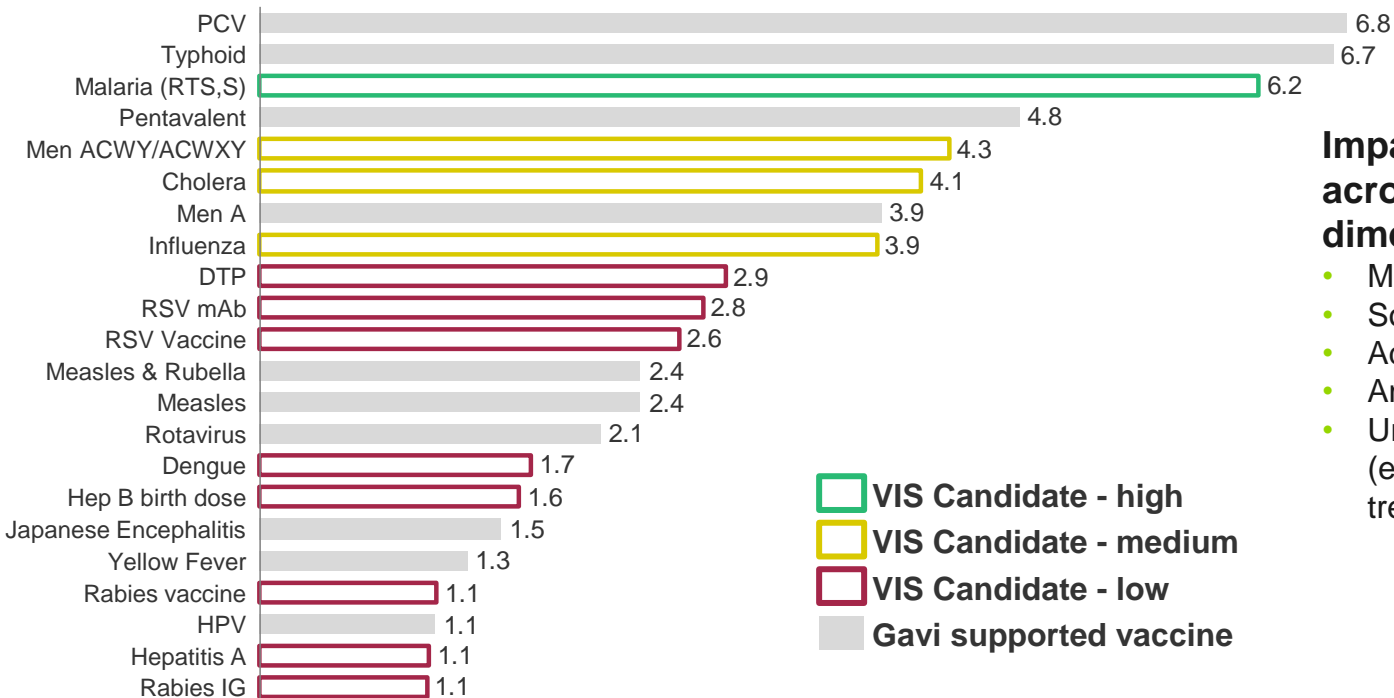
Based on analysis 6, candidates for potential shortlisting:

- HepB birth dose
- Cholera (preventive)
- Multivalent meningitis
- DTP boosters
- RSV
- Rabies PEP

VIS also considering pandemic flu and IPV

VIS: Antimicrobial resistance (AMR) amongst new lenses by which vaccines are being assessed

VIS evaluation results – expert input (0= low vaccine impact on AMR; 10=high vaccine impact on AMR)



Impact on AMR assessed across multiple dimensions:

- Mortality and morbidity impact
- Societal impact
- Addressing inequity
- Antibiotic use prevented
- Urgency related to AMR threat (e.g. reduction in available treatment options)



Source: Expert consultations

VIS: Gavi also assessing vaccine investments for epidemic preparedness and response

