

Immunization Financing Database - Compendium (2000-2005)

To help fulfil its role, the GAVI FTF recognized the importance of developing a comprehensive database on immunization financing. Such a database would yield new insights about donor and government financing patterns for immunization, and strategies for long-term financial sustainability. By providing baseline data on immunization expenditures and financial flows, it would contribute to the understanding of the influence of the GAVI Fund on immunization financial sustainability at national, regional and global levels. Moreover, the immunization financing database would support any GAVI Alliance policy making and address concerns such as assessing the relationship between funding patterns and programme performance and efficiency, the additionality of GAVI Fund support in countries, and assist in the provision of guidance to countries on how to most effectively use additional funds for immunization.

From a Need to Feasibility

The idea of developing an immunization financing database originated in May 2000 following an informal WHO and GAVI Financing Task Force meeting to explore data needs and opportunities related to immunization expenditure, costing and financing. Among the major conclusions of this meeting were that the GAVI application and monitoring processes could contain, and be mechanisms to provide invaluable information for monitoring expenditures and financial flows for immunization over time, and that a publicly-accessible database on immunization expenditures and financing should be developed and housed within WHO.

Following the May meeting and the FTF annual forum in September 2000, a WHO health economist was hired to explore the feasibility of developing an immunization financing database and mapping out the challenges and issues. In June 2001, a meeting with the FTF was held in Geneva to review the progress made and determine future prospects of this work.

While satisfactory progress had been reported, considerable more work was needed to ensure that the data were compiled, analysed and presented in a way that yields comparable, accurate and reliable results. Several important methodological issues had been identified and finding the path to their ultimate resolution would benefit greatly from expert knowledge.

The main outcome of the June 2001 meeting was that a database development team, with representatives from GAVI partner institutions, should be established to work through these issues and challenges and to give advice on the development of the database in terms of methodologies, definitions, standardization, extrapolations, data consolidation and analysis.

Creation of a Development Team

To move towards this objective, two meetings were held at the World Bank in Washington in November and December 2001. Their objectives were to define the scope of the immunization financing database, develop terms of references for a database development team, and constitute the team itself.

The outcome of these two meetings led to the preparation of draft terms of reference for the immunization database and one for the team working on its development. These were subsequently finalized during a follow-up meeting held at the World Bank in January 2002 and presented broadly for endorsement during the FTF Forum held that same month.

In summary the main objectives of the database were to :

1. Monitor trends in expenditures and financial flows at the country, region and global levels
2. Monitor GAVI financial flows for immunization and their impact on financial sustainability of national immunization programmes

3. Serve as a tool for strategic planning and resource mobilization for immunization
4. Serve as a reference tool to answer specific policy relevant question related to expenditures and financing for immunization

The broad terms of reference of the database team were as follows :

1. Provide technical guidance for the development of prospective data on immunization financing
2. Provide technical guidance for the development of the database limited existing (“retrospective”) information on immunization programme financing and expenditures in a technically sound manner
3. Finalize, make recommendations on, and disseminate information on immunization programme financing and expenditures

In June 2002 at the 8th GAVI Board in Paris, the immunization financing database was presented. Board members welcomed the initiative, appreciated the report and encouraged the database development team to continue the effort as it was outlined in the presentation.

Team Members and Process

The immunization financing database development team was composed of experts from a broad range of backgrounds and institutions. During the November 2001 a team of technical experts with representations from the World Bank, USAID’s Partnership for Health Reform (PHR+), the Center for Global Development (CGD), WHO, the Bill & Melinda Gates Foundation, the Children’s Vaccine Programme at PATH (CVP), UNICEF and PAHO was constituted to develop methodologies for the immunization financing database, review progress and provides ongoing technical oversight.

Experts were selected because of their training and experience and their facility to interpret and generalize critically beyond the data, and their ability to translate their knowledge into immunization expenditure and financing estimates.

In many ways the team acted as steering committee for the work lead by the WHO based health economist working on the development of the immunization financing database. Guidance and oversight to the work took place through periodic meetings, as well as on-going electronic and telephone contact. Over the period between 2000 and 2005, the database development team meet on average twice a year. Core members were requested to attend all meetings and specialists were invited to participate in meetings addressing specific issues.

The database development team was ultimately responsible for producing estimates on immunization programme expenditures and financing, thoroughly documenting the methodologies and regularly preparing publicly available reports for the FTF on key findings, based on technically sound methodologies.

The final product was to be a publicly available database of immunization expenditure and financing estimates with detailed documentation of the data, assumptions made and methods used to reach these estimates and detailed documentation of key findings.

Box 1 : Immunization financing database

www.who.int/immunization_financing

One way to make publicly available the immunization financing database was to have it online through a website. To house the database, an immunization financing website was developed by WHO's Immunization, Vaccines and Biological department (IVB) with the guidance from the database team and inputs from the FTF and many GAVI Alliance partner agencies. Financial support for this website was provided through the FTF and Industry partners.



The immunization financing website was intended on being an online resource for country specific information on immunization financing. Included in the website was an online version of the immunization financing database designed to provide recent data and indicators on immunization expenditures and financing in GAVI eligible countries. The immunization financing database is currently populated with data generated through the GAVI Financial Sustainability Planning process for 50 countries. Likewise, country pages were developed. These pages summarize the key information and data from the FSP and offer the possibility to download the documents, accompanying annex materials, and other relevant country specific information.

Immunization financing database

www.who.int/immunization_financing/data

The data from the immunization financing database can be retrieved using 5 search types or viewing key indicators. Each search type will generate a table that will display the information according to the different dimensions of the data (countries, years, cost categories and funding sources).

