

Sustainability of Immunization Programs

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ADVAC Alumni Webinar

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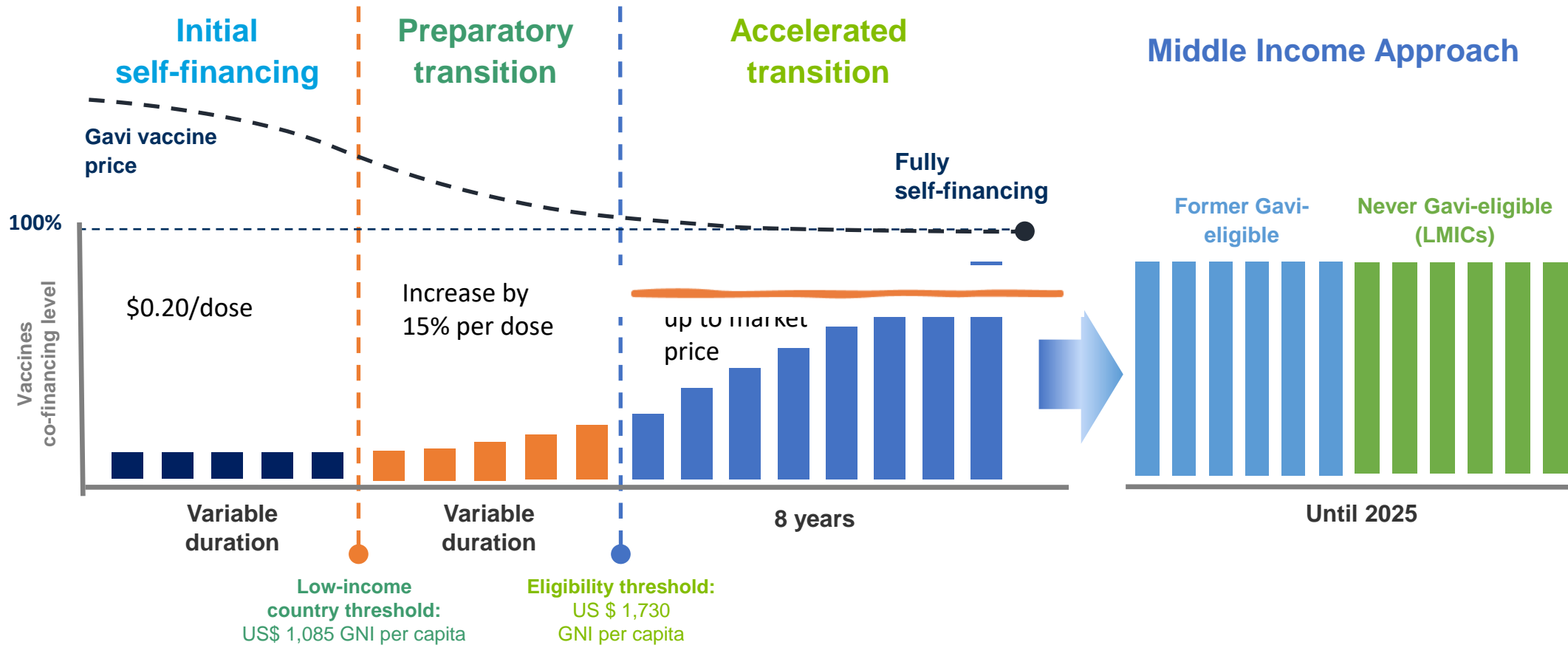
Concept of Financial Sustainability

- In business: the capacity of a firm to earn revenue or get a return on an investment that covers all expenses and makes a profit
- For health programs (proposed): the capacity of the government to secure resources to cover all expenses and ensure ongoing operation and achievement of results
 - Resources can come from a **range of sources**- not the same as self-sufficiency
 - Securing resources: move beyond commitments to **disbursements**
 - All expenses: vaccines and operational costs = need to know program costs
 - Good **management** of resources contributes to sustainability
 - Ongoing **monitoring** of financial position