Evaluation approach for potential investments

**Disease
Risk &
Burden**

1. Is the epidemic potential sufficient to prioritise a stockpile or similar investment?

**Vaccine
Impact &
Feasibility**

2. Would the vaccine be feasible to use and impactful?

**Fit for Gavi
& Partners**

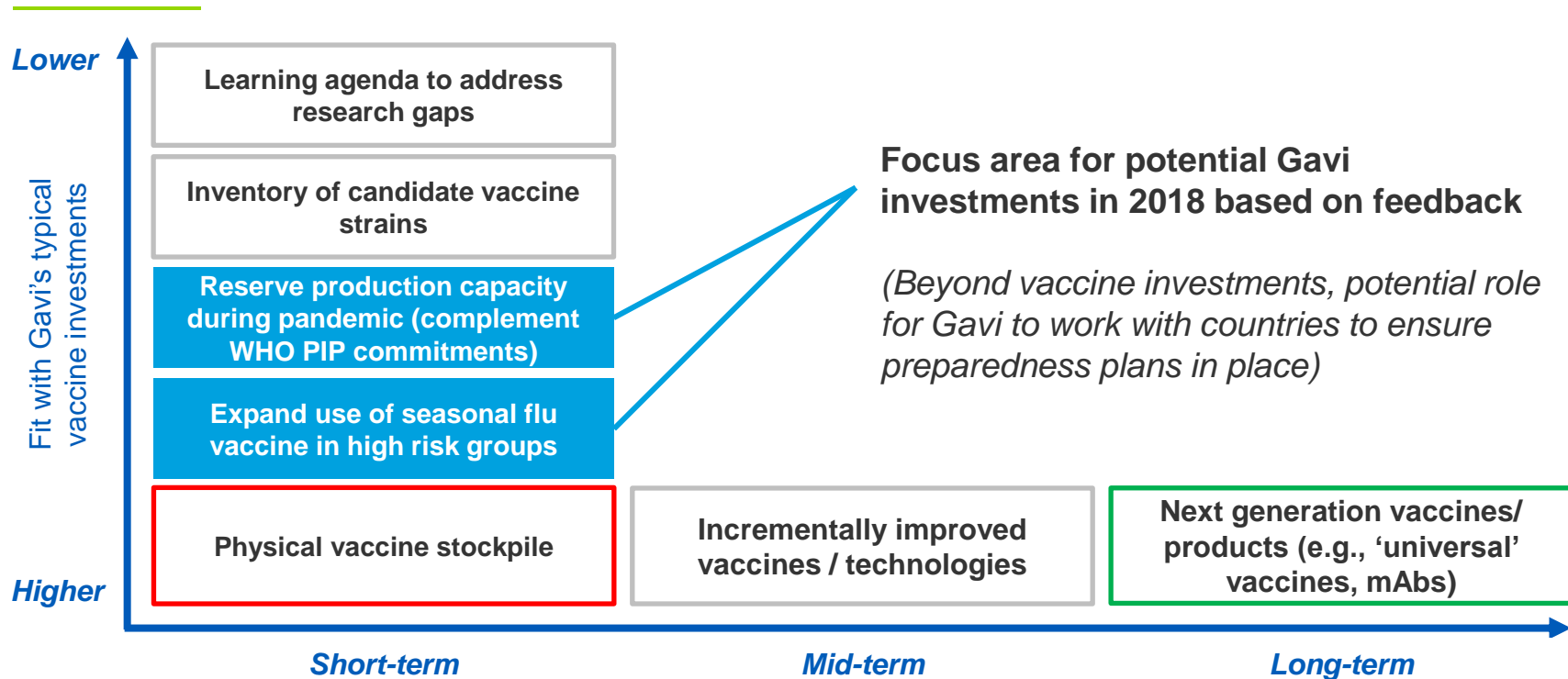
3. What is Gavi's comparative advantage and potential contribution to the funding and delivery of this vaccine?

**Financial
Implications**

4. What is the appropriate scale of the stockpile (or related intervention) and the financial implications?

While routine immunisation investments evaluated every 5 years, epidemic investments will be considered on continual basis

VIS: Gavi specifically exploring options to support pandemic flu preparedness



VIS: Gavi considering its support for IPV post-2020

Gavi's involvement in polio centred on IPV introduction but also,

- Increased engagement and discussion at joint assessments on polio legacy issues

In VIS, considering continued IPV support after 2020, potentially not fully financing vaccine for all countries

And considering,

- POB request to support IPV for the period 2019-20
- Expanded role in broader polio activities including the Post-Certification Strategy, for example stockpiles of polio vaccines

3

Gavi updates: vaccination programmes

Measles and Rubella: control or elimination

Among Gavi 73, only 14 countries have been certified “measles eliminated”

MCV1 in Gavi 73 was still 78% in 2016, no change from 2015

- MCV1 coverage in Gavi countries ranged from 22%-99%
- **60% of surviving infants in Gavi73 living in countries with MCV1 <80%**
(excl. India and Indonesia)

