

Considerations for countries on targeting Gavi investments to achieve immunisation outcomes

Focus area	Data
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Why invest in data?

Data is cross-cutting and essential for planning, programme management and understanding and documenting of results. Improving routine immunisation, vaccine-preventable disease (VPD), and vaccine safety data availability, quality and use are essential for:

- Planning and monitoring immunisation programmes;
- Understanding which interventions and efforts are working to increase coverage and equity;
- Appropriately and efficiently targeting interventions based on data of sufficient quality at all levels (health facility, district, provincial, and central);
- Identifying and responding to outbreaks, low coverage and performance areas, vaccine safety problems, and vaccine stock-outs or wastage in a timely manner.

What are the key considerations when planning investments in data?

Countries must ensure that:

- They have recently conducted an **in-depth assessment of their data systems** (considering data collection, reporting and use) and identified key bottlenecks and areas for improvement;
- They have developed a **strategic data improvement plan**, based on recent assessments and evidence that helps identify key priority areas to be addressed, clarifying responsibilities, needed and available resources, timelines and key milestones;
- There is a clear sense for how the data generated from the investments will be used, and, conversely, that the **data systems will answer the key questions** that need to be addressed to guide the programme's actions;
- Appropriate **consultations** have taken place. Data systems extend beyond the immunisation programme and as such, consultations with broader teams, Ministries and other donors or partners supporting work in this area are likely warranted;
- Sufficient **human and financial resources** are available to implement the plan;
- The programme can **monitor and evaluate** the progress and results of these investments in data, and accordingly **make adjustments and course corrections** to the immunisation programme and, if necessary, the data investments themselves.

What are the key investment elements for this SFA?

Depending on the challenges that you are facing, there are a range of investment areas for consideration across assessments / improvement planning, governance, people, tools and evidence towards improving data availability, quality and use. Examples include:

Data availability:

- Implement continuous improvements of immunisation and surveillance data, information collection and management systems, based on the results of recent assessments and a sufficiently-funded **data improvement plan** that all relevant partners agree to support collaboratively;
- Implement **national representative coverage surveys** (conducted at least every five years);
- Establish or enhance **electronic and paper data reporting systems** for health care providers at service delivery points to report immunisation and stock data, adverse events following immunisation (AEFIs) and suspected VPD cases;
- Conduct **training for health care providers** on reporting immunisation and stock data, AEFIs and suspected VPD cases.

Data quality:

- Identify mechanisms to **increase the accuracy of denominators** for use by immunisation programmes and disease surveillance systems, such as use of spatial demography;
- Implement **annual data desk review, both of data quality and immunisation performance, including triangulation analyses** using data from different sources such as administrative, vaccine stock, surveillance, and survey data;
- Implement **in-depth data assessments** of the routine reporting system, VPD surveillance and AEFI reporting systems (conducted at least every five years);
- Establish or enhance access to reliable international or national **laboratory capacity** that can meet diagnostic and confirmatory laboratory testing requirements for suspected VPD cases.

Data use:

- Enhance the skills and knowledge of health workers at all levels in the **continuous collection, analysis, use, and communication of immunisation, vaccine stocks, surveillance, and vaccine safety data**, following training needs assessment;
- Identify **priority research topics** related to improving immunisation and surveillance data as well as use of such data, and support in-country research on those topics;
- Conduct and use relevant analyses **to inform investments, targeting and tailoring** for routine immunisation services, SIA plans etc.;
- Establish or enhance **AEFI causality reviews by AEFI** committee.

What are example measurement metrics related to data investments?

Outcome indicators	<ul style="list-style-type: none"> • Coverage / drop-out / equity metrics – compare across different sources • Percent point difference between administrative data and survey data for Penta3 coverage
Examples of potential intermediate results indicators	<ul style="list-style-type: none"> • Percentage discrepancy between UNPD and country-reported population denominators; • Percentage districts reporting administrative coverage of DTP3 / Penta3 >100%; • Percentage districts with a negative drop-out rate; • Percentage HMIS / LMIS / surveillance data reports received from (insert level) that are submitted to (insert level) on-time and complete; • Percentage of suspected VPD cases with at least one specimen collected for laboratory testing; • Percentage of districts reporting VPD surveillance data, even in absence of cases; • Percentage of all suspected VPD cases that have had an investigation initiated within two days of notification; • Number of AEFI cases reported per 100,000 surviving infants; • Percentage of reported serious AEFI cases assessed by an adverse event review committee.