Brief History of Immunization Financial Sustainability

- **Gavi's definition (2001):**
 - *The ability of a country to mobilize and efficiently use domestic and supplementary external resources on a reliable basis to achieve current and future target levels of immunization performance in terms of access, utilization, quality, safety, and equity*
- Financial sustainability planning (precursor to the Comprehensive Multi-Year Plan cMYP and now the National Immunization Strategy)
 - Projected resource needs
 - Projected funding (assured + possible)
 - Funding gaps
- Co-Financing Policy aimed to place countries on a trajectory toward financial sustainability

Gavi's Current Co-Financing, Eligibility and Transition Model



Status of Gavi Co-Financing

- Generally successful model – only one country in default
 - Co-procurement by government
- 19 countries have transitioned so far
- Early ‘graduates’ a different cohort of countries than countries moving through the system now
 - Institutional development levels weaker
 - Immunization coverage much lower
 - Introduced more vaccines = steeper climb
- Integration of co-financing processes within government systems lagging
- Focus on vaccine financing and not enough on sustaining full program costs

Value of estimating immunization program costs

Strategic planning and programme budgeting

Identify gaps and redundancies

Input for conducting cost-effectiveness, cost-benefit, and return on investment analysis to inform resource allocation decisions

Assessing variation in service delivery costs (geographic, level)

Analysis of programme efficiency

Developing cost benchmarks for comparing with other countries or over time

How are costs measured

- **Financial cost:** includes expenses + annualized value of capital goods
- **Economic costs:** includes the value of labor time, shared inputs, donated inputs

- Retrospective analysis
- Health sector perspective = payor
- Sample of delivery sites/units
 - Sample Design Optimizer: <https://immunizationeconomics.org/sample-design-optimizer>

- Quantity x Price x % for immunization

Cost Categorization

INPUT-BASED CATEGORIES

- Paid and volunteer labor
- Per diem
- Vaccines
- Supplies (syringes and other)
- Transportation and fuel
- Vehicle maintenance
- Cold chain energy costs
- Printing
- Communication & utilities