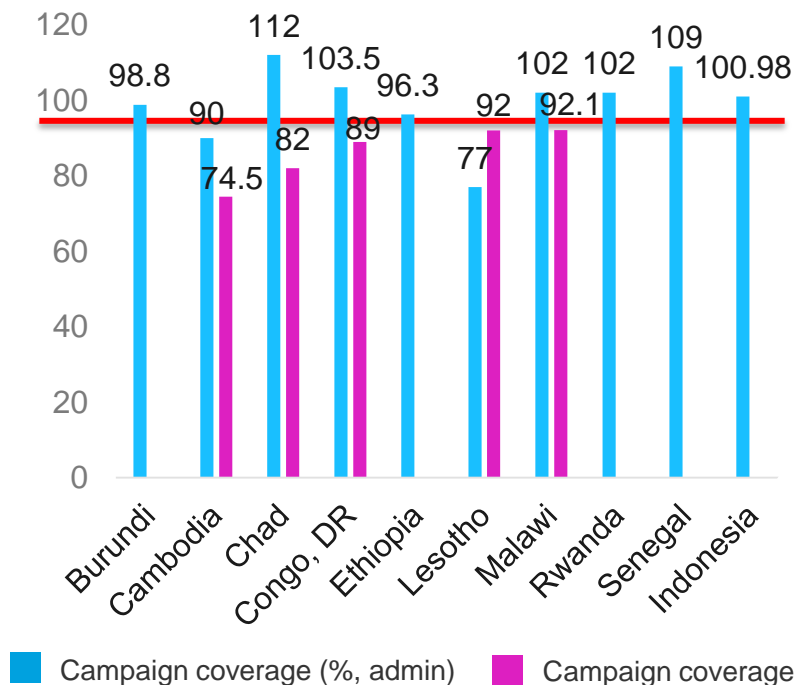
Cycle of low routine coverage, repeated campaigns & below-target campaign coverages remain

- Eg. Chad and Nigeria in every 2 year cycle, with campaign coverages <90% and MCV1 coverages <60%

MTR of Global MR strategic plan 2012-2020 recommended improving ongoing immunisation systems, to ensure gains in measles control are sustained

Improving the quality of SIAs remains a critical challenge

**Gavi supported measles/MR campaigns
in 2017, admin and survey coverages**



- 12 campaigns conducted in 2017, with Gavi support
- **0/5 with coverage survey reached 95%**

Multiple and frequent campaigns have broader negative implications

Negative effects:

- Divert resources away from RI
- More frequent AEFIs with more kids vaccinated, eroding vaccine confidence
- Perverse incentives: vicious cycle of campaigns and **fiduciary risk**
- Overall impact: reputational risk and inability to achieve immunisation goals

Nigeria case study:

- 2015-2016: 37 rounds of subnational/national campaigns (2 measles, 35 polio*)
- DTP3 coverage <50% (WUENIC) and at 33% according to latest National Indicator Cluster Survey study
- In 2015-2016 OPV coverage remained at <50%, increased from 30% to 49% (WUENIC)
- MCV1 <55% (WUENIC) since 2011

* Nigeria is one of the last countries undergoing extensive polio eradication efforts

Progress on implementing Yellow Fever EYE Strategy, but significant ways to go

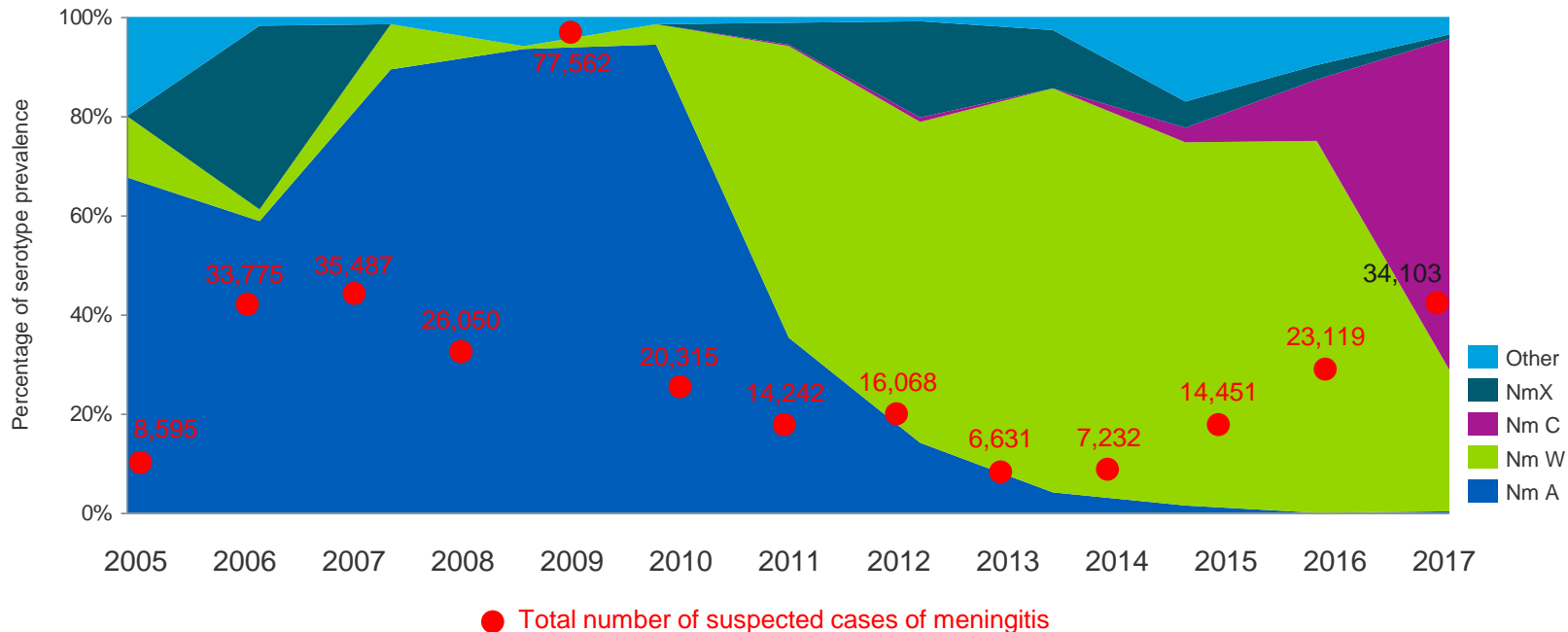
What have we achieved?

