40 Years of Commitment to the Expanded Program on Immunization in Africa

www.amp-vaccinology.org
AMP and EPI: A Common Vision, A Common Goal

Since 1972, the French nonprofit organization Agence de Médecine Préventive (AMP) has been committed to promoting better health and immunization worldwide, particularly in sub-Saharan Africa. It was only natural, then, that it become a champion of the Expanded Program on Immunization (EPI) of the World Health Organization (WHO) when it was launched in May 1974. From the start, the goal of the EPI has been to ensure that all children throughout the world benefit from life-saving vaccines – a goal to which AMP adheres.

AMP continues to support EPI – now in its 40th year – in all countries where it works. This anniversary celebration is especially meaningful to AMP, given its historic commitment to the program, starting in Francophone Africa in the 1970s and 1980s and expanding to other regions during subsequent decades.

The EPI from 1974 to Today

When the EPI was launched in 1974 through a World Health Assembly resolution (WHA27.57), vaccination coverage against six potentially lethal diseases – polio, diphtheria, tuberculosis, pertussis (whooping cough), measles, and tetanus – was estimated to be fewer than 5% among children less than one year of age in Africa. Today, UNICEF estimates that 83% of the world’s children have received these vaccines during their first year of life.¹

The EPI has expanded over the years to include other life-saving vaccines: hepatitis B vaccine to prevent a leading cause of liver cancer and chronic liver disease, haemophilus influenzae type b (Hib) and pneumococcal conjugate vaccines to combat the leading causes of pediatric bacterial pneumonia and meningitis and rotavirus vaccine to combat the leading cause of infantile acute gastroenteritis.

While challenges remain in the developing world, EPI has made and continues to have a significant impact on child health across the globe. It is widely recognized that immunization remains one of the most cost-effective health interventions of all time.

¹. www.unicef.org/immunization/index_coverage.html
Overview of AMP Support to the EPI for 40 Years and Counting

At the time of the EPI launch, AMP was already working in Francophone Africa to promote the goal of child immunization, and has not stopped since.

During the 1970s, AMP supported the EPI by communicating about the program to African leaders and conducting research on vaccine-preventable diseases (e.g., meningococcal meningitis, poliomyelitis) to help guide EPI policies.

During the 1980s, AMP focused on improving immunization coverage in Francophone Africa by tackling major immunization system challenges including immunization staff training and vaccine pricing, among others.

During the 1990s, with coverage having greatly increased in sub-Saharan Africa, AMP turned its attention to system-wide issues such as cold chain, injection safety, health economics, financing and program sustainability.

The 2000s saw increased collaboration with diverse public and private health stakeholders and the development of innovative research and technical support projects, with a greater geographic scope. AMP was associated to the creation of the Global Alliance for Vaccine and Immunization.

In the 2010s, AMP has renewed its focus on the EPI goal of universal coverage, supporting work to improve coverage in Africa through health system strengthening and research.

About AMP

Founded in 1972 by Jacques Monod, Charles Mérieux, and Philippe Stoeckel, the Agence de Médecine Préventive (AMP) is dedicated to improving the health and well-being of those most in need across the globe.

AMP works with public and private actors to:

- Enhance scientific knowledge in support of evidence-based health policies
- Support the introduction and use of vaccines
- Strengthen immunization service delivery and logistics
- Develop human and institutional capacity through tailor-made training programs
- Promote innovation in field vaccinology

AMP supports countries to develop sustainable and effective immunization services, policies, and systems

Since its creation in 1972, AMP has held several international conferences through the past 40 years

- 1972: AMP’s creation
- 1974: First SIVA in Bamako, Mali
- 1981: Second SIVA in Dakar, Senegal
- 1987: Third SIVA in Niamey, Niger
- 1994: Fourth SIVA in Yamoussokro, Côte d’Ivoire
- 1996: First conference on Hib disease in Asia, Dakar, Senegal
- 2006: Second International Seminar on yellow fever in Africa, Bamako, Mali
- 2010: AfrFlu conference, Marrakech, Morocco

AMP’s creation

Hyperlink to About AMP

Hyperlink to Africa

Hyperlink to ASDA

Hyperlink to Africa
1970s: Laying the Groundwork for EPI

AMP’s support of the EPI dates back to one year before the program’s creation. In 1973, AMP established its first office in Bobo-Dioulasso, Burkina Faso (then Upper Volta), becoming one of the only field-based organizations at the time devoted to sustainable primary health care in West Africa.