- Equipment (Cold chain + Other)
- Vehicles
- Computers
- Building

Recurrent

Capital

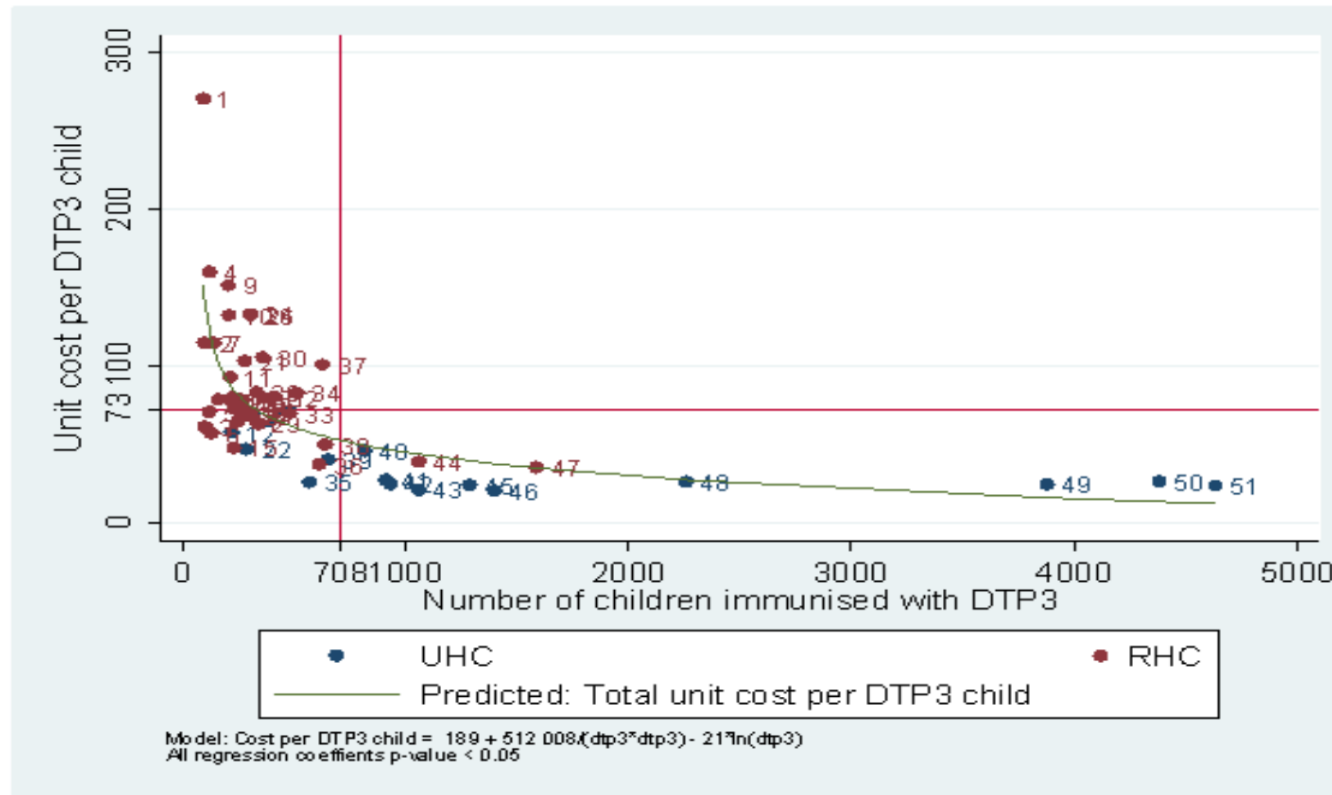
ACTIVITY-BASED CATEGORIES

- Service delivery: routine or outreach
- Record-keeping, HIS, monitoring & evaluation
- Vaccine distribution & supply
- Program management
- Training
- Supervision
- Social mobilization
- Surveillance/AEFI
- Cold chain & maintenance

Current costs of immunization programs

- Delivery costs approximately 30%-40% of total cost
 - Financial cost ~ \$1.25 per dose
 - Economic cost ~ \$2.64 per dose
 - Projected delivery costs per country: <https://link.springer.com/article/10.1007/s40273-020-00930-6>
- Cost of vaccines = \$25 (Griffiths, et al 2021)
- Wide variation in cost/dose due to different cost drivers
 - **Labor is the biggest cost driver:** who vaccinates and time spent
 - Input prices – countries with higher labor costs will have higher overall costs
 - Vaccine portfolio: new vaccines are more expensive
 - Delivery strategy: Fixed site delivery is less costly than campaigns or mobile strategies
 - Level of scale