- African Regional Committee endorsement (Aug 2017) and EYE Strategy kick-off last week in Nigeria
- Continuation of Nigeria's 2nd phase mass preventive campaign (January 2018), 3rd phase planning underway
- DRC approved Gavi application for national mass preventive campaign
- Coordinated outbreak responses (Brazil and Nigeria) underway

Continued challenges

- Surveillance and diagnostics to inform timely response measures
- 4 High Risk countries pending routine YF vaccination introduction (Ethiopia, Sudan, South Sudan, Uganda)
- Coordination and management of global vaccine supply and country planning
- Risk-based planning and prioritisation (particularly sub-national)
- Is EYE governance structure functioning optimally?

Between 2005 -17, dominant meningitis serotype in Africa's 'meningitis belt' has changed



Note: Disease burden is strongly underestimated. Only 3-19% of suspected cases are confirmed and serotype identified
 Source for 2005-2015 : Trotter CL, Lingani C, Fernandez K, et al. Impact of MenAfriVac in nine countries of the African meningitis belt, 2010-15: an analysis of surveillance data. The Lancet Infectious diseases 2017; 17(8): 867-72
 Source for 2016-2017: Meningitis Weekly Bulletin, Inter country support team – West Africa.

With anticipated growing availability of multivalent conjugate meningitis vaccines, Gavi reconsidering investment

Current status of meningitis programme

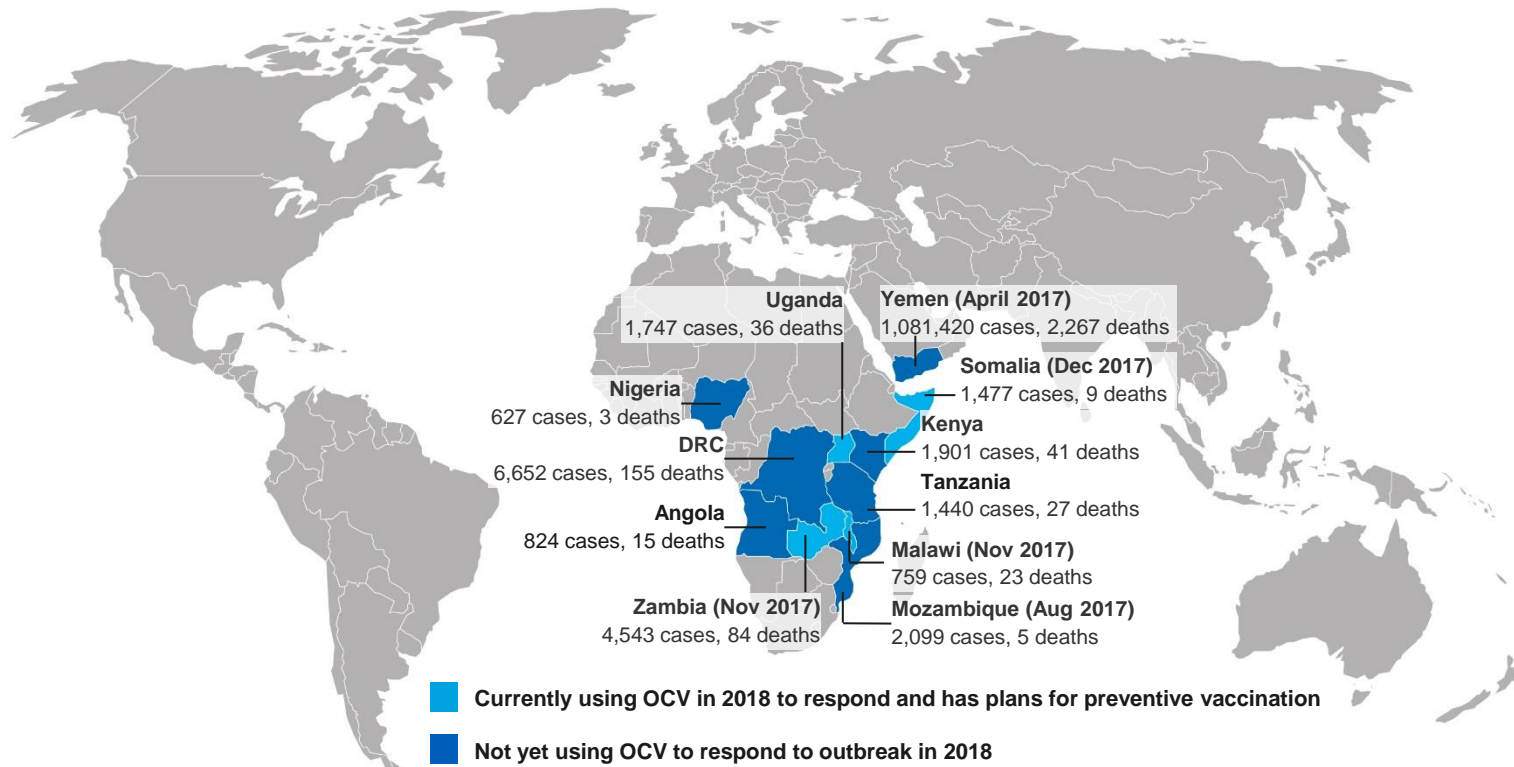
- Of the 26 'meningitis belt' countries, 7 have introduced MenAfriVac in routine with Gavi support, 15 are forecasted to do so by 2019, and 4 have not yet defined plans for introduction
- Support for emergency vaccine stockpile – polysaccharide vaccines low cost, but increasingly unavailable; turning to higher priced multivalent conjugates
- WHO projects increased risk of meningitis epidemics due to hyper invasive NmC strains in the coming years

