



## EVI 15<sup>th</sup> Anniversary Symposium on Global Health and Diseases of Poverty

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### Summary of presentations

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In her welcome message, **Odile Leroy**, Executive Director of EVI, indicated that the aim of the EVI 15<sup>th</sup> Anniversary Symposium was to show the origins of EVI, where it currently stands, and where EVI wants to position itself in the future. She pointed out that different aspects of the needs in vaccine research and diseases of poverty would be covered during the meeting. The symposium participants were also welcomed by **Marita Troye-Blomberg**, outgoing chair of the EVI Board, and by the new chair, Terry McWade. **Terry McWade** indicated that the current economic situation is affecting the availability of funding for the type of activities supported by EVI, and stressed the importance of positioning EVI in the strategically right place. He pointed out that in his opinion the partnerships with laboratories and industries should be strengthened and expanded.

**Odile Leroy** gave an overview of the history of EVI which was originally established in 1998 in Bergen, Norway, as European Malaria Vaccine Initiative (EMVI), and subsequently moved to the Staten Serum Institute in Copenhagen, Denmark. In 2009, EMVI was transformed into EVI, with a corresponding expansion of EVI's mission to target all diseases of poverty, coupled with a move to Heidelberg, Germany. Odile Leroy explained that EVI is following an integrator business model, whose clients are the scientific community of diseases of poverty. She mentioned that the malaria vaccine community has been a pioneer in promoting cross boarder and cross discipline working relationships, adding that although much harmonisation and standardisation has already been achieved, a lot remains to be done. She stressed that EVI aims at thinking globally so that Europe can continue to play a role in vaccine development, and that political commitment was now needed to formalise a global network of relevant vaccine institutions.

**Stefanie Meredith**, independent consultant on global health, subsequently presented the concept of Product Development Partnerships (PDPs). She pointed out that PDPs –non-profit organisations that accelerate the development of affordable medical products for neglected tropical diseases, and ensure access to these products for those who need them - have already launched approximately 20 new products, and by their involvement these organisations have demonstrated they have managed to revitalise and stimulate global investment in Research and Development (R&D) for diseases in the low income population. She stressed that the health impact is much more important than the product itself.

**Rainer Sauerborn**, University Clinic Heidelberg, Germany, highlighted in this presentation the important link between climate change and diseases of poverty, and pointed to the health impact of climate changes on (re)emerging infectious diseases, especially in low and middle income countries. He ended the his talk by stressing the importance of raising the awareness of policy makers in understanding the health impact of climate changes and the need to stop the global warming and by this to improve the health situation.

**Ole Olesen**, DG Research, European Commission (EC), highlighted the important role the EC plays in supporting global health. He informed the audience that the EC worldwide is currently the third-largest funder of R&D into global health issues, and that in the context of the preparation of the up-coming Horizon 2020 Framework Programme the EC is strongly supporting the further strengthening of this area, by promoting a further budget increase for the entire Framework Programme as well as by the expansion of the scope of various initiatives and funding schemes foreseen within Horizon 2020.



**Arnaud Chêne**, Inserm, France, presented the PRIMALVAC project on behalf of Benoit Gamain. PRIMALVAC –part of EVI’s project portfolio- started in December 2011 and aims at developing a vaccine to prevent pregnancy associated malaria (PAM). PAM is responsible for 200,000 fetal and infant deaths and causes at least 10,000 maternal deaths every year. He informed the audience about their efforts to develop a vaccine against PAM based on the so-called var2CSA antigen, currently the leading vaccine candidate for this type of malaria. He presented achievements made during the first year of the project, in particular concerning the progress made regarding the identification of the most suitable var2CSA fragment, and the expression system to be used for the production of the antigen. He stressed the importance of obtaining proof of concept that a var2CSA based vaccine candidate can be designed.

**David Salisbury**, Department of Health, London, United Kingdom, presented to the audience the Decade of Vaccines Collaboration (DoV) which aims to enhance global collaboration and promote country ownership in immunisation, bringing together all stakeholders across the entire vaccine chain. The objectives established for the DoV include averting hundreds of millions of cases and future deaths from infectious diseases, thus gaining billions of dollars of economic productivity, and contributing to exceeding the Millenium Development Goal 4 target for reduction in child mortality. To enable the achievement of these ambitious objectives, a global vaccine action plan has been developed, including strategic objectives and related high level actions. As examples of activities contributing to achieving strategic objective 6 -country, regional and global R&D innovations maximise the benefits of immunisation- David Salisbury highlighted to initiatives, the ADITEC collaborative research programme financed by the EC, and EVI with its objective to develop effective, accessible and affordable vaccines against diseases of poverty.

**Charles Mgone**, European & Developing Countries Clinical Trials Partnership (EDCTP), The Netherlands, summarised the achievements of EDCTP regarding the development of tools to fight poverty-related diseases, the establishment of co-operation and partnerships between the many countries involved, and the development of capacities in sub-Saharan African countries. He presented an outlook on the up-coming EDCTP-2 under the Horizon 2020 Framework Programme, and highlighted innovations foreseen which include a higher level of funding, an expanded scope concerning the activities that will be supported, and a stronger relationship with partners from the private sector and international development, amongst others.

**Nicolas Collin**, Vaccine Formulation Laboratory (VFL) at University of Lausanne, Switzerland, presented an overview of vaccine adjuvants, their definition and use. He stated that adjuvants are often contemplated as key components of modern vaccinology, and that it takes usually a long time to license an adjuvanted vaccine. He mentioned also that vaccine formulation expertise was one weak link in vaccine development, and that it was important to pursue efforts in spreading more this expertise. He then presented a case study of the technology transfer of an oil-in-water emulsion to Bio Farma in Indonesia for use in H5N1 influenza vaccine, an activity at the VFL supported by US Health and Human Services and GIZ. He ended his talk by presenting other VFL activities, notably in the context of the TRANSVAC project, a vaccine infrastructure project coordinated by EVI and financed by the EC under the 7th Framework Programme.

**Suresh Jadhav**, Serum Institute of India, presented the important role of the Developing Country Vaccine Manufacturers Network (DCVMN) in supplying vaccines to the GAVI Alliance and UNICEF. He explained the enormous impact of lower prices when vaccines are produced in developing countries, and presented several examples supporting his claim. He stressed the importance of developing countries vaccine manufacturers’ production capacities and high volume-low cost business models in ensuring access at affordable prices, and acknowledged the important role in capacity strengthening which many European institutes played by facilitating technology transfer to manufacturers in developing countries.

**Jean-Paul Priels**, Masthercell, Belgium, talked about the role of the pharmaceutical industry in vaccine R&D. He started his talk by highlighting the fact that five big pharmaceutical companies share 90% of the vaccine market. To analyse their involvement in the development of vaccines for five diseases of poverty -Malaria, TB, HIV, RSV and Dengue- he presented the results of a patent portfolio analysis performed for the five big pharmaceutical companies which concluded that vaccine R&D for these diseases of poverty is not a core activity of these pharmaceutical companies. His principal recommendation was that a change of business model is urgently required in order to achieve a breakthrough in vaccine research for the aforementioned diseases of

poverty, and that there is a strong need for a collaborative effort and a combination of platforms and technologies in order to develop a successful vaccination strategy.

**Joachim Hombach**, World Health Organization (WHO) gave a talk on vaccines in low income countries. He said that the mortality of children under five was globally decreasing, mostly due to a reduction in deaths from diarrheal diseases, pneumonia and especially measles. He stated that worldwide 7.6 Million deaths still occurred in children under five, 50% of which occurred in five countries. 64% of the deaths were due to infection. He therefore asked the question of whether vaccines could reduce neonatal deaths. For this, the causes of these deaths would have to be better known. He mentioned two studies (PERCH and ANISA), which look at severe respiratory, bacterial and viral death causes in African and Asian countries, and stressed that these studies are important in order to plan the right interventions. He also informed the audience that maternal immunisation had a positive effect on newborns because the mothers are healthier throughout pregnancy, and some immunity is transferred to the baby as well. Flu vaccination was recommended for pregnant women since they were especially susceptible to the disease. He pointed out that the safety of the vaccine for the fetus still had to be evaluated. RSV and *Streptococcus B* vaccinations are currently in the pipeline.

**Günther Taube**, Gesellschaft für Internationale Zusammenarbeit (GIZ), Germany, started with an overview of the organisation. He informed the audience that GIZ was working in 130 countries and currently employs approximately 20,000 staff, advisers and other experts involved in the organisation's projects. The key areas GIZ is working in are health system strengthening, sexual and reproductive health, and HIV/AIDS. He mentioned that regarding activities in the health area, GIZ currently works in approximately 50 countries, in particular in Africa. He subsequently presented several examples of GIZ's involvement in the health sector, including a health sector support programme in Nepal, in which access to effective health care services is being improved in particular for disadvantaged population groups, and a global initiative on pandemic preparedness which objective is to strengthen the resilience to public health emergencies in the context of health systems strengthening and multi-sectorial cooperation.

In her closing remarks **Odile Leroy** mentioned that the meeting greatly helped with regard to revising the current EVI strategy, and that what lie ahead would be a focus on partnerships, not only in Europe but on a global level. She pointed out the particular value of the model proposed by Jean-Paul Prieels, namely an alternative business model for vaccine development involving pharmaceutical industry R&D, academia, non-governmental organisations (NGOs) and other stakeholders. She thanked the participants and the EVI staff for their participation at the meeting.