**Graduating from GAVI Support:**

**Mongolia’s Financial Projections and Analysis**

**Excerpts the GAVI Mongolia Country Report**

Funding for vaccine procurement has been provided, in addition to the government, by UNICEF, WHO, JICA, and GAVI. Since 2011 the government is fully funding vaccines for routine immunization through the immunization fund, which was established in 2001 in accordance with Government resolution #67. Operational costs are largely covered by the Government of Mongolia (central and provincial level) but WHO and UNICEF continue to support some recurrent expenditures such as training, advocacy and monitoring.

1. **Financing of Service Delivery**

Family clinics and district hospitals are the main providers of immunization. Service delivery (human resources, local transport, per diems, and other expenditures) is funded by local governments, from block transfers from the central government. While no solid information is available on the unit costs of delivering vaccines, given Mongolia’s geography, climate, and significant nomadic population, there is likely to be large geographic variation in costs. Nonetheless, coverage rates are reported to be quite high. It would be useful to have better information on what financing constraints might exist in service delivery in different parts of the country in order to evaluate how adequately service delivery is financed, especially for areas with higher unit costs because of more remote populations.

1. **Financing of cold chain**

Over recent years, the government of Mongolia has received considerable support from JICA for cold chain expansion and upgrade. In 2012, the Millennium Challenge Account also financed some cold chain investment. Cold chain capacity is seen as sufficient for Hepatitis A introduction but will need expansion if pneumococcal and/or HPV vaccines are introduced nationwide, unless other changes are made in the system (such as in changes in presentations of existing vaccines (to multi-dose) or in delivery schedules). The government expects to assume responsibility for cold chain investments and maintenance over the near term as JICA’s contributions end.

1. **Financing of vaccines and injection supplies**

The government funds vaccines and supplies through its Immunization Fund. The Fund has the advantages of more flexibility than a typical budget line item. For example, it can receive resources from multiple sources: government, external donors and the private sector. The Fund also receives payments for voluntary vaccination fees (for example, from travellers who are going abroad and require vaccines not needed in Mongolia such as Yellow Fever).

There are two categories of vaccines in Mongolia. Routine vaccines are mandatory, provided free of charge, and are in the national immunization schedule. There are six such vaccines at present (DPT, DT, HepB, MMR, and Pentavalent). All are procured by the UNICEF Supply Division. The second category, non-routine vaccines, consists of vaccines with epidemiological indications and for the state stockpile. They include vaccines such as Hepatitis A and Rabies (both epidemiologically indicated), Yellow Fever and Typhoid (for travellers) and Anthrax (for national security). In 2011, the total budget for the Fund was US$3.15 million, with approximately 46% directed at routine vaccines, 51% for vaccines with epidemiological indicators and for the state stockpile, 2% for injection supplies, and 1% for transportation from Ulaan Baatar to the provinces.[[1]](#footnote-2) One vaccine, Hepatitis A, absorbed almost one-third of the total Immunization Fund budget in 2011 (Table 1). As mentioned earlier, this vaccine is being introduced on a pilot basis; the official immunization schedule has not yet been amended to include it. It was introduced following an outbreak of Hepatitis A in western Mongolia.

Figures provided by the government show that Immunization Fund expenditures for vaccines (the bulk of the Fund) grew from US$1.2m in 2008 to US$1.5m in 2009, US$1.8m in 2010, and US$3.9m in 2011. Non routine vaccines accounted for the largest share of the large increase between 2010 and 2011. They grew from US$0.3m in 2010 to US$1.7m in 2011, with the main cost driver being the inclusion of Hepatitis A vaccine.

Domestic tenders are carried out for all non-routine vaccines financed by the Immunization Fund. All vaccines are subject to VAT and custom taxes that total 15%. In contrast to some other countries, taxes are adequately budgeted and customs clearing is rapid so that these taxes do not result in a bottleneck.

**Table 1: Immunization Fund Expenditure for 2011 in US$**

|  |  |  |
| --- | --- | --- |
| **Total** | **$3,152,903** | **100%** |
| Routine vaccines | $1,445,600 | 46% |
| Other epidemiologically indicated vaccines and vaccines for state stockpile  *Of which, Hepatitis A* | $1,602,644  *$1,019,472* | 51%  *32%* |
| Injection supplies | $66,670 | 2% |
| Transport | $37,988 | 1% |

Source: Annual Report of the Immunization Fund Activities in 2011, December 25, 2011. Average 2011 exchange rate: 1266 Mongolian LCU to US$1 (World Bank).