With funding from the French Ministry of Cooperation, Institut Pasteur, and Fondation Mérieux, AMP began a collaboration with the OCCGE (Organisation de coordination et de coopération pour la lutte contre les grandes endémies) and OCEAC (Organisation de Coordination pour la lutte contre les Endémies en Afrique centrale) to enhance disease surveillance, diagnostics, and immunization.

In 1974, during EPI’s rollout, AMP organized the first International Seminar on Immunization in Africa in Bamako, Mali. This event brought together national, regional, and international stakeholders to discuss issues related to implementation of vaccination programs in West Africa, particularly the effective and rational use of vaccines. It also provided the opportunity to present the EPI and to seek buy-in among local public health authorities.

Simultaneously, AMP sought to advance EPI goals through its work in Bobo-Dioulasso with local partners. In addition to its partnerships with OCCGE and OCEAC, AMP collaborated with the Centre Muraz from 1973 to 1974 on the first field study to evaluate the use of polysaccharide serogroup A meningococcal vaccine in Koudougou, Burkina Faso and Koutiala, Mali. This vaccine was used shortly afterwards to immunize 88 million people in Brazil in 1975 and became the primary tool for responding to outbreaks in the African meningitis belt. The need to distribute and manage this vaccine contributed to bringing additional resources and attention to EPI systems in the region.

Starting in December 1975, AMP became involved in a collaboration to redesign inactivated polio vaccine (IPV). This effort involved AMP’s co-founder and current chairman, Philippe Stoeckel, Dr. Jonas Salk, Salk Institute for Biological Studies, Dr. Charles Mérieux, Fondation Mérieux, Dr. John Petricciani, U.S. Food and Drug Administration, and Drs. Hans Cohen and Toon Van Wezel from the Netherlands National Institute for Public Health and the Environment (RIVM). This group sought to establish a new IPV formulation for use by EPIs in combination with diphtheria, tetanus, and pertussis combination vaccine (DTP). After simultaneous immunogenicity studies in Finland (led by Dr. Kaisa Lapinleimu), Sweden (led by Dr. Margaretta Böttiger), Burkina Faso, and Mali, the researchers proposed a new eIPV vaccine (containing 40-8-32 D-antigen per dose for types I, II, and III, respectively) in 1981. These studies were coordinated by the Forum for Immunization Research (FAIR), managed by AMP.

Kits for biological confirmation of yellow fever, monkey pox, cholera and measles were assembled in a portable container distributed to health district managers of OCCGE member countries.
1980s: Partnering for Improved Immunization Coverage

Throughout the 1980s, AMP collaborated with WHO, UNICEF, governments and other partners in support of this aim in West Africa, particularly in Senegal (Kolda, Sedhiou, Velingara) and in Burkina Faso (Koya, Koupgoussi, Boulsa) with the support of Stichting Redt de Kinderen (SRK) and RIVM of the Netherlands.2

At the same time, AMP worked on training local health workers in epidemiology and prevention. AMP partnered with the U.S. Centers for Disease Control and Prevention (CDC) in 1983 to develop applied epidemiology training. This resulted in the creation of the Institute for the Development of Applied Epidemiology (IDEA), which offered training to both French and Francophone African health professionals, including those involved in their EPIs.

Moreover, AMP worked with the Fondation Méreieux to ensure adequate DTP supplies as immunization coverage expanded. For example, the two institutions collaborated on the development of tiered pricing, leading to improved access to EPI vaccines in Francophone Africa and beyond.