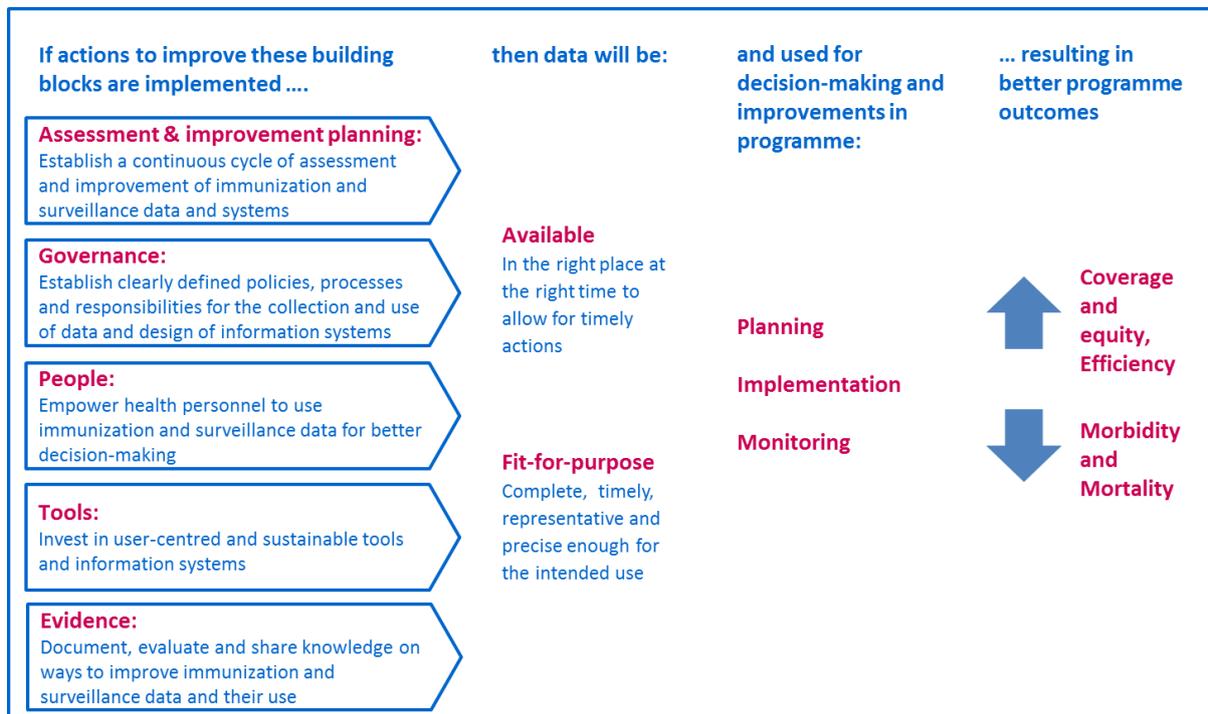
1 Targeting investments for Gavi’s HSIS support

1.1 Brief description of the focus area

The availability, quality and use of data are essential for a well-functioning EPI programme as well as the achievement of Gavi’s 2016-2020 strategy.

Gavi wishes to ensure that its support is fully and strategically leveraged to support countries to address their specific bottlenecks related to the availability, quality and use of data; immunisation coverage and equity; and the robust monitoring and evaluation of Gavi support. Investments in data should be focused towards strengthening programme management; evidence-based decision-making; and mitigation of risks to programmatic sustainability.

