

Landscaping of Candidate Investments

Martin Friede PhD
Initiative for Vaccine Research
World Health Organization



The Vaccine Landscape

- Vaccines already licensed, not on GAVI list
- Vaccines that might be licensed by 2023
- Incremental changes to existing policy or vaccines
- Vaccines for emerging diseases / outbreak response

- Monitoring the landscape:
 - IVR continuous monitoring: PPCs, position papers
 - PDVAC, IPAC, IVARAC, SAGE

New considerations to the vaccine landscape

- New Delivery technologies
 - eg patches, thermostable formulations,...
 - Potentially higher price for improved access
 - Need to consider total systems costs to determine value
- Vaccines in context of AMR
 - Need to develop method to include impact on AMR in evaluation of vaccine value.
- Passive Immunization (Polyclonals, Monoclonals)
 - RSV
 - Rabies
 - Diphthteria, Zika, Ebola, influenza,...

1. Already Licensed, not (yet) GAVI

- Malaria (RTS,S) – in pilot implementation phase in 3 countries
- Dengue (licensed and next-generation)
- Hepatitis E (for emergency use):
- Typhoid (conjugate)
- Meningitis A,C,W,Y,X
- Rabies (PEP)
- Influenza (TIV, QIV, LAIV, next-generation)
- Mumps (MMR)

Pipeline: possible licensure by 2023

- TB: rBCG, M. Vaccae phase III. M72 in phase IIb.
- HIV: HVTN 702 in phase III.
- RSV: Maternal & Pediatric vaccines in phase II/III, mAb II.
- Group B Streptococcus: Phase II completed.
- ETEC: Phase IIb.
- Norovirus: Phase IIb.

Incremental Changes Requiring Consideration

- Diphtheria: booster doses adolescent/adult
- Tetanus : booster doses
- Pertussis: booster dose in 2nd year of life.
- Hepatitis B: birth dose

- Coming: vaccines on a patch

Emerging diseases / Outbreak

- Ebola: 1 vaccine with efficacy data, multiple with immuno.
 - Zika: multiple candidates in phase I/II
 - Chikungunya, No vaccines in late development.
- ⇒ R&D Blueprint goals: bring vaccines for priority diseases to phase II safety/immunogenicity so available for testing in event of an outbreak
(includes Nipah, Lassa, CCHF, Rift valley, Marburg,...)

How WHO thinks about prioritization

IVR Value-Proposition Assessments Conducted at every stage of vaccine life-cycle

- Upstream: Disease / Economic Burden, Public Health Objective, Alternative intervention, Feasibility, Cost effectiveness, AMR impact
- Midstream (after approval): Which population, Cost of vaccine delivery, Policy to yield maximum benefit
- Downstream (after introduction): Assessment of impact, Policy Optimization.

Concluding thoughts

- Many new vaccines coming onto the market
- New technologies, new concerns, new challenges
- Prioritization of investment requires encompassing multiple indicators.
- Cost effectiveness needs to comprise entire systems cost (Total Systems Effectiveness) and compared to other health interventions.