Also in the 1980s, AMP expanded its work championing EPI and vaccinology through the organization of additional International Seminars on Immunization in Africa. The second took place in February 1981 in Dakar, Senegal and the third in September 1987 in Niamey, Niger. These seminars had the aim of supporting EPI activities and promoting a comprehensive view of vaccines and immunization. This view was inspired by Dr. Salk’s concept of “field vaccinology,” defined as “the application of basic knowledge and practical solutions to the development of effective vaccination programs suitable for particular population groups.”3

Following the second SIVA, discussions between Jonas Salk, Robert McNamara, Jim Grant and Ken Warren to which Philippe Stockel was associated, resulted in a meeting at the Rockefeller Foundation European Center in Italy later called “BELLAGIO 1” in 1984 where the “Task Force for Child Survival” was created and Dr. William (Bill) Foege was appointed director.

The Dakar seminar addressed: general issues related to the six EPI target diseases; ongoing polio research, presented by Dr. Salk; burden and epidemiology of diseases such as yellow fever and meningitis; immunization cold chain and human resource challenges; and EPI strategy and performance. The Niamey seminar likewise focused on EPI target diseases, with a follow-up presentation on the latest polio research findings, subsequently published in the 1988 Lancet article “Clinical Efficacy of a New, Enhanced-Potency, Inactivated Polio-Virus Vaccine” (co-authored by AMP and the CDC). Additional seminar topics included vaccine-preventable diseases not included in EPI; vaccines of the future; strategies for total immunization; logistical aspects of immunization program implementation; and management of immunization programs.

2 www.unicef.org/about/history/New Child First CH ESP p03-052 Global Child Immunization.pdf
1990s: Going Further to Support EPI

At the start of the 1990s, international focus shifted from immunization coverage alone to the greater system-wide issues affecting public health and immunization outcomes in Africa.

As such, AMP began to examine issues including safety of injections, health economics, and effectiveness and sustainability of immunization.

AMP’s new focus was reflected at the fourth SIVA, organized by AMP in Yamoussoukro, Côte d’Ivoire in 1994. The aim was to promote inter-country dialogue on how to improve EPIs in Francophone Africa. Specific topic areas included child immunization in Africa; epidemiology and interventions for vaccine-preventable diseases; economy, finance, and research; and development in vaccinology.

Another AMP initiative to support EPI strengthening was the creation, in 1995, of the “EPICPs” training program in epidemiology and health management for district medical officers in West Africa.

Also in the 1990s, AMP pioneered efforts to assess Hib disease burden and draw attention to the potential utility of Hib conjugate vaccines, which by now are in use by EPIs in almost every country globally. In 1996, AMP organized the first conference on Hib disease in Asia to assess current data on Hib burden and identify data gaps to inform decisions related to Hib conjugate vaccine use. At the time Hib vaccine was not used in most of the world and in Asia most experts considered that Hib disease was not a substantial problem.

This was followed, in 1997, by the start of the first vaccine probe study, in this case designed to determine Hib-related pneumonia and meningitis incidence and vaccine cost-effectiveness in Indonesia (see publication list). A collaborative effort with the American NGO PATH and other partners, the study not only reflected AMP’s growing attention to assessing vaccine impact under actual field conditions and immunization financing issues but also AMP’s greater geographic reach in Southeast Asia.

In 1998, AMP convened international stakeholders in Dakar, Senegal to discuss the reemergence of yellow fever in Africa. This meeting drew dozens of global experts and hundreds of African public health officials and ended with a call to action. Several years later, many of the goals of this meeting were achieved through the efforts of the yellow fever vaccine initiative.

Near the end of the decade, AMP got involved with the William H. Gates Foundation, PATH, and other partners to establish a strategic sustainable alliance for immunization. AMP participated in the meeting in Seattle and in the proto-Board of what would become the Global Alliance for Vaccines and Immunisation (Gavi, The Vaccine Alliance) in 2000, and one of the EPI’s greatest supporters.
2000s: New Opportunities in a Changing Global Context Groundwork for EPI

The 2000s were marked by increased global attention to public health and immunization, creating new momentum for AMP and others to support EPIs worldwide. New vaccines and vaccine technologies, a diversity of vaccine providers, additional funding, and global and regional recommendations meant new opportunities for improved immunization.