As per the recent “Framework on Immunisation Data” developed as a companion to the Global Vaccine Action Plan, there are five fundamentals that are core to the theory of change of how proposed data improvements and actions will lead to improvements in immunisation/health outcomes, all of which rely on the allocation of sufficient resources for implementation:



Gavi is keen to support efforts across all these fundamentals in countries and to work with countries and partners to prioritise investments where most needed and relevant.

1.2 Relevant Gavi strategy level indicator/s

Strengthening M & E, including the availability, quality and use of data, are critical cross-cutting enablers of the Gavi 2016-2020 strategy and essential to all Gavi 2016-2020 strategy level indicators as well as other parts of the Alliance Accountability Framework (e.g. PEF and Country Performance Management).

Strategy indicator 2.2 measuring the “percentage of countries with survey in the last five years and <10 percentage point difference between national administrative coverage and point estimate from survey” seeks to act as a proxy measure of improvements in data quality and consistency across countries during the strategy period.

A country is strongly encouraged to include tailored indicators as part of its grant performance framework (GPF) to compliment / contextualise progress achieved vis-à-vis the aforementioned strategy indicator.

1.3 Challenges / bottlenecks to overcome in the focus area

Challenges are manifold, and are situated in the following areas:

- Issues with measuring target populations and numbers of children immunised;
- Institutional capacities: lack of staff, limited capacity for data collection and use, insufficient training and supervision, lack of technical capacity for specialized activities such as laboratory testing;
- Tools and data systems: may be unavailable, duplicative, outdated, poorly designed, not user-centred, not maintained or updated, not interoperable;
- Processes and governance: lack of clear roles and responsibilities, standard operating procedures, mechanisms for review and analysis, limited feedback, lack of alignment of immunisation and other national reporting, lack of team / persons in charge of data quality;
- Missing holistic view of health information systems: need to harmonise on similar investments being made by partners and donors to reduce inefficiencies, increase financial efficiencies;
- Political environment: sensitivities around data (eg: official population estimates), lack of engagement or leadership for data, challenges related to transparency and sharing of data;
- Plans: lack of plans and agreed action points to improve the quality of data;
- Implementation: lack of effective implementation of plans to ensure timely use of quality data for targeting and tailoring of interventions and developing programmatic strategies;
- Insufficient funding.

Core questions to ask:

Routine data:

- What evidence/data/analyses are currently available and routinely used by the EPI programme management / broader teams, including findings from recent surveys, surveillance and studies?
- Does the country conduct annual desk reviews? If so, what do the data analysis results suggest in terms of key data issues?
- Has the country conducted a recent in-depth assessment of their routine administrative reporting system? What are the key findings from this and other relevant assessments?
- What are the short and medium term plans / priorities for improvements in the health information system? Is there a strategy in place?
- Based on data available, which sub-national areas (e.g.: districts) need more attention and focus? Which population sub-groups require more attention and focus?
- Does the country compare routine / administrative data with other data useful for immunisation programme management, including VPD surveillance data and vaccine stock data, when assessing programme performance?

VPD surveillance:

- Does the country ask health care providers to report VPDs to health authorities and provide a clear mechanism for them to do so?
- Does the country have staff clearly designated as responsible for investigating VPD reports and analysing, assessing, and reporting VPD surveillance data?
- Do at least 80% of a country's districts report VPD surveillance data regularly, including reporting zero cases when there are no suspected VPD cases?
- Does the country have access to reliable international or national laboratory capacity that can meet diagnostic and confirmatory laboratory testing requirements for VPDs, especially:
 - Yellow fever (in countries at risk for yellow fever)
 - Meningococcal meningitis (in countries at risk for meningococcal meningitis outbreaks)
 - Cholera (in countries at risk for cholera outbreaks)
 - Measles and rubella (in countries with $\geq 80\%$ with 1st dose of measles containing vaccine)

- Diphtheria
- If a country has reported coverage >80%, does it conduct case-based surveillance for any VPDs, particularly measles or diphtheria?