Considerations for VIS

- Multivalent conjugate vaccines in routine vaccination alongside a mass campaign in 'meningitis belt' countries, or subset with highest risk of endemic or epidemic disease

Significant cholera outbreak affecting 11 Gavi-support countries

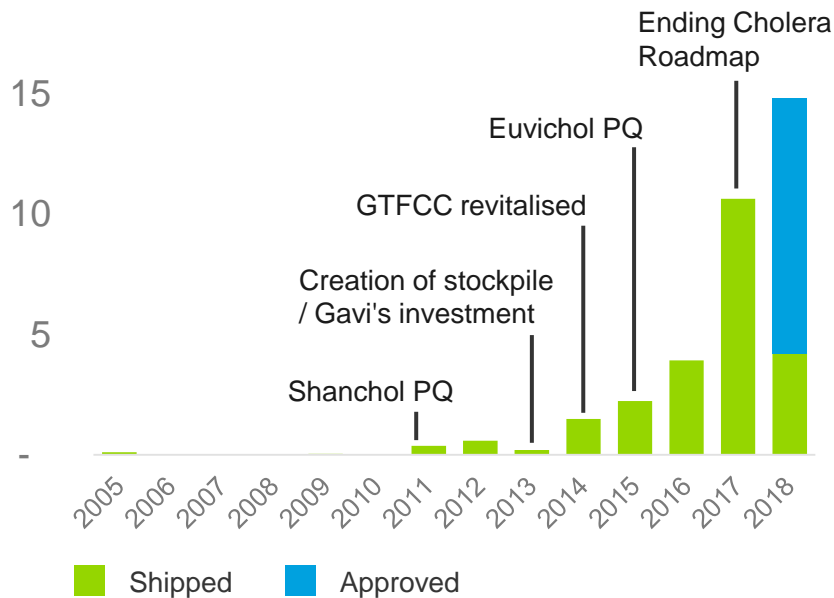
Active cholera outbreaks as of **March 2018**



*Note: DRC, Nigeria, Mozambique and Tanzania have used OCV to respond to outbreaks in the past

OCV demand is matching supply increases, VIS is evaluating long term support for preventive use

OCV shipped and approved, as of **March 2018**



- Ending Cholera Roadmap promotes a multi-sectoral approach and increasing use of vaccine
- Gavi's investment in OCV for preventive settings is being evaluated in VIS 2018

Funding for typhoid conjugate vaccine approved Dec 2017, applications being accepted



Single dose routine

- Co-financed
- Vaccine introduction grant
- Gavi recommends to link to MCV1 or MCV2