Impact of service volume on unit costs

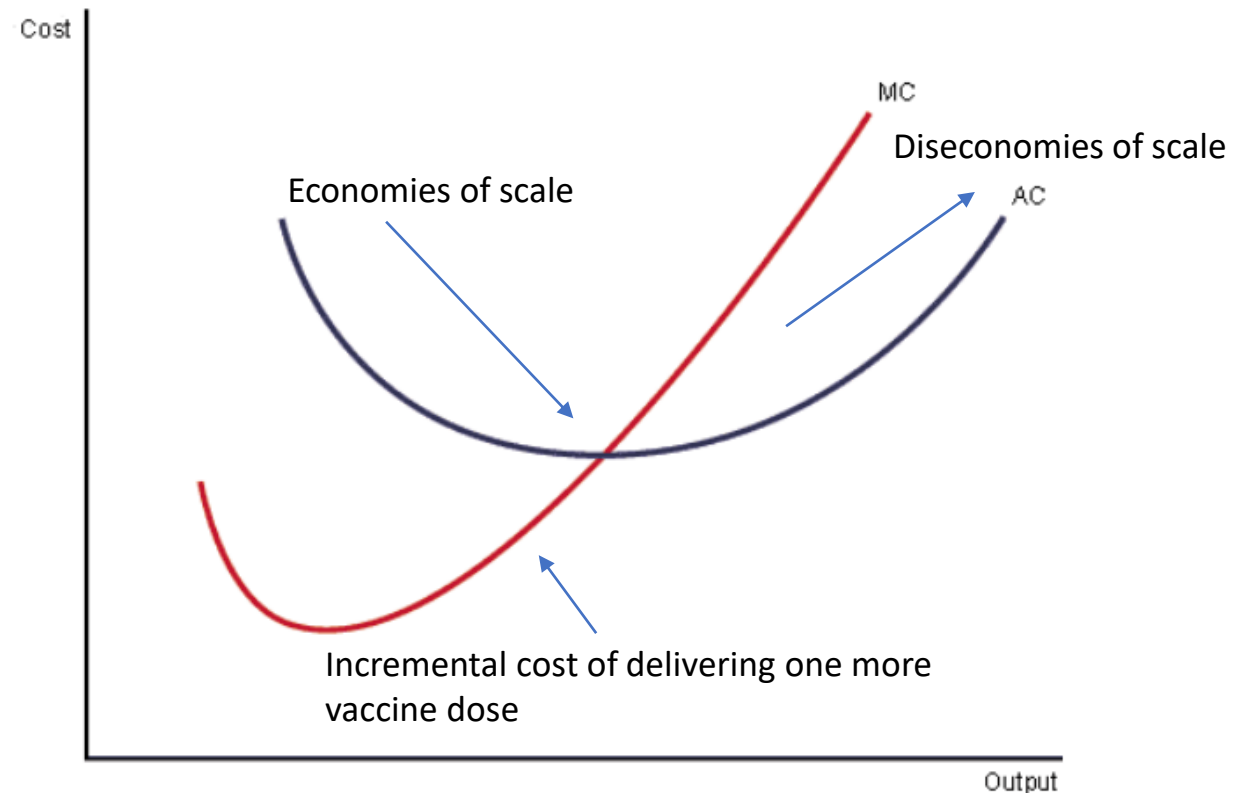


Increase volume =
decline in unit costs

Increasing coverage
and reaching the
unreached will cause
unit costs to increase

Cost of increasing coverage

- Very few studies have been conducted – lots of missed opportunities to evaluate
- India study: incremental cost of outreach to unvaccinated children (IMI) was approximately double the cost of routine services:
<https://academic.oup.com/heapol/article/36/8/1316/6265953>



Sources of Immunization Financing

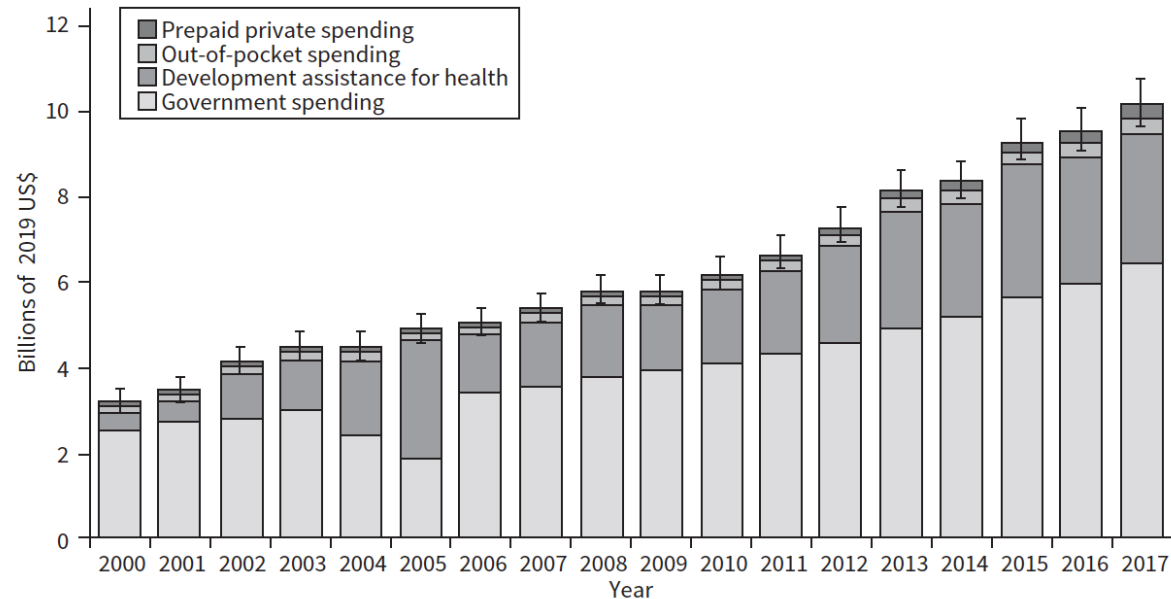
Immunization is a public good = well-suited for public sector financing