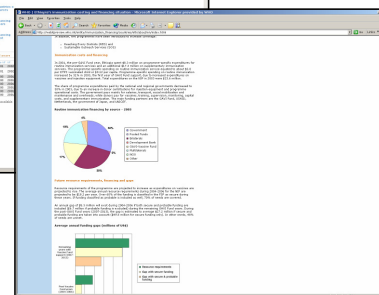
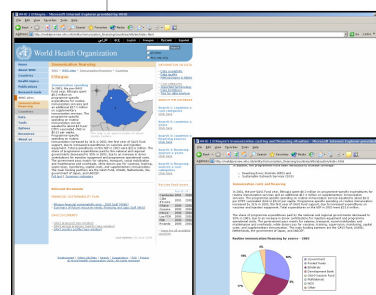
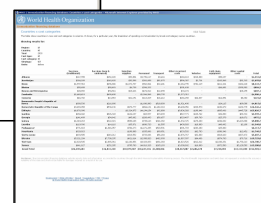
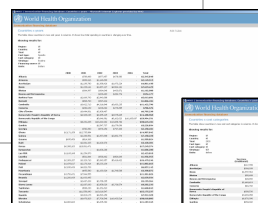
Search the database	INFORMATION ON DATA
<p>Search 1: countries x cost categories Click here</p> <p>Search 2: countries x years Click here</p> <p>Search 3: countries x financing sources Click here</p> <p>Search 4: financing sources x years Click here</p> <p>Search 5: financing sources x cost categories Click here</p>	<ul style="list-style-type: none"> - Data availability - Data quality - Methodologies - Cost categories - Important terminology - Data limitations - Tips for data analysis



Country Pages

www.who.int/immunization_financing/countries

<ul style="list-style-type: none"> ⌘ Afghanistan ⌘ Albania ⌘ Armenia ⌘ Azerbaijan ⌘ Benin ⌘ Bhutan ⌘ Bosnia and Herzegovina ⌘ Burkina Faso ⌘ Burundi ⌘ Cambodia ⌘ Cameroon ⌘ Comoros ⌘ Côte d'Ivoire ⌘ DPR Korea ⌘ DR Congo ⌘ Eritrea ⌘ Ethiopia ⌘ Gambia ⌘ Georgia ⌘ Ghana ⌘ Guinea ⌘ Guyana ⌘ Haiti ⌘ Kenya 	<ul style="list-style-type: none"> ⌘ Lao PDR ⌘ Lesotho ⌘ Madagascar ⌘ Malawi ⌘ Mali ⌘ Mauritania ⌘ Mozambique ⌘ Myanmar ⌘ Nepal ⌘ Niger ⌘ Republic of Moldova ⌘ Rwanda ⌘ Senegal ⌘ Sierra Leone ⌘ Sri Lanka ⌘ Sudan ⌘ Tajikistan ⌘ Uganda ⌘ Ukraine ⌘ United Republic of Tanzania ⌘ Uzbekistan ⌘ Viet Nam ⌘ Yemen ⌘ Zambia
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Summary of Database Team's Work

While the initial work of the database development team consisted of collecting and analysing existing data from a wide variety of sources (ex: project reports, published articles, on immunization costing and financing), the key challenge of the work has been to address its quality and comparability of the information given the wide variety of data sources available.

After thorough examination of the set of available data on immunization financing, the database team identified that there was a:

- Lack of consistency in the way the original data sources defined specific spending categories;
- Lack of consistency in the way the original data sources defined the boundaries of the immunization programme itself; some data sources included shared health systems costs, while others were more restrictive;
- Lack of consistency in the methodologies for estimating expenditures, when those methodologies are described;
- Lack of information about how expenditures were estimated;
- Inconsistent and incomplete information about the sources of funding for the immunization programme; and
- Missing data (countries, years, and expenditure categories)

After careful review of the retrospective data available, the database development team determined that there was no reasonable way to address the comparability issues for robust analyses of the data, nor to use modelling or other statistical methods to adjust for lack of comparability in the original sources.

In light of the clear data comparability and quality issues that the database development group identified and systematically analysed, the efforts were directed towards ensuring that all future data collection efforts related to financing and expenditures under GAVI auspices use a standard methodology and reporting systems.

In 2002 and after the 8th GAVI Board, the Financing Task Force placed its emphasis on ensuring that the database development team would help strengthen both national and regional capacities to report this information through the Financial Sustainability Planning process. Between 2002 and 2005, the FSP costing and financing methodologies and tools were developed. These have been applied by over 50 GAVI Fund recipient countries that are required to develop Financial Sustainability Plans (FSP).

Box 2 : FSP Costing and Financing Tool

www.who.int/immunization_financing/tools/annexes

Development of a FSP costing and financing tool

Strategic planning for immunization through the FSP process required reliable information on the costs and financing of national immunization programmes and to help answer the fundamental questions of : how much resources are needed to reach programme objectives, who will fund the needs and what are the shortfalls, and how to prioritize activities based on available funds. For this reason, estimating the costs and financing of a national immunization programme, is a key step in the development of a financial sustainability plan.

As such, the financial sustainability planning process presented itself as an opportunity to strengthen and build capacity in costing, financing, planning and budgeting at regional and country levels . It also presented itself as an opportunity to collect detailed information from GAVI eligible countries that could be used to populate the immunization financing database. As a way of addressing both opportunities, the immunization financing database team developed

accompanying tools and guidelines as annexes to the FSP guidelines - in particular Annex I : the immunization costing, financing and gap analysis tool and user guide.