One time single dose catch-up

- Fully financed by Gavi
- Operational cost support
- Up to 15 years

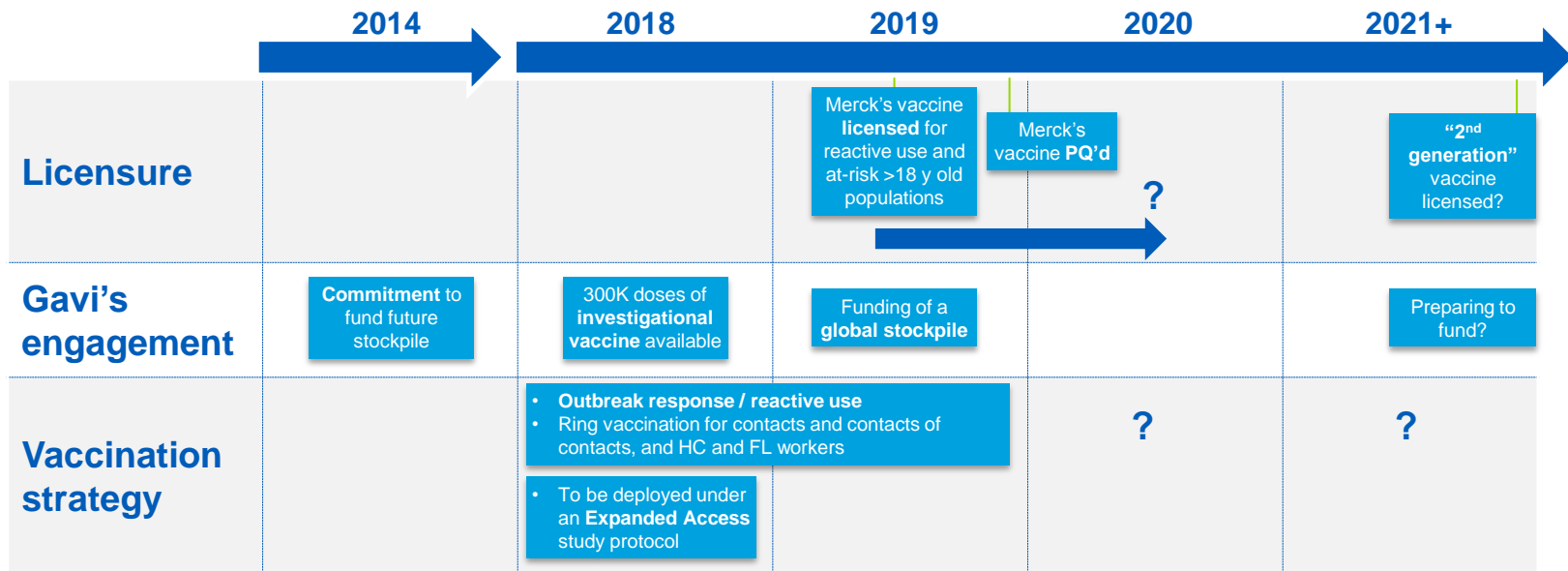
Risk-based approach
may be used

A number of key questions regarding typhoid vaccination still to be addressed

Current strategy for rolling out typhoid vaccine still unclear:

- What **type of data** will countries need to make informed decisions about introduction?
- How do countries choose the **most appropriate vaccination strategy (e.g., subnational)** in light of poor diagnostics, heterogeneity of disease, population movement?
- What is the **impact of vaccination** on the disease and anti-microbial resistance?

As licensure of Merck Ebola vaccine nears, Gavi is readying for funding an emergency stockpile



Preventive use?

Malaria pilots a historic partnership between health financing institutions

Pilot introduction of the RTS,S/AS01 malaria vaccine recommended by SAGE/MPAC to answer **key questions on:**

- **Operational feasibility of administering 4 vaccine doses**
- **Impact on severe malaria and mortality and gender-specific impact**
- **Safety profile**

Historic partnership between Gavi, Global Fund, Unitaïd – bringing together biggest health financing institutions to tackle one of the leading killers of children.

--Gavi **following debate on triggers for SAGE/MPAC recommendation** for broader roll out of vaccine

--Pilots help Gavi on **programme design, need for introduction grants, technical support required to countries**

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Gavi updates: cross-cutting challenges and opportunities

Work has commenced to define an Alliance vaccine product innovation strategy

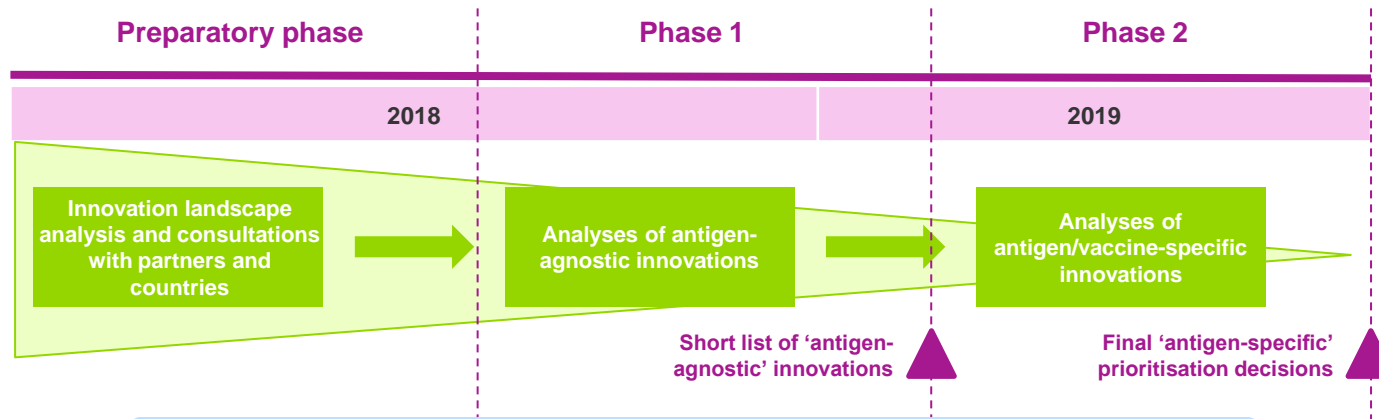
Vaccine Innovation Prioritisation Strategy (VIPS) –