- Governments
 - Government budgets (tax-funded)
 - Sector and program budgeting
 - Earmarking
 - World Bank loans and grants
 - Subnational level
 - Health-specific taxes on alcohol, tobacco
 - Social insurance

Sustainable financing for immunization part of overall health financing = not vertical

- Development partners
 - Multilateral: WHO, UN, EU
 - Bilateral: USAID, FCDO, JICA
- Non-governmental organizations
- Households & private sector
 - OOP Trust Funds

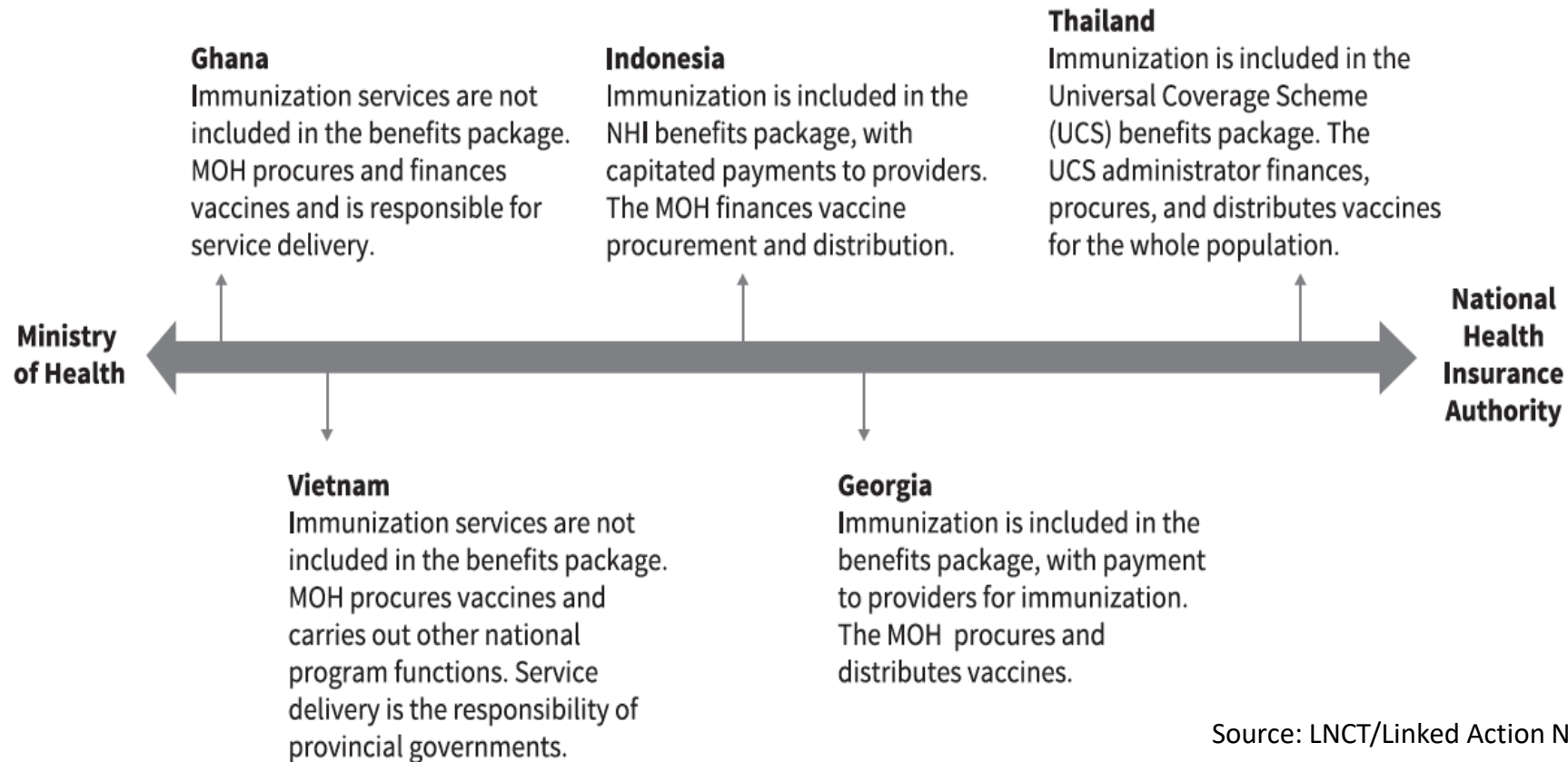
Immunization spending by source



Source: Ikilezi, et al (2021).

- 2% of total health spending is for immunization
- Spending increased 3x from \$3.2b to \$10.4b
- **Governments represent >60% of total spending**
- Governments allocate 90% of their spending to routine service delivery.
- Spending on vaccines tripled, while delivery spending remained the same
- DAH represents a third of spending, with \$13b channeled through Gavi
- **Approximately \$4b was spent out of pocket**

Role of National Health Insurance in Immunization Financing



Source: LNCT/Linked Action Network, 2020.

Immunization resource tracking

- Main uses:
 - Monitor trends at country, regional and global levels
 - Evaluate spending per capita, per surviving infant- value for money
 - Identify gaps and inconsistencies for key components
 - Compare across countries
- Main sources:
 - WHO-UNICEF Joint Reporting Form (e-JRF)
 - National Health Accounts (Global Health Expenditure Database)
 - Government analysis (Comprehensive Multi-Year Plans; National Immunization Strategy)
 - Donor records
- Issues:
 - JRF: under-reporting; inaccuracies; inconsistencies; lack of validation
 - GHED: participation and some methodological issues
 - NIS: often a wish list – unaffordable and inconsistencies (i.e., vaccines)

Pervasive issues with immunization financing

- Resource allocation