To help undertake the costing and financing of an FSP an Microsoft Excel tool has been developed that could be used to estimate the past costs and financing of immunization, and to make projections of future costs, future resources requirements, future financing needs to achieve programme objectives, and analyse the corresponding financing gaps. This tool was accompanied by a User Guide which provides an overview of important immunization costing and financing concepts, methodologies and definitions, as well as step-by-step instruction on how to use the costing and financing tool, including how to analyse the data and findings.

Capacity Building in FSP costing and financing tool

During the FSP development workshops, technical experts provide training and capacity in programme planning, costing, budgeting, immunization financing and financial sustainability planning. Various training materials were developed and an important part of the workshops was to impart skills to regional and national immunization programme managers in the use of the FSP costing and financing tool through hands on practical group exercises using computers.



As GAVI eligible countries developed their financial sustainability plans, a series of analyses were prepared to broadly review past and future trends in immunization expenditures and financing to answer questions such as how much is being spent on immunization; what is the composition of this spending and their source of variability; and review the experience of introducing Hepatitis B (HepB) and Haemophilus influenzae type B (Hib) vaccines. The analyses further explored past and future trends in immunization financing; their sources; how these have changed with new investments through GAVI; and what are expected financing shortfalls to scale up immunization.

An important aspect of the work of the database development team was review and validate the various analyses prepared and make recommendations to the FTF on how to disseminate key findings to the GAVI Board in order to shed light on the experience of the GAVI model of immunization financing through the data collected with the financial sustainability plan (FSP).

Immunization Financing Analysis - A look across 10 countries

http://www.gavialliance.org/resources/11_board_fsp_exsumm.doc

Immunization Financing Analysis - A look across 22 countries

http://www.who.int/immunization_financing/countries/fsp_analysis_vs1_5.pdf

By 2005, the work around the immunization financing database was becoming more routine requiring less and less oversight by the development team. As the work of the FTF was waning and part of its time limited mandate was to institutionalize some of its work, it was agreed that the immunization financing database became an integral part of WHO's Immunization Vaccines and Biologicals departments with continued support from the GAVI Alliance.

This period coincided with the shift towards streamlining the FSP process with national immunization strategic planning ones. The comprehensive Multi-Year Planning (cMYP) process marks current efforts to streamline immunization planning process at national level into a single comprehensive and costed plan. It is within this context that WHO and UNICEF together with GAVI Alliance partners developed new guidelines building on existing multi-year planning experience, while adding the critical elements of costing and financing by drawing heavily upon the methods developed for the immunization Financial Sustainability Plans (FSP). Since this new process builds on the FSP costing and financing tools and methodologies, the data generated through this cMYP process will form the basis of the future data for the immunization financing database.

http://www.who.int/immunization_financing/tools/cmyp/

Box 3 : Key Findings from the Immunization Financing Database

Below are the key findings from the immunization financing database analyses that were presented to the 11th and 14th GAVI Boards in Washington and Abuja based on the analysis of 10 and 22 countries. Important policy changes in terms of immunization financing and sustainability took place as a result of these findings. In particular, revisiting the assumptions of the GAVI model for financing; bridge financing for early adopters, and the co-financing policies.

Key Findings:

1. Total spending is up. For the 22 countries included in the analysis, overall spending on immunization has increased since the start of GAVI. The total volume of resources available for national immunization programmes (NIP) increased by 47 percent, when we compare between a year before and a year after GAVI Fund resources were made available. If routine immunization services are singled out, the corresponding spending has risen by 61 percent.
2. Governments and partners are spending more on vaccines. In the aggregate, government funding, which represented on average 51 percent of all funding for routine immunization, has increased by 13 percent in the first few years after GAVI Fund resources were made available. This average masks large variations within and between countries and where important decreases in some countries were noted. International support for immunization also has risen by 17 percent since GAVI Fund resources have been made available. However, most of this increase is financing to support the supplemental immunization activities, with international donors funding more than 80 percent of the needs for campaigns. Partners' financing for routine immunization services has increased by 9 percent. Fluctuations in government and partner contributions from one year to the next are observed. This unreliability and unpredictability is a core feature of immunization financing.
3. The overall budget impact of immunization remains modest although introduction of combination vaccines does increase costs substantially and will put pressure on future health budgets. Despite the increased spending, immunization represents a small share of total spending on health by both national governments and donor agencies in most countries. In the period before the GAVI Fund, the NIP represented 4.0 percent of government health spending on average across the 22 countries; in the period after the GAVI Fund initiated support, the NIP accounted for 5.7 percent of government health spending. In the countries included in this analysis, this translates into about US \$0.39 per capita for routine plus supplemental programme-specific expenditures, or US \$0.27 for routine expenditures only.
4. The picture varies significantly depending on the vaccine presentation, with the older, monovalent products being considerably less costly than the newer combinations, not taking into account programme efficiencies that may result from the use of combination vaccines. For the countries introducing Hib containing vaccines, the per capita cost of routine plus supplemental programme-specific costs is on average US \$0.94; it is US \$0.81 for routine programme costs only. The data suggests that requirements for routine immunization increase by a factor of 1.4 if monovalent HepB is introduced, by a factor of two if DTP-Hep B vaccine is introduced, and by a factor of almost three if the pentavalent vaccine is added to immunization schedules.
5. Vaccine expenditures account for an increasingly large share of NIP expenditures. In countries introducing new and underused vaccines, expenditures on vaccines and injection supplies account for an increasing share of total spending – from 18 percent in Armenia (with HepB mono) to 74 percent in Ghana (DTP-hep B-Hib) of total routine programme-specific expenditures between the pre-GAVI Fund and the GAVI Fund periods. This increase is a logical consequence of using the current immunization system to deliver new products, and as a result, saving more lives by protecting children against a wider range of diseases. With respect to future resource requirements, assuming constant (2004-level) prices, on average all vaccines will account for some 50 percent of

programme needs. For the countries that have introduced the Hib containing vaccine, new product purchases will account for an estimated 62 percent of future programme expenditures. For tetravalent – again, assuming constant prices – this figure is 48 percent.

6. Accelerated Disease Control campaigns account for a large share of NIP expenditures. On average across 22 countries, about one-third of total programme-specific expenditures are dedicated to campaigns, including the polio eradication and measles control campaigns. In some countries, campaigns account for more than half of NIP-specific spending, which in part reflects the coincidence between the timing of the financial sustainability plan data collection and the campaigns for polio and measles “catch up” and meningitis.
 7. Future financing is vulnerable. The gap is growing between the resources required and the resources secured; the transition from the GAVI Fund to other sources of financing for routine immunization is unclear. The findings from these 22 countries show limited signs of any significant phasing-in of alternatives to GAVI Fund support. With the notable exception of Guyana and possibly Uzbekistan, the resource requirements of an expanded immunization programme greatly outstrip anticipated future financing, unless the contributions of both governments and partners increase substantially.
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Box 8. Lessons learned – Immunization Financing Database

- The immunization financing database was the first attempt to systematically collect data from a wide set of countries. Using a common methodology and the inputs from a broad range of technical experts members of the its development team, the database has filled an important information gap that existed in terms of having more updated information on the costs of routine immunization programmes in follow-up to the in-depth costing studies undertaken in the 1980s and late 1990s. In particular on the additional costs of incorporating new vaccines likes HepB and Hib in national immunization programmes, the financial sustainability implications of this.
- The immunization financing database was equally successful in provided new insights about donor and government financing patterns for immunization, and strategies for long-term financial sustainability. The data on immunization expenditures and financial flows contributed to the understanding of the influence of the GAVI Fund on immunization financial sustainability at national, regional and global levels.
- The immunization financing database was an important source of strategic information that guided GAVI policies for immunization financing, particularly at the end of Phase I and for shaping Phase II support.
- The work of the database team and the process was key to achieving advancements in immunization costing and financing methodologies through the development of tools and through the analysis of the immunization financing data.
- While the ultimate objective was reached in terms of having a publicly available immunization financing database, a missed opportunity was the inability to set up a mechanism for regularly updating the information. Unfortunately, no monitoring system could be put in place at the time to regularly populate the database with new information.

Immunization Financing Analysis - A look across 50 countries

http://www.who.int/immunization_financing/countries/

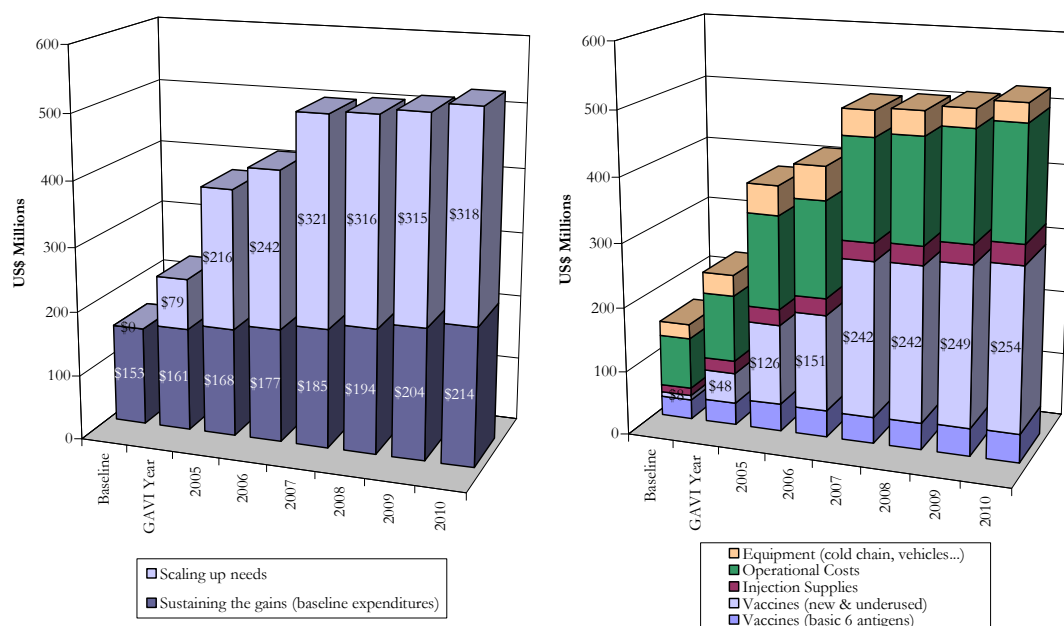
By September 2005, the last set of countries submitted their FSP to GAVI. In order to bring closure to the FSP development phase and derive the key information from the data, a complete analysis of the full set of countries available was undertaken in 2006.

This key findings from this analysis are presented below and based on the data from 50 countries¹ as reported in the financial sustainability plans submitted to GAVI. More specifically, the data provided through the FSP costing, financing and gap analysis tool were extracted into an immunization financing database. The data extracted was processed and presented according the methodologies defined by the database development team.

Immunization expenditures are on the rise...

In the past years, expenditures for routine immunization have seen an upward trend and are projected to increase in the future. Whereas total baseline expenditures for the 50 countries totalled \$153 million, by 2010 the needs to both sustain the gains and scale up will exceed \$500 million. In other words, resource requirements to scale up immunization during 2005-2010 need to increase beyond baseline investments in immunization by at least a factor of 3 - or approximately a doubling of current investment that include GAVI support.

Fig 1: Immunization expenditures and future resource requirement trends



On a per infant basis, baseline expenditures averaged \$6.0. These increased to \$9.2 in the year with GAVI and are projected to reach an average of \$17.5 per infant during the 2005-2010 period in order to scale up of immunization coverage, including with new vaccines.

¹ There were 50 countries used: Afghanistan, Albania, Armenia, Azerbaijan, Benin, Bhutan, Bosnia and Herzegovina, Burkina Faso, Burundi, Cambodia, Cameroon, Comoros, Côte d'Ivoire, Democratic People's Republic of Korea, Democratic Republic of the Congo, Eritrea, Ethiopia, Gambia, Georgia, Ghana, Guinea, Guyana, Haiti, Kenya, Kyrgyzstan, Lao People's Democratic Republic, Lesotho, Madagascar, Malawi, Mali, Mauritania, Mozambique, Myanmar, Nepal, Niger, Republic of Moldova, Rwanda, Senegal, Sierra Leone, Sri Lanka, Sudan, Tajikistan, Uganda, Ukraine, United Republic of Tanzania, Uzbekistan, Viet Nam, Yemen, Zambia, Zimbabwe

Cost profile of immunization is changing....

Looking at the composition of expenditures gives some insight as to what cost categories are driving the rise. It is not surprising to see that GAVI awarded vaccines account for the majority of the increase. Combined with related injection equipment, vaccines are now becoming the single largest cost driver of routine delivery systems. Their importance in overall expenditures will increase in the future to account for at least 50% of overall resource requirements. This contrasts to the baseline cost profile where the largest expenditure item were the operational costs - the bulk of which are the cost of human resources. Such a changing cost profile for immunization will have implication in terms of mobilizing greater annual funding to guarantee the provision of all vaccines and injection materials to countries in the future.

The cost profile of immunization can vary....

The description of the overall trends is different from one country to the next, particularly when moving away from looking at aggregate expenditure flows. The variability in cost profiles for immunization comes out strongly when grouping countries according to their vaccination schedules. The average cost per infant in countries that expanded their immunization programme beyond the traditional vaccines² to include Hep B monovalent is approximately \$13. This contrast against the \$20 per infant in countries that introduced DTP+HepB+Hib vaccine. The relative share of new vaccines in the total can range from \$4 per infant in countries with monovalent HepB vaccine, to \$11 per infant in the group of countries that introduced DTP+HepB+Hib. Thus, at country level, the cost profiles will vary and the requirements for vaccines can be expected to increase by a factor of 3 to 4 if both HepB and Hib containing vaccines are added to national immunization schedules.

It should be noted that the cost implication of new vaccines will go beyond the vaccine alone. Overall, non-vaccine recurrent expenditures have risen by 22% and are mainly attributable to increases in cold chain equipment and maintenance, training, additional human resources, vehicles, transportation, and surveillance activities.

It is difficult to reach any firm conclusion on these trends without knowing what increases would have occurred in the absence of new vaccines. What is clear however, is that the immunization services strengthening (ISS) support from GAVI has contributed to their rise, along with the \$100,000 new vaccine introduction cash grants. On average, ISS funds can account for 11% of overall non-vaccine expenditures, and in some countries represented more than 30%.

Other important sources of variability in costs....

Whereas the variability of expenditure flows are largely influenced by differences in immunization schedules and in human resource costs, the data shows evidence of further variability in unit costs (cost per infant) linked to economic development, demographics, performance and delivery strategies. The analysis suggests that expenditures on immunization will tend to have a positive relationship with levels of development, income and coverage.

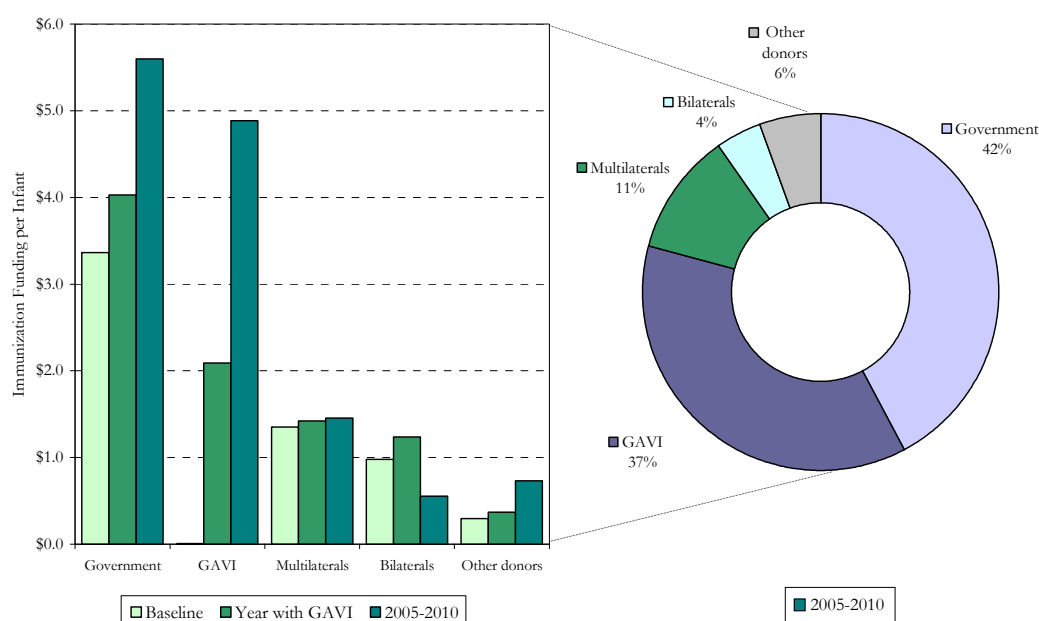
In addition, many countries rely on supplemental immunization activities to reach more children, and respond to epidemiological needs or eradication initiatives. While mass campaigns, national immunization days, mop-up activities and outbreak responses are becoming an integral part of national immunization programmes, the amounts being spent to support these are important, and can sometimes exceed the resources provided for routine delivery systems.

² The EPI6 vaccines, also referred to as the traditional vaccines include BCG, DTP, OPV and Measles.

Immunization financing is also on the rise...

Increasing costs always come with the challenge of mobilizing the needed financing. The good news is that immunization financing experienced a positive trend in the past years, and funding from all sources has been increasing to support routine immunization. This would suggest that overall, GAVI Phase I support has been additional with only limited replacement of existing investment for immunization. In the absence of GAVI awards, immunization financing from all sources has increased between the baseline and the year with GAVI.

Fig 2: Immunization financing trends and profile (routine)



The rise in immunization financing is confirmed over the 2005-2010 period from most sources. Individual country variability show different trends than those observed overall. Of the 50 countries used in the analysis, 5 saw a drop in their overall funding even with additional GAVI resources made available. By excluding GAVI Phase I support, 17 countries saw a drop in immunization financing. Having said this, it is difficult to ascertain whether this trend is simply cyclical, or indicative of a real downward movement in financing. As such, it is difficult to conclude that these specific country trends would have occurred whether or not GAVI resources had been made available.

The immunization financing trends are quite different if funding for campaigns are included. The funding to support these are important, and can sometimes exceed the resources provided for routine delivery systems. This is the case for multilateral donor agencies where campaign funding often exceeds flows for routine immunization. If campaign funding were included, financing from multilaterals would represent 30% of overall financing and approximately \$4 per infant. Although substantial funding for immunization are tied up in supplemental immunization activities, campaigns as a strategy to deliver vaccines continue to play a significant role in reaching the objectives and targets of immunization programmes.

The financing trends and profiles will show important variability from one country to the next, particularly when looking beyond aggregate financial flows and by specific source of funding. The trend in government financing for immunization is one characterized by increasing financing - from \$3.4 to \$4.0 per infant between the baseline and the year with GAVI; and projected to be

around \$5.6 per infant over the 2005-2010 period³. Findings showed that the ability of national government to financing immunization increases with income levels and development status. Though irrespective of the grouping, there are countries that continue to be entirely donor dependant in the funding of their programme.

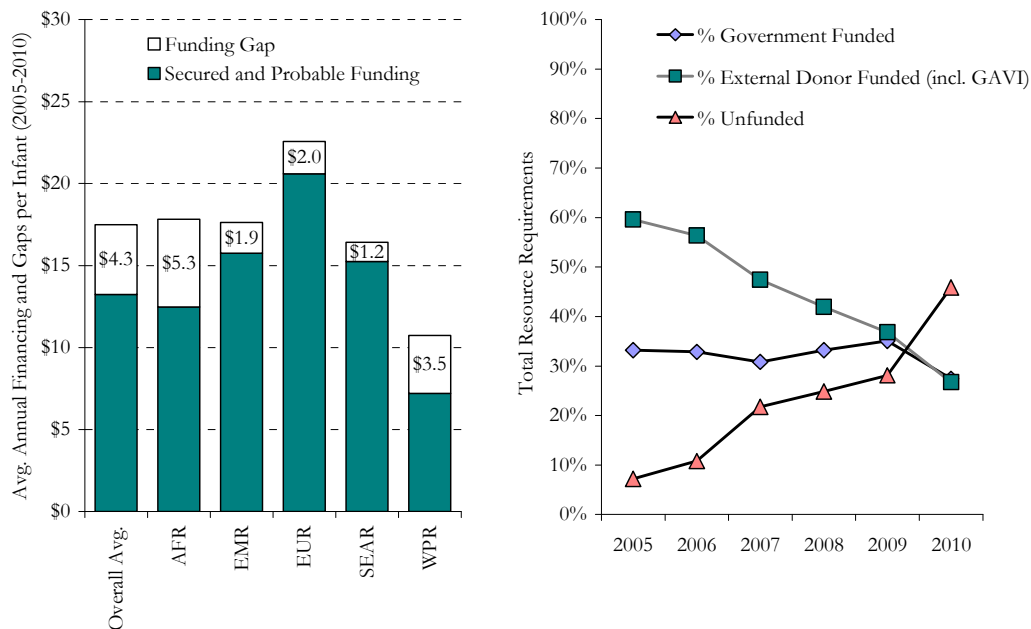
More in-depth analysis of the data uncovered a negative relationship between overall government funding for routine immunization and the type of new vaccine being introduced. Countries that have introduced monovalent HepB vaccine tend to fund more per infant using government resources, than countries with DTP-HepB, who in turn fund more that countries that introduced more expensive DTP-HepB+Hib combination vaccine. It appears as though countries with the greatest ability to pay for vaccines and injection supplies have tended to choose less expensive vaccines to introduce. On the other hand the poorest countries had a tendency to select the more expensive vaccines for which they have a lesser ability to finance. These same countries are those for which GAVI is the single most important funding source for routine immunization. Thus, transitioning away from GAVI support to other sources of funding will be a particular challenge.

Funding gaps are looming

Despite positive immunization financing trends, expected future funds will not be enough to match the needs to sustain the gains, and scale up immunization to complete the HepB and Hib agenda. The growth rates in financing are far outpaced by the growth rate in resource requirements presented earlier in this analysis.

Overall funding gaps during 2005-2010 will approximate \$4.26 per infant per year if both committed and non-committed funds are considered. Regionally, the largest gaps are found in Africa where the shortfalls exceed \$5.0 per infant per year in order to reach programme objectives.

Fig 3: Funding gaps and trends - 2005-2010



³ In relative terms in the baseline year, 24 countries funded 50% or less of the total needs for immunization using government funds, of which 12 funded less than 25%. While the overall trend of government funding is positive, it should be noted that in 16 countries, a drop in government funding was noted between the baseline and year with GAVI support. As mentioned earlier, the lack of trend data prevents from understanding the specific nature of these movements in financing.

The size of the gaps reflect the different capacities and opportunities available to countries to mobilize the needed resources for their programme in the short term and medium term.

Despite the favourable context for immunization financing, there is little evidence to suggest that the GAVI Phase I model, with the new funds it provided, succeeded in fully catalysing the needed support for immunization to ensure a financially sustainable transition. The majority of these funding gaps are for new vaccines which highlight the challenge of future co-financing by countries.

Although GAVI Phase I was founded on partner commitments to support immunization over the medium and longer term, these commitment require that instruments be in place for international partners to be able to make multi-year commitments in the future. It is no surprise to find that countries with a higher proportion of external donor financing for immunization are subject to greater volatility in the financing for their programme. Consequently, the magnitude of future funding gaps is higher, and the financial transition to other sources of funding following GAVI Fund commitments is unclear.

Financial Sustainability is far from assured...

Getting on a path of financial sustainability during the first phase of GAVI has been constrained by the optimistic assumptions about vaccine price movements towards lower and affordable levels. With the exception of HepB vaccine in monovalent formulation, the price of other GAVI supported combination products have shown a pattern of either stagnant or rising cost per dose since 2000. Based on UNICEF Supplies Division information⁴, the price of DPT-HepB+Hib vaccine rose from \$3.20 to \$3.60 between 2000 and 2006.

Transitioning away from GAVI support for new vaccines and moving towards financial sustainability will depend on the ability of countries to support the financial burden of new vaccines and related costs. The general trend in government financing presented above is confirmed when looking specifically at government financing for vaccines and injection supplies. Yet, of the 50 countries, 31 were financing all or part of the needs for either vaccines, injections supplies or both. The trends in the future are of concern with only 14 countries having projected vaccine financing with government monies in their financial sustainability plan.

Moving towards financial sustainability is invariably linked to future macroeconomic trends and how these will affect the availability of overall resources for health. This in turn will be influenced by the ability to finance immunization given health budget constraints, and the budgetary impact of expanding immunization with HepB and Hib vaccines.

Within this overall health financing context, immunization represented on average, 2.4% of government health expenditures in the baseline year. During 2005-2010, immunization is expected to average 3.7% of projected government health expenditures. If campaigns and shared health systems expenditures are included, total immunization expenditures would represent more than 5% of overall government health expenditures.

Stratifying the analysis by vaccine introduced gives a sense of the relative affordability of different vaccination schedules. During 2005-2010 when we can expect full introduction of GAVI Phase I supported new vaccines, the findings suggest that for those that opted for monovalent HepB vaccine, a 1.1% allocation of the government health budgets would be sufficient to cover the entire future needs to scale up immunization. This compared to an average of 6.0% and 9.2% in the groups of countries that introduced DTP-HepB or DTP-HepB+Hib vaccines.

If we take as a benchmark the 3.7% average future immunization requirements in estimated health budgets, the figures presented suggest that the pressure on health budgets will be

⁴ See UNICEF website http://www.unicef.org/supply/index_7991.html (last accessed in December 2006)

significant in countries that choose to introduce combination vaccines with Hib. This raises concerns about their medium term affordability at current price levels for these vaccines.

In summary ...

This analysis with 50 countries allowed for some of the original funding assumptions of the GAVI model for immunization financing to be better tested against the realities in a wide set of countries. While the GAVI model for immunization financing was expected to be a functional model under the following assumptions:

- Prices of new and underused vaccines would decline over the initial GAVI Fund grant period so that the future recurrent cost burden would be relatively modest.
- Two and a half years would be sufficient time for national governments and partners to mobilize new resources to permit the phase-out of GAVI Fund resources while still adequately covering programme costs, regardless of immunization programme finance starting point or macroeconomic conditions.

The analyses of the information from the financial sustainability plans allowed the GAVI Board to assess the extent to which starting assumptions were borne out, and to highlight the main issues and implications for future immunization efforts.

Several factors hindered countries ability to move towards financial sustainability not anticipated in the GAVI model. The most important has been the optimistic assumptions about movement in vaccine prices to more affordable levels. The second has been the realization that beyond GAVI, there lacks adequate frameworks for traditional immunization donors to make multi-year commitments in the future. Two and half years was insufficient time to plan a transition. As such, widening funding gaps are expected in the future and mainly for new vaccines.

Closing the funding gaps for immunization and the probability of financial sustainability will require multiple factors that will favour greater funding for immunization: a larger public sector budget resulting from economic growth; greater government commitments to immunization and greater donor multi-year commitments; a reduction in vaccine prices; and under any scenario, will require a major sustained efforts by the Alliance in it's second wave of support.

Box 4 : Chronology of Meetings & Highlights *

1 May 2000 | Meeting on Immunization Financing and Costing Data Needs | WHO, Geneva, Switzerland

The idea of developing an immunization financing database originated from the meeting. The main outcome was that a publicly-accessible database on immunization expenditures and financing should be developed and housed within WHO. A health economist was recruited to explore the feasibility of developing and immunization financing database and was based in WHO's Immunization, Vaccines and Biologicals department.