Vaccine safety:

- Does the country annually report to WHO at least 10 adverse events following immunisation cases per 100,000 surviving infants?
- Does the country distinguish between serious and non-serious AEFIs?
- Does the country have a functioning AEFI causality committee? How often does the committee meet?

1.4 Data/evidence sources to inform investments in this area

There are a variety of assessments and evidence that can help inform investments in the data space.

Key are the data quality and survey requirements for Gavi support, namely:

- **Annual desk review** (tracking progress on indicators of data quality summary measures and routine analyses);
- **In-depth data assessment** of the routine administrative reporting system and ideally VPD surveillance and AEFI surveillance systems (conducted at minimum every five years);
- **Data improvement plan** that includes recommendations from previous reviews and assessments prioritised and an action plan, with specific operational steps, timelines and responsibilities clarified (developed then reviewed / updated on an annual basis);
- **Nationally representative coverage surveys** (conducted at minimum every five years).

Countries that have the above should be able to prioritise investments based on evidence. The improvement plan should be the key document to help steer investments to be made (with short-term gains and longer-term efforts / investments clearly identified and articulated).

In addition to the above, there are other documents and evidence that can be used to generate discussions on potential investments. These should ideally form part of the annual desk review, in-depth assessment or data improvement plan (or updates of these as and when new evidence becomes available). For example, noting the below is not an exhaustive list:

- Recent surveys (DHS, MICS, coverage evaluation surveys, post-campaign surveys, sub-national coverage surveys focusing on targeted populations / districts etc.);
- Relevant analyses and reports, such as equity analyses and / or coverage and equity assessments;
- WHO/UNICEF estimates of national immunisation coverage (commentary and grade of confidence) and country immunisation profiles;
- Relevant assessments or reports that consider immunisation, VPD or polio surveillance data, such as reports of latest EPI or VPD surveillance review, Data Quality Reviews and any recent health facility assessments;
- Relevant plans and strategies such as National Health Development plan section on HMIS, National HIS strategic plan, EPI annual plan, eHealth strategy;
- Population data.

1.5 Investment options for consideration

Data investments should support countries to assess and improve data availability, quality and use. Examples of such investments include but are not limited to:

Data investments to consider encouraging	Data investments to consider supporting if proposed	Data investments to discourage
<ul style="list-style-type: none"> • Completion of annual desk reviews, in-depth data assessments, data improvement plans; • Implementation and monitoring of agreed data improvement plans; • Improving estimates of target population; • Performing triangulation/further analyses to improve immunisation coverage estimates or inform programme management; • Robust M&E of immunisation related activities, interventions and strategies; • Strengthening / standardising registries, facility information systems, or data management systems for VPD surveillance or vaccine safety; • Strengthening Logistic and Management Information Systems*; • Strengthening M&E / data workforce and management capacity and motivation**; • Training for health care providers on AEFI and suspect VPD case reporting; • Electronic and paper systems for health care providers to report AEFIs and suspect VPD cases; • Access to reliable laboratory capacity for: <ul style="list-style-type: none"> -Yellow fever*** -Meningococcal meningitis*** -Cholera*** -Measles and rubella**** -Diphtheria • AEFI causality assessment capacity; • Development of vaccine safety communications plan. 	<ul style="list-style-type: none"> • Mapping donor investments in health or immunisation system data; • Data visualisation tools or systems; • Training for VPD and vaccine safety surveillance staff on conducting investigations of reported cases, including through field epidemiology training programmes; • Investigation of suspected VPD cases and serious AEFIs; • Sentinel surveillance for specific vaccine preventable diseases, including: <ul style="list-style-type: none"> -Typhoid -Pneumococcus -<i>Haemophilus influenzae</i> type b -Meningococcus -Rotavirus -Japanese encephalitis -Congenital rubella syndrome -Pertussis -Hepatitis B 	<ul style="list-style-type: none"> • Any data related investments without a data use plan or set of relevant recommendations; • Investments that do not fit into a broader strategic plan for data collection and analyses; • Investments that both: <ol style="list-style-type: none"> 1. Are not time limited 2. Do not have a sustainability plan • Investments at high risk for fraud, embezzlement, or other misuse; • Investments that are deemed duplicative of other existing investments (domestically or externally funded); • Surveillance for human papillomavirus.