 - Budgets are historically based and don't take into account actual costs: new vaccines, growing populations, and alternative delivery strategies
 - Variability in allocations to subnational level not based on need
 - In federated countries, operational costs purview of local governments not the federal level – but insufficiently allocated
 - Delivery costs are chronically underfunded
- Resource management
 - Delays in disbursement
 - Budgets are underspent (low execution)
 - Budget rigidities – cannot spend where needed
- Multiple and fragmented sources of financing
 - Higher transactions costs for programs
- Tracking, analyzing and reporting on expenditures is relatively weak

Potential solutions and way forward

- Resource mobilization
 - Subnational advocacy for funding operational costs
 - Donor harmonization efforts
 - Allocation of resources to areas of most need
- Efficiency
 - Strengthen vaccine forecasting and stock management: Clearer view on major cost driver
 - Build procurement capacity of government: Optimize on products for cost savings
 - Program efficiencies including budget execution
 - Integration of immunization and other services (i.e., campaigns)
- Reporting and analysis

Additional Open Access Resources

Handbook of Applied Health Economics in Vaccine:
<https://academic.oup.com/book/45888>

Costing tools and methods:
www.immunizationeconomics.org

Delivery costs:
<https://immunizationeconomics.org/thinkwell-idcc>

Immunization Financing Resource Guide:
[https://static1.squarespace.com/static/556deb8ee4b08a534b8360e7/t/613367747a172e50d6afefe6/1630758778886/Immunization Financing Resource Guide 2017 FULL.pdf](https://static1.squarespace.com/static/556deb8ee4b08a534b8360e7/t/613367747a172e50d6afefe6/1630758778886/Immunization+Financing+Resource+Guide+2017+FULL.pdf)

OXFORD

HANDBOOKS IN HEALTH ECONOMIC EVALUATION

HANDBOOK OF APPLIED
HEALTH ECONOMICS
IN VACCINES

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Thank You!