In this context, AMP continued to push for improved capacity among district-level health professionals in Africa, having identified the health district as a key to improved immunization program performance.

Drawing from its experience with EPIGEPs, AMP developed, in 2002, the EPIVAC® on-the-job training program in applied vaccinology and health management. Targeted mainly at district medical officers in sub-Saharan Africa, this ongoing master’s degree program aims to improve immunization program performance in participating countries. Its unique blended learning design, conceived by AMP’s training department, enables participants to spend a minimum amount of time in the classroom and a maximum amount of time in the workplace.

Many EPIVAC® graduates now work in the EPIs of their respective countries and, as such, can apply lessons learned to the benefit of their peers at district, regional, and central levels. Moreover, through the EpiVac.net network, created in 2007, graduates can stay in touch across borders, sharing their experiences and knowledge to improve immunization and EPI performance throughout sub-Saharan Africa.

The 2000s also marked the deployment of the first LaboMobil® in Burkina Faso in 2002. An all-terrain vehicle, the LaboMobil® is a complementary tool for national reference laboratories that provides support for microbiological analysis of epidemic and infectious diseases, especially acute bacterial meningitis, a continued focus of AMP’s research.

In 2006, in collaboration with WHO, UNICEF, and Pasteur Institute in Dakar, AMP organized a second yellow fever seminar in Bamako, Mali. In the face of the increasing risk of epidemics in Central and Western African countries, the aim was to support the Gavi yellow fever vaccination strategy and to harmonize the organization of effective campaigns.

In the late 2000s, AMP was awarded Bill & Melinda Gates Foundation grants in support of EPI goals, including: “SIVAC” to create or strengthen National Immunization Technical Advisory Groups (NITAGs) in Gavi-eligible and middle-income countries; “Africhol” to improve cholera surveillance and prevention in Africa; and “ADVIM” to enhance advocacy for immunization financing in Benin, Burkina Faso, and Côte d’Ivoire.

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4. Since 2013 the EPIVAC® program has been renamed “EpiVacPlus” to reflect its increasing scope, which now includes technical support, translational research, and network coordination.

5. With funding from Sanofi Pasteur, EPIVAC® was developed by AMP in partnership with governments of eligible countries, participating universities (at the time Paris-Dauphine University and University of Cocody-Abidjan, now Félix Houphouët-Boigny), WHO, UNICEF, and other partners working in Africa.

2010s: Strengthening Immunization and Health Systems

In the 2010s, AMP has continued to support countries to strengthen their health and immunization systems to deliver both routine EPI vaccines and various new vaccines entering the market.

This has been achieved through the continuation and development of projects in vaccinology research, health logistics and supply chain management, medical anthropology, health economics and financing, laboratory support, health policy, human resource advocacy, training, and more.

With epidemiological research remaining a key activity, AMP has led multiple studies and authored peer-reviewed scientific articles on acute bacterial meningitis, pneumococcal and Hib pneumonia, yellow fever, pertussis, polio, influenza, cholera, and rotavirus, examining issues like burden, vaccine impact, vaccine costing and financing, surveillance, and adverse events following immunization.

A significant multi-year surveillance study is “PneumoTône,” launched in 2010 in collaboration with the Togolese government. Using data from the Tôné district of northern Togo, it has provided the first population-based estimates of pneumonia burden in the African meningitis belt. Its second and current phase includes surveillance of pneumonia among adults and evaluation of PCV13 vaccine impact among children. Complementing this study is an evaluation of 13-valent pneumococcal conjugate vaccine immunogenicity among children in Burkina Faso conducted with GCP standards; results from this study will inform decisions on the best vaccine schedule for children in the meningitis belt.

AMP’s health logistics program played a key role in “LOGIVAC,” a joint AMP-WHO project launched in 2011. In support of improved EPI logistics in sub-Saharan Africa, LