



Report to the GAVI Alliance Board

4-5 December 2012

Report of the Chief Executive Officer

A thought piece on immunisation and the Post-2015 Development Agenda

Redefining a fully immunised child – a 21st century routine immunisation indicator

Discussions are well under way to shape the Post-2015 Development Agenda (post-2015 agenda). The next set of development goals represent an opportunity for us to rethink what makes development that is inclusive, inspiring, innovative, and applicable to all people. It is an opportunity to build on lessons learned, but also to create a vision for the future for our next generation to take forward.

The United Nations Secretary General has urged the world to be bold and ambitious when we define the next chapter in development. While global goals promote global solidarity, there is a strong call for greater flexibility in the next chapter of development - with goals and targets that can be tailored for global, regional and country-level impact.

Health is at the core of development. Like other global health stakeholders, the GAVI Alliance is promoting the inclusion of at least one specific health goal. Goals, targets and indicators should resonate with the general public, yet be robust enough to meet some of the world's most complex economic, environmental, and social issues. These goals and indicators need to make sense within a 21st century context.

Below the health goal will be a series of indicators. There are good reasons to include a health indicator that speaks to routine immunisation. The evidence of the health and economic benefits of vaccines demonstrate that immunisation is one of the most successful and cost-effective public health interventions. Immunisation offers protection against a myriad of preventable diseases, avoiding catastrophic health expenditures for both individuals and societies and improving productivity.

Routine immunisation coverage is also a proxy indicator of the strength of a health system¹. It is also a societal measure to assess the extension of services to those hardest to reach, and a measure of an individual's right to lifesaving services.

An indicator to measure global progress to achieve full routine immunisation coverage therefore addresses health systems, equity, and human rights. It is applicable to all countries - no matter if rich or poor - the target is for every child to have the opportunity to be fully immunised.

¹ A fully-functioning immunisation system comprises a well-trained work force, robust vaccine supply and distribution systems, and strong management and monitoring functions.

I invite the Board to consider and hopefully support a new ambitious indicator – one that is directly related to a new concept for measuring routine immunisation while simultaneously serving as a measure that cuts across several domains of development.

This paper examines the implications and feasibility for an indicator that embraces the ambition of “fully immunised children”, and brings its measurement into the 21st century.

Routine immunisation – the next generation

The GAVI Alliance mission is focused on increasing access to immunisation. We care about three things: children not reached with vaccines; children reached but coverage is incomplete (drop out); and those fully immunised. All three require our attention; our goal should be to minimize and ultimately eliminate the first two and we have a moral imperative to strive to maximize the latter – fully immunised children.

What would a 21st routine immunisation indicator look like?

In 1974, when the Expanded Programme for Immunisation (EPI) was launched, DTP3² was identified as the indicator to measure progress for improved routine immunisation coverage. In 1979, UNICEF launched the Universal Child Immunisation initiative and its indicator to measure progress was also DTP3. In 2000, at the time of defining the MDGs, measles vaccination coverage was considered a marker of access to child health services, and therefore included as an indicator of progress towards achieving MDG 4. However measles immunisation coverage rates are often augmented by dedicated campaigns (“supplementary immunisation activities, SIAs”) and are therefore not a robust measure of the strength of health services, unlike routine immunisation.

Over the past 40 years, as a global community, we have based the measurement of immunisation coverage on DTP3 and measles vaccine coverage. The technology of vaccines has moved on. New formulations of vaccines have been widely adopted and new vaccines have been recommended for universal routine use. For example, according to WHO data, only 33 countries use the traditional DTP vaccine with three antigens³. By 2015 all GAVI eligible countries will have switched to pentavalent⁴, a new formulation that GAVI helped to catalyse. New vaccines, targeting some of the largest killers of children, such as those against pneumococcal and rotavirus, have also been added to WHO’s recommended routine immunisation schedule⁵.

A fully immunised child - an indicator for the 21st century

A fully immunised child, as a health target, would be easily understood, has global reach and, while data quality remains an issue, progress can be measured. It would include a new

² Three doses of diphtheria-tetanus-pertussis

³ DTP for infant vaccinations, i.e. those giving at least 3 doses to children under 1 year.
http://apps.who.int/immunization_monitoring/en/globalsummary/scheduleselect.cfm

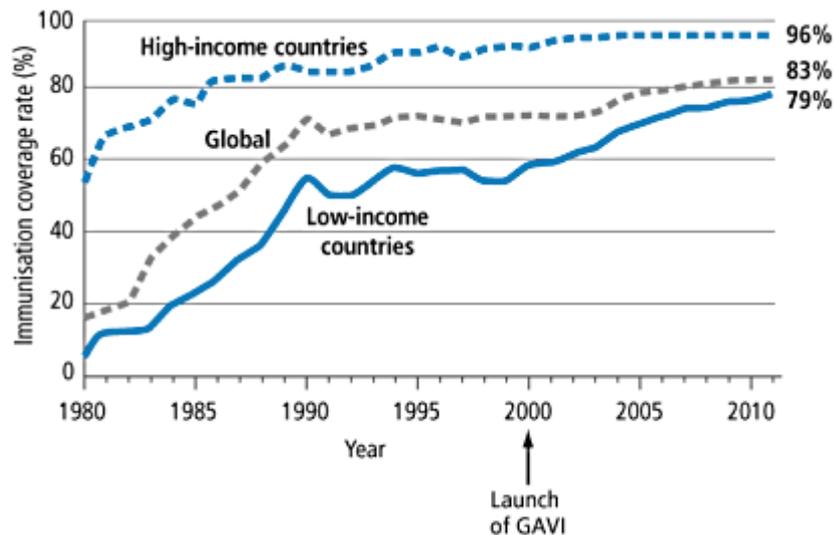
⁴ DTP-hep B-Hib

⁵ WHO recommends the following antigens for routine immunisation: BCG, Hep B, Polio, Diphtheria, Tetanus, Pertussis, *Hib*, Pneumococcal, Rotavirus, Measles, Rubella see
http://www.who.int/immunization/policy/immunization_routine_table1.pdf

measure, beyond the standard of DTP3 to include all WHO universally recommended antigens for child immunisation.

Since 1974, when EPI was launched, the DTP3 coverage worldwide has improved, and now reaches 4 out of every 5 children worldwide. It tells us that the foundation for routine immunisation is there and can be improved. As such DTP3 should continue to be leveraged as an indicator to measure the “platform”.

Image 1: DTP3 rates in low-income countries



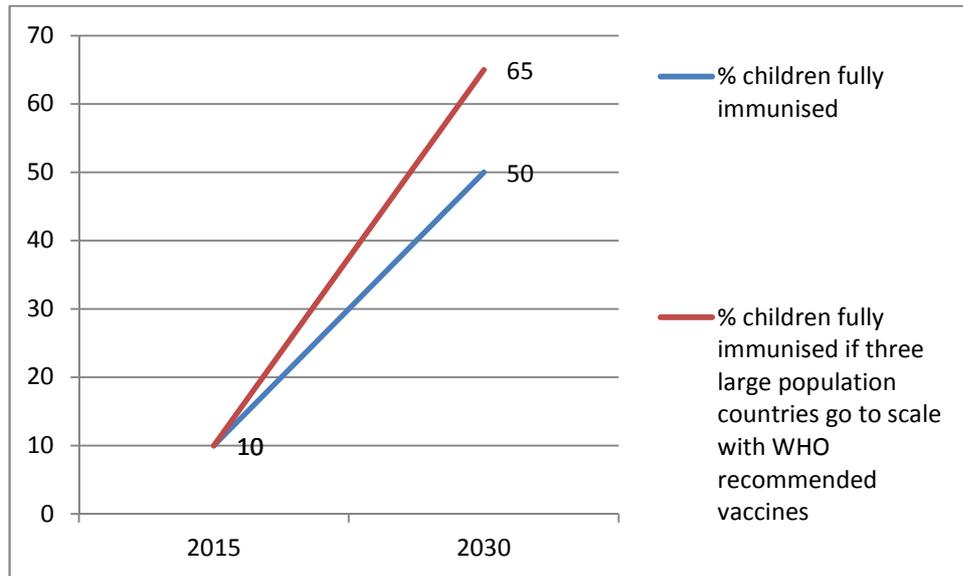
As of November 2012, WHO recommends 11 antigens⁶ for universal infant use as part of a routine immunisation programme. It is noted that there are additional recommendations for individual antigens which outline considerations for use relating to disease burden, cost effectiveness and contraindications. Adjustments and refinements to the target of a fully immunised child will need to be considered as we move forward. However the idea of expanding the indicator beyond DTP3 should be pursued.

For the purposes of this paper we conducted a modelling exercise (see image 2). We recognise that this exercise does not capture the additional recommendations for each antigen as put forward by the WHO, it is for illustrative purposes only. Based on this exercise of forecasting vaccine introduction and projected coverage, by 2015 only approximately 10% of children globally would have received all required doses of the 11 antigens recommended by WHO. By 2030 this figure would reach approximately 50%.

Again for illustrative purposes, we present a second scenario to demonstrate that if only three additional large population countries introduce all of the WHO recommended vaccines and take them to scale - 2030 estimates will rise to approximately 65%. This is still not good enough. If all countries in the world were to introduce all of the recommended vaccines and take them to scale while strengthening their routine systems, nine out of every ten children would be reached. This is an aspiration worth striving for.

⁶ HPV is also globally recommended by WHO, however as the only non-infant vaccine measuring its coverage presents additional complexities.

Image 2: increase in the approximate percentage of children forecasted to fully immunised 2015-2030⁷



As a baseline 10% is low, but DTP3 rates show that the delivery platform is present and countries – even very low income countries – can achieve high immunisation coverage through their routine systems.

Household surveys would be needed to measure this indicator, since most countries’ routine reporting systems track coverage by vaccine rather than by child. Household surveys measure on a per child basis. Greater use of such surveys—as well as expanded use of nominal registries that record sufficient information to track the immunisation status of individuals—would enrich the data and information available to managers and decision-makers at the country level, as well as other stakeholders, on progress made in immunisation and other health programmes.

Through the post-2015 agenda we can cultivate a global movement to focus on routine immunisation. This will have an exponential impact on these 2030 estimates - resulting in more children living healthier and productive lives.

⁷ estimates % of children fully vaccinated by 2015 and 2030, were calculated based on the following assumptions:

1. BCG – some countries e.g., France appear to use a targeted vaccination approach rather than universal coverage for all (France since July 2007). This would account for zeros in 2011 and the following years.
2. PCV3 (Peumo) – even with conservative estimates, we estimated that by 2030 if a country had introduced PCV at least 10 years before, to have reached similar coverage levels like DTP3
3. HepB – coverage estimates should eventually be similar as with DTP3/Penta3
4. Hib3 – as for HepB above
5. In addition, there is no good reason for significant differences between DTP3 and Polio3 as in many developing countries the schedules are such that they are given at the same time. Therefore the coverage for Polio is similar to DTP3
6. If the year of introduction is different from 2015, we consider that the coverage for the following years is equal to the minimum of the other vaccines.
7. Calculation rule: +1% point every year up to 90%.

Board support

Through the next chapter for global development, we have the opportunity to overcome the hurdles that remain in delivering vaccines to every corner of the planet. We therefore request the Board to join the efforts to advocate for a fully immunised child as a bold but practical measure of global health and development.

The post-2015 agenda provides an unprecedented opportunity to unite the world in improving the lives of millions of children by ensuring access to new and existing vaccines. Galvanising global efforts to ensure every child is fully immunised will yield continued dramatic improvements.

GAVI's public private partnership model is lauded as a 21st century approach to development, thanks to a focus on market shaping and leveraging the breadth of skills and attributes of the private, public and non-governmental sectors. Promoting a new indicator for routine immunisation, and refreshing the DTP3 brand, represents an opportunity to illustrate relevance of immunisation to health and development in the 21st century.