*See supply chain guidance document

**See LMC guidance document

***In countries at risk for outbreaks of relevant disease

****In countries with ≥80% with 1st dose of measles containing vaccine

All investments should be tied to a clear plan, based on evidence and data, and have a robust grant performance framework. While in some cases Gavi's support will only represent a contribution to much wider efforts (being led by the Ministry and perhaps supported by several other donors), it is still important to be able to demonstrate at least some results from such collaborative investments.

Country Examples

Pakistan – supporting eVaccs

In Pakistan, Gavi is supporting the roll-out of eVaccs, a mobile-based technology developed for EPI Punjab to allow real-time monitoring of resources on the ground, provide timely data for decision-making and measurement of geographical coverage. eVaccs has evolved over-time to incorporate child level data and digital vaccination cards. Since it was launched in June 2014, eVaccs has been used to inform staffing and resource decisions as well as a source of vital data for triangulation purposes to better understand quality of data.

Myanmar – DHIS2 and eLMIS interoperability

Myanmar recently developed an ambitious roll-out plan related to DHIS2. As part of this, and in line with their overall data improvement plan, Gavi is supporting efforts towards the integration and further adaptation of immunisation in DHIS2 and interoperability with eLMIS. Similar to other countries, Myanmar is looking towards DHIS2 to help data use through visualisation and dashboards and sees interoperability with eLMIS as essential to ensure routine analysis, triangulation and use of both routine immunisation data and stock-related data.

1.6 Investment links with Gavi's grant performance framework

There are many indicators that could be relevant for inclusion in Gavi's grant performance framework. Selected indicators must reflect the priorities identified and activities that will be funded by Gavi. Some examples include:

- District-level reporting completeness: Number of district reports that were received, divided over the expected number of reports over the same period (such as last calendar year or last month);
- Facility-level reporting completeness: Number of facility reports that were received divided by the reports that were expected;
- Percentage discrepancy between administrative and survey DTP3 coverage estimates;
- Percentage of districts reporting DTP3 coverage >100%;
- Percentage of districts reporting VPD surveillance data even in the absence of suspected cases;
- Percentage of reported serious AEFI cases assessed by an adverse event review committee;
- Percentage of health facilities with immunisation cards in stock;
- Number of health workers completed training on new integrated health data platform;
- Number of facilities with new integrated health data platform introduced;
- Completeness and timeliness of reporting through integrated health data platform;
- Number of agreed action items identified in data improvement plan fully implemented;
- Percentage of agreement between data in sampled facility records and national records for the same facilities.

Targets for these should be derived on a country-by-country basis, informed by the baseline and relevant agreed workplans / improvement plans.

1.7 Information repositories (if relevant)

There are a great deal of resources available that provide technical guidance on aspects related to improving the quality of and using immunisation data. These include, but are not limited to many resources currently available from WHO (<http://www.who.int/immunization/documents/en/>; http://www.who.int/vaccine_safety/en/ and http://www.who.int/healthinfo/tools_data_analysis/en/):

- WHO EPI systems and data assessment guidance
- WHO Data Quality Review toolkit
- WHO Data Quality Self-assessment tool
- WHO Vaccination coverage cluster survey reference manual
- WHO EPI and VPD surveillance review guidance (currently being updated)
- WHO guidance on Assessing and Improving the Accuracy of Target Population Estimates for Immunization Coverage
- WHO's collecting, assessing and using immunisation data reference guide (in final preparations)

- WHO Health Equity Assessment Toolkit
- WHO indicators for monitoring districts and national performance
- WHO Immunisation in practice: Monitoring and using your data
- WHO Vaccine Preventable Disease Surveillance Guidelines
- Global Vaccine Safety Blueprint
- Resources on logistics data and information systems (www.technet-21.org)

2 Guidance on country dialogue

2.1 Stakeholders to be included in the country dialogue workshop

In addition to the EPI team, key partners from WHO and UNICEF, the following stakeholders should be considered specifically for data-related discussions:

- Teams: Disease surveillance, HMIS, National Statistics Office, National logistics, polio, NRA / pharmacovigilance;
- Relevant working groups such as data quality or HIS working groups;
- National public health laboratory;
- CDC, WB, universities, NGOs, other donors/stakeholders active in the areas of data, ICT;
- Representatives from Ministry of planning / finance (as relevant);
- Country public health institutes, or organisations conducting MICS, DHS or other relevant surveys.

Efforts to improve data systems are often supported by multiple donors in countries. A mapping exercise can help identify key players and the areas they are focused on supporting. These donors should ideally also be included in the workshop.

2.2 Essential data/evidence/documents to be reviewed prior to the country dialogue

Annual desk reviews, most recent in-depth data assessment and any data improvement plan (or sections from relevant documents such as HIS strategic plan or cMYP). Please refer to the data and evidence suggested in **section 1.4** above.

2.3 Key discussion points which should be addressed during the country dialogue

- Discuss findings of recent desk reviews, surveys and in-depth assessment and the implementation of agreed action points / lesson learned or lack thereof;
- If data improvement plan is available: discuss how it came about, who was involved, how it was integrated into country planning and budgeting cycles, monitoring of agreed actions and progress made against action plan;
- If no data improvement plan is available, discuss the need for one, reasons for lack of development to date, technical assistance required (if any) to support development;
- Identify any relevant examples of how Ministry and stakeholders have used data previously to help target / tailor interventions;
- Discuss utilisation of surveillance data to inform immunisation programmes and identify what needs the country has in this area;
- Discuss extent of other donors supporting data improvements in country;
- Discuss health systems barriers to better data (HR, financial, otherwise) and initial ideas on potential areas that could be supported by Gavi.

Discuss comprehensive data improvement activities and encouraging data use at each level, starting from community level, through health facility, district, intermediate level and national level).



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Annex : Examples of investments

Fundamentals	Examples of investments with high potential to improve data availability, quality and use	Country examples
Assessment and improvement planning	1. Develop, implement and monitor holistic data improvement plan	Cross-regions (<i>note this is a Gavi requirement</i>)
	2. Conduct periodic (at minimum once every 5 years) nationally representative coverage surveys	Cross-regions (<i>note this is a Gavi requirement</i>)
Governance	1. Develop / endorse / roll-out agreed standards related to data collection	Afghanistan, Bolivia, Tanzania
	2. Establishing and maintaining AEFI causality review committee	Georgia, Kenya, Lao PDR
	2. Updating norms and guidance related to routine data and surveillance data collection and use	Bolivia, Lao PDR, Eritrea
	3. Support routine data review and analyses at national and subnational levels	Mozambique, Cote d'Ivoire, Mauritania, Zambia, Comoros
People	1. Capacity building efforts, such as training, related to data availability, quality and use at all levels, particularly health facilities	Cross-regions
	2. Updating and implementing supportive supervision, providing regular on-hand validation and guidance related to data collection, reporting and analysis practices	Mozambique, Uganda, Somalia, Gambia
Tools	1. Supporting scale-up of eLMIS / eHMIS in countries	Myanmar, Mozambique, Senegal, DRC, India, Cameroon, Cote d'Ivoire
	2. Scale-up of innovative tools and approaches, such as SMS-based real-time monitoring tools, geospatial population mapping	India, DRC, Nigeria
	3. Roll-out of electronic vaccine registries	Kenya, Tanzania, Zambia
Evidence	1. Strengthen laboratory capacity in order to generate evidence for action and decision-making	DPRK, Pakistan, Lao PDR, Sierra Leone, Sudan
	2. Support evaluation and generation of case studies related to specific interventions, such as those in urban settings	Regional cross-learning (PAHO), Pakistan, DRC, Ghana, Kyrgyzstan, Bangladesh, Chad
	3. Evaluation of innovative tools or delivery models	South Sudan, Indonesia