An Alliance wide effort to drive **product innovation** to better **meet country needs** and support Alliance **goals on immunisation coverage and equity**

BILL & MELINDA
GATES foundation



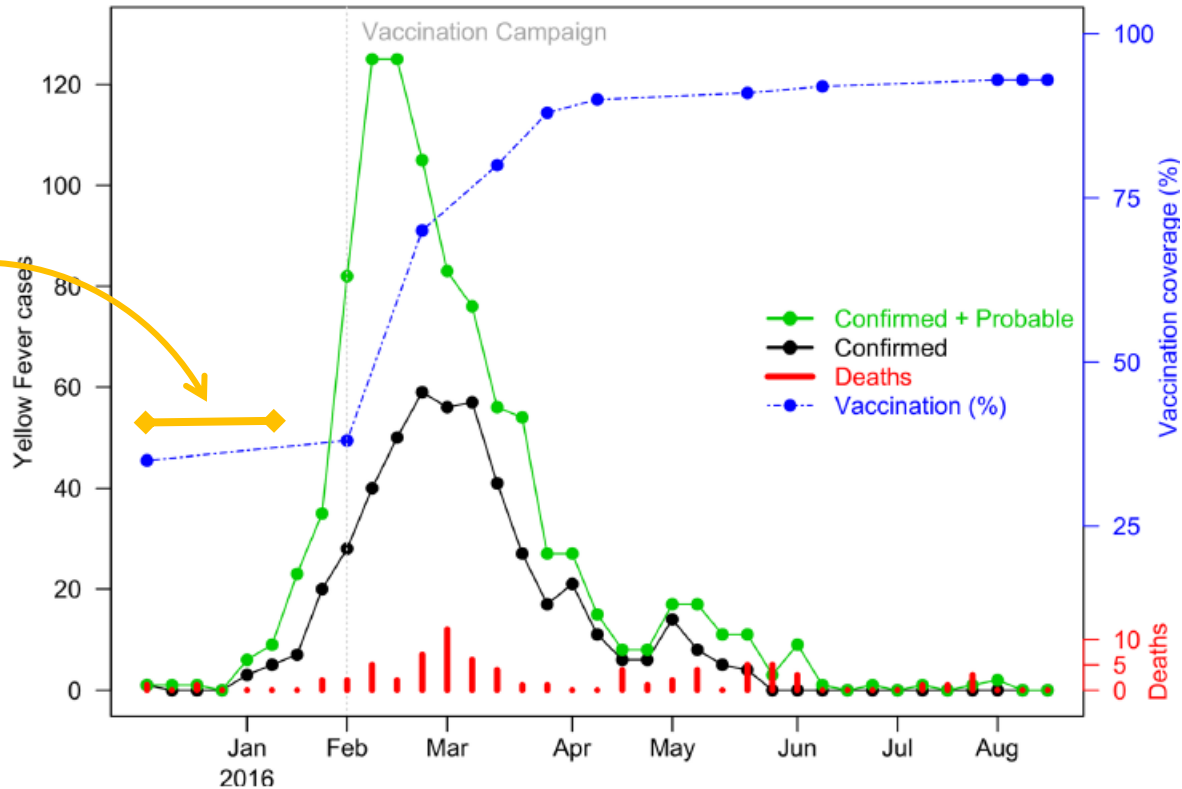
Outcome: Alliance common voice through a clear and aligned perspective on **prioritisation of vaccine innovations** to provide greater clarity to manufacturers and partners to **make investment decisions**



The Alliance will leverage the SAGE community and its expertise

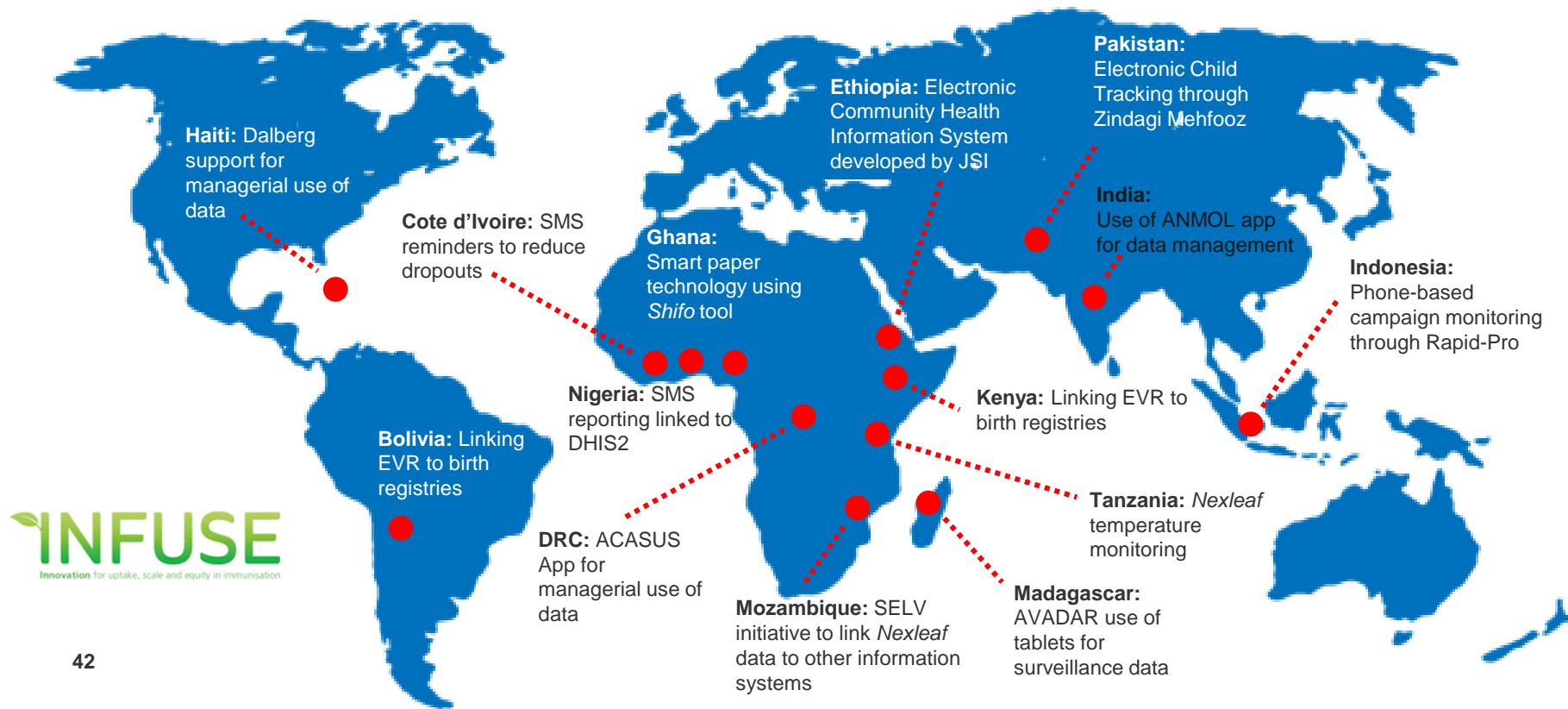
Gavi considering new investment in strengthening yellow fever surveillance and laboratory capacity

Time required for identification and laboratory confirmation of outbreak index case



Zhao et al, Modeling the Large-scale Yellow Fever Outbreak in Luanda, Angola, and the Impact of Vaccination, PLOS Neg Trop Dis, 2018, 12:e0006158..

Current overview of Gavi Support for Innovations in Digital Health



Gavi supporting political will building towards driving improvements in coverage and equity

Strategic Focus Areas (SFAs)

Supply chain

Leadership,
Management &
Coordination

Recently
rolled out

Data

Demand Generation

Sustainability

Political Will

Theory of change
developed, focus
countries identified

5

Conclusions

Questions for SAGE with significant implications on Gavi's work

- **Coverage and equity:** How can improvements be accelerated in non-fragile countries & what approaches are needed for fragile countries?
- **Measles:** How to provide guidance to countries on what to focus on, based on their position on control-elimination continuum?
- **Yellow fever:** How to strengthen routine immunisation to coverage levels that would prevent epidemics?
- **Ebola:** What volume of vaccine is required for stockpiling and preventive use?
- **Pandemic flu:** VIS exploring potential support for seasonal immunisation in high risk groups & reserving supply capacity. What other opportunities should Gavi explore?

Looking ahead: mid-term review and 3rd replenishment

2016-2020
promise
to donors

2ND REPLENISHMENT
BERLIN 2015

Secured funding for 2016-2020
Investment Opportunity

MID-TERM REVIEW
TBD 2018

Report back on progress
made against 2016-2020
'promise'

Lay groundwork for next
replenishment

2019-2025
vision

3RD REPLENISHMENT
TBD 2020

Secure funding for 2021-
2025

THANK YOU



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