The Fund is overseen by a committee chaired by the Vice-Minister of Health with other members from MOH, MOF, NCCD, MCIDNF, and PHI. The oversight committee is tasked with (1) mobilizing and allocating financing to vaccines and injection supplies, (2) approving annual plan for vaccines and supplies for the “State Stockpile for Infectious Diseases”, and (3) ensuring the financial sustainability of the Fund.

JICA financed several of government’s routine vaccines over the period 1996-2006. This was reduced to funding for just DT and monovalent HepB vaccines for 2007-2010. JICA is no longer funding vaccines. Currently, five out of the six routine vaccines are fully funded by the government (BCG, HepB, OPV, MMR, and DT). The only one that is not is pentavalent which is cost shared between GAVI and the government. GAVI financing will end in 2015 and the government will be fully responsible for the financing of pentavalent vaccine in 2016.

1. **Projected financing of vaccines**

GAVI is financing only the pentavalent in Mongolia. The country’s income per capita is now above GAVI’s eligibility threshold so it is “graduating” from GAVI support. Mongolia’s last opportunity to submit requests for new vaccine support was in 2011. The MoH prepared an application for pneumococcal support from GAVI but it was not, in the end, approved by the Ministry of Finance so it did not go forward. Fortunately, Mongolia, as a formerly GAVI-eligible country, is allowed to receive the AMC subsidy for pneumococcal vaccine (it will need to pay the AMC price itself, without a GAVI contribution). This will assure a price of no more than $3.50 per dose from now to 2020 (by which time the price will hopefully decline further). Given global supply constraints, the first year that the vaccine could be introduced would likely be 2014 so in the projections presented below, pneumococcal is assumed to be introduced in 2014 at a price of $3.50 per dose, or $3.69 with injection supplies included.

For pentavalent, the government is contributing above and beyond its co-financing requirement for GAVI. Co-financing will ramp up until 2015, the last year of GAVI support. In 2016, the government will be 100% responsible for pentavalent financing. The government currently receives a one-dose presentation of pentavalent. It could consider changes in product or presentation to make savings, however a move to multi-dose vials (cheaper per dose) needs to be balanced against whatever increase in wastage might occur.

Figure 1 shows the ramp up in projected vaccines expenditures for the Mongolian government, assuming that;

* The government provides Hepatitis A nationwide
* It continues to increase co-financing of pentavalent until it is 100% self-financed in 2016,
* Pneumococcal vaccine is introduced in 2014, at the GAVI price of US$3.50, with 100% government finance.

In these projections, Hepatitis A is assumed to cost US$13 per dose and at this price, makes up the most costly vaccine in total expenditures. The costs of non-routine vaccines (excluding Hepatitis A) are expected to remain constant. In these projections, the already low prices of routine vaccines are assumed to remain constant, but doses change as forecast in Mongolia’s 2011 cMYP. Total projected vaccine expenditures rise from US$2.3 million in 2012 to US$4.4 million in 2015.

**Figure 1: Projected Total Vaccine Expenditures with Pneumo Introduction in 2014**

Figure 2 shows the ramp up in expected expenditures for the government, assuming that HPV is scaled up nationally, starting in 2013. At present, the vaccine has been introduced just on a trial basis. Total projected vaccine expenditures would rise from US$2.3 million in 2012 to US$5.0 million in 2015.

**Figure 2: Projected Total Vaccine Expenditures with HPV introduction in 2013 and Pneumo in 2014**

Figure 3 also adds in rotavirus vaccine, but its introduction is assumed to start in 2019 so only affects costs in that year and beyond.

**Figure 3: Projected Total Vaccine Expenditure with Pneumo Introduction in 2014, Rotavirus in 2019**

These scenarios present only part of the cost implications of new vaccine introductions as cold chain expansion and service delivery costs are not included. As mentioned above, the government believes that existing cold chain capacity would be sufficient for HepA nationwide introduction, but insufficient for PCV and Rotavirus vaccine introductions. New vaccines almost always have incremental service delivery cost implications, unless they are replacement vaccines with cost savings. HPV vaccine in particular is expected to have higher incremental service delivery costs as the vaccine will be delivered in a school-based setting in Mongolia, which is a new delivery channel.

Projected costs should also be evaluated against projected benefits. In evaluating the selection and phasing of new vaccine introductions, cost effectiveness analyses would be useful to carry out, even if done in an approximate way. The analyses should consider the benefits of the vaccines against the costs (including cost savings from medical treatment), and alternative interventions that might exist to address the health problem. Since the government has not fully committed to either HPV or HepA introduction (at least they are not included yet in the immunization schedule), this is a useful point to re-examine what are the top priorities for new vaccine introductions considering alternatives that exist.