10-11 September 2000 | FTF Forum | World Bank, Washington DC, USA

During the FTF annual forum in September 2000, the outcomes of the May 2000 meeting were presented along with inventory of existing data sources and mapping of the challenges and issues of developing an immunization financing database. The FTF requested to see progress subsequent to the June 2001 meeting on financial sustainability.

7 June 2001 | Immunization Financing Database Progress and Prospects | ICCG, Geneva, Switzerland

Progress on the immunization financing database was presented to the FTF and determine the future prospects of this work. While it was recognized that important progress had been made, there were many issues remaining and that a database development team, with representatives from GAVI partner institutions, should be established to provide technical oversight and expertise for the development of the database.

21-22 June 2001 | 5th GAVI Board meeting | London, England

Board Agenda: Financing Task Force update, including financial sustainability and user fees

The Board endorsed the need for an immunization financing database.

http://www.gavialliance.org/about/governance/reports/5th_Board_fifth_boardmeeting.php

27 November 2001; 4 December 2001; 22 January 2002 | Immunization Financing Database Development Team Meeting | World Bank, Washington DC, USA

During these 3 meetings the scope of the immunization financing database was determined, the terms of references for a database development team were developed, and the team itself was constituted.

23-24 January 2002 | FTF Forum | Gallaudet University, Washington DC, USA

The terms of reference of the immunization financing database and its development team were presented broadly for endorsement during the FTF Forum.

11 March 2002 | 7th GAVI Board meeting | Stockholm, Sweden

Board Agenda: Immunization Financing Database Discussion

The Board endorsed the terms of reference for the immunization financing database and its development team and requested a progress report at the next Board meeting.

http://www.gavialliance.org/about/governance/reports/7th_Board_Summary_Report.php

28 May 2002 | Immunization Financing Database Development Team Meeting | World Bank, Washington DC, USA

Early results from the work of on the immunization financing database were presented to the team. The meeting help prepare and finalize the progress report that would be presented during the 8th GAVI Board meeting.

19-20 June 2002 | 8th GAVI Board meeting | Paris, France

Board Agenda: Immunization Financing Database Discussion

Progress on the work of the immunization financing database was presented and Board members appreciated the report. It encouraged the database development team to continue the effort as it was outlined in the presentation.

http://www.gavialliance.org/about/governance/reports/8th_brd_meeting.php

22-23 August 2002 | Economics of Immunization Workshop | Oslo, Norway

The immunization financing database and early results from the work of the team were presented.

http://gavistg3.elca-services.com/Resources_Documents/Policy_Technical/Financial_Sustainabi/oslo.php

http://gavistg3.elca-services.com/resources/kress_1_.ppt

22-23 March 2003 | FTF Meeting | Aventis Pasteur, Toronto, Canada

Early findings from the first analysis from the immunization financing database was presented to the FTF. This analysis was based on the first 10 financial sustainability plans submitted.

19 May 2003 | Immunization Financing Database Development Team Meeting | World Bank, Washington DC, USA

Progress on the immunization financing database were presented to the team. The meeting help prepare and finalize the progress report that would be presented during the 11th GAVI Board meeting, in particular the final analysis of 10 countries.

15-16 July 2003 | 11th GAVI Board meeting | Washington, DC

Board Agenda: Financial Sustainability

The findings from the analysis of the first 10 financial sustainability plans was presented to the Board by James D Wolfensohn (World Bank President at the time).

http://www.gavialliance.org/about/governance/reports/11_board.php

http://www.gavialliance.org/resources/11_board_fsp_exsumm.doc/

28 September 2003 | FTF Meeting - Isabel | World Bank, Washington DC, USA

Progress on the immunization financing database were presented to the FTF including plans for the next analysis based on 22 countries.

14 October 2003 | Immunization Financing Database Development Team Meeting | World Bank, Washington DC, USA

The meeting was organized to begin a process for putting the immunization financing database in the public domain and online through the development of a website. The outcome of the meeting was for WHO to begin developing an immunization financing website as part of the WHO website.

24 February 2004 | Immunization Financing Database Development Team Meeting | World Bank, Washington DC, USA

Progress on the development of the immunization financing website and online database was presented. Likewise, preliminary findings from the analysis of 22 countries was presented to the team.

8 October 2004 | Immunization Financing Database Development Team Meeting | Abt-Associates, Bethesda, USA

Progress on the immunization financing database, the website and the final analysis of 22 countries was reviewed to the database team. The meeting help prepare and finalize the progress report that would be presented during the 14th GAVI Board meeting.

4-5 December 2004 | 14th GAVI Board meeting | Abuja, Nigeria

Board Agenda: Financing

http://www.gavialliance.org/about/governance/reports/14brd_index.php

The findings from the analysis of 22 financial sustainability plans was presented to the Board. This lead to a revisiting of the assumptions of the GAVI model for financing, the bridge financing and early thinking for policy changes for the next phase of GAVI.

Immunization Financing Analysis - A look across 22 countries

http://www.who.int/immunization_financing/countries/fsp_analysis_vs1_5.pdf

http://www.gavialliance.org/resources/14brd_abuja_fsp_analysis.pdf

Bridge Financing: Building on the financial sustainability plan analysis and country feedback

http://www.gavialliance.org/resources/14brd_abuja_bridge_financing.pdf

*Note that these trace the meeting related to the database itself. Those related to the development of the FSP costing, financing and gap analysis tool were part of the meeting to develop the FSP guidelines and accompanying annexes
