

Gates Foundation's decade of vaccines

The GAVI Alliance celebrated the tenth anniversary of its foundation on Jan 29 this year. During its 10 years GAVI has overseen the delivery of vaccines to around 250 million children in the world's poorest countries, a programme that has probably averted around 5 million deaths.

To mark GAVI's birthday, the Bill and Melinda Gates Foundation announced that it will commit US\$10 billion over the next 10 years to a so-called decade of vaccines—ie, research and development and delivery of vaccines to the world's poorest. As an agency whose role is vaccine delivery, rather than research and development, it is not clear how much of the Gates billions will be coming to GAVI. However, GAVI is already the foundation's largest grantee, having received \$1.5 billion in its 10 year history.

Other major GAVI donors are national governments, of which 16 have contributed to the alliance plus the European Commission. Countries that have donated the most to GAVI's core funding include Canada, the Netherlands, Norway, the UK, and the USA. Although the direct donation made by Gates far outstrip those made by any national government, France and the UK have committed billions of dollars to a funding mechanism called the International Finance Facility for Immunisation and other governments have promised substantial amounts to this scheme.

GAVI currently disburses around \$1 billion per year among the 65 countries in which it supports vaccination programmes. The alliance focuses its activities on delivery of a childhood pentavalent vaccine that protects against diphtheria, tetanus, pertussis, hepatitis B, and *Haemophilus influenzae* type b. However, to roll out this vaccine to all 65 countries by 2015, plus achieve its goal of adding pneumococcal and rotavirus vaccines to the immunisation schedule, will require an additional \$3 billion.

A lot more than just wishful thinking has gone into Gates' decision to donate \$10 billion. A model developed at the Johns Hopkins Bloomberg School of Public Health (Baltimore, MD, USA), indicated that 90% vaccine coverage—including the rotavirus and pneumococcal vaccines—would prevent the deaths of 7.6 million children younger than 5 years between now and 2020. Adding the malaria vaccine, which is undergoing clinical trials, from 2014 could save an additional 1.1 million lives. The Gates Foundation will certainly not be funding this expansion in vaccine coverage on its own, but its financial commitment

should act as an incentive for donor governments to provide the additional funds to achieve 90% coverage with childhood vaccines in developing countries within the next 10 years.

In addition to the diseases already mentioned, vaccination against measles will likely be targeted for some of the Gates' billions. Progress in preventing deaths from measles has been remarkable, with around 82% of those eligible worldwide now receiving vaccine and the number of measles-related deaths falling from around 750 000 in 2000 to 164 000 in 2008. GAVI does not currently fund measles vaccination programmes; rather, another international collaboration, the Measles Initiative, provides technical and financial support for national vaccination programmes in developing countries. Other areas that might benefit include the provision of autodisposable syringes that cannot be reused, funding for new vaccines against group A meningococcal meningitis and against tuberculosis, and perhaps even a final push to eliminate polio.

Although the life-saving benefits of vaccination are beyond question, no immunisation programme is without an element of controversy. As pointed out in Newsdesk, GAVI is optimistic about rolling out pneumococcal vaccine on a large scale to developing countries, because it believes the cost of the vaccine can be reduced by 90%; however, little research has been done on the public health effect of widespread pneumococcal vaccine use in the targeted countries—might there, for example, be replacement of the vaccine pneumococcal serotypes with other serotypes, thus making the vaccine only temporarily effective? Given the present influenza pandemic, some of the Gates money could be spent on researching the effect of influenza in developing countries and, if necessary, developing vaccines against influenza that are cheap enough for widespread use in these countries.

These caveats are, of course, minor compared with the beneficial effect on global health that the commitment made by the Gates Foundation is likely to have. The foundation does need to set out a clear plan for how it intends to disburse its money over the decade of vaccines. Nevertheless, many more national governments than are currently backing global vaccine coverage should be inspired to follow the lead taken by the foundation.

■ *The Lancet Infectious Diseases*



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For more on **polio eradication** see **Newsdesk** page 148

For the **GAVI Alliance** see <http://www.gavialliance.org/>

For more on the **Gates Foundation's Decade of Vaccines** see <http://www.gatesfoundation.org/vaccines/Pages/decade-of-vaccines.aspx>