In addition to cost-effectiveness considerations, there is the practical question of whether the new vaccines are likely to be affordable. Mongolia became the fastest growing Asian economy in 2011, with a 17.3% growth rate. The IMF projects continued rapid growth in real terms (17% for 2012, 12% for 2013, 12% for 2014, and 5% for 2015)[[2]](#footnote-3). Government spending is growing rapidly, powered by rapidly growing tax revenues. The government is taking measures to support fiscal sustainability through its Fiscal Stability Law which is intended first to help avoid adverse impacts from too rapidly growing government spending during periods of rapid economic growth, as well as help buffer the economy in the event of commodity price shocks. While there should be ample growth nonetheless in the Ministry of Health’s budget, the Ministry of Health needs to be prepared to make clear and effective arguments for new vaccine introduction with the Ministry of Finance in order for these vaccines to be included in the *investment* budget. A clear picture of the cost-effectiveness and economic benefit analysis of new vaccine introductions could lay the basis for priority-setting.

One concern is that the government spending on health as a share of GDP and as a share of total government spending has been declining in recent years (Figure 4). Looking to global experience, income growth usually leads to *slow increases* in public spending on health’s share of GDP and its share of total government spending, not *decreases*.

**Figure 4: Government Health Spending as a Share of GDP and overall Government Spending, 2000-2011**

Source: Health Indicators 2011, Government of Mongolia, State Implementing Agenda of Health and WHO National Health Accounts database.

Figure 5 makes a more optimistic assumption than current trends in Mongolia, based on international experience, by projecting that government spending on health keeps up with the rate of GDP growth over the medium term. It presents projected total vaccine expenditures as a share of projected government spending on health. All three scenarios show an increase in the share of government spending on health to vaccines up until 2015, as expected as the government invests in new vaccines. After 2015 this starts to fall (driven largely by the continued increases in government spending in health).

**Figure 5: Total Projected Vaccine Costs as a Percent of Public Spending on Health – 3 Scenarios**

Vaccines are important investments in health. Whatever vaccine portfolio is selected, it needs to be presented to the Ministry of Health and Ministry of Finance with a clear and compelling “investment case” about how the vaccines were selected and what benefits are expected to occur, against the investment costs.

1. **Key remarks and observations**

* The government is fully financing all of its routine vaccines, with the exception of pentavalent, which is financed by both the government and GAVI. The government is exceeding its co-financing obligations for pentavalent and should have no difficulty ramping up its share of costs to fully cover pentavalent vaccine by the time GAVI support ends in 2015.
* With rapid economic growth, Mongolia is in the enviable position of being able to introduce additional vaccines, provided it can make a clear investment case within government for these new investments. Cost-effectiveness analyses, which lay out the expected costs (against cost savings such as medical treatment avoided) and benefits of each vaccine, will help make the investment cases.
* The government is introducing HPV on a “trial” basis with donated vaccine and external donor (MCA) support for introduction and operational costs. HepA is introduced but it not yet an official “routine” vaccine. At this juncture, before any further vaccines are added to the routine schedule, government needs to carefully weight what its priorities should be for new vaccine introductions given the possibility of HepA, HPV, PCV, and Rotavirus vaccines introductions, with their differing costs and benefit profiles.
* Potential cost savings in product choice and presentation should be examined. HepA is costing the government approximately $13 per dose. If the government commits to its inclusion in the immunization schedule, could a quality product/presentation be procured at lower cost? Unfortunately, there is no hepatitis A vaccine currently prequalified by WHO. The vaccine is not available through the UNICEF Supply Division. Product/presentation choice could also be reviewed for pentavalent vaccine, as discussed elsewhere in the document. Pneumococcal vaccine could be procured with the AMC subsidy given that Mongolia is a formerly GAVI-eligible country. Also the government could also assess potential savings in non-routine vaccines such as Yellow Fever and Men A/C.
* Government spending on health is declining as a share of total government spending which a worrisome trend is given the importance of health to reaching the millennium development goals, improving overall welfare, and supporting economic development. This should be raised with the Ministry of Finance.

1. Annual Report of the Immunization Fund Activities in 2011, December 25, 2011. [↑](#footnote-ref-2)
2. IMF, World Economic Outlook Database, April 2012. [↑](#footnote-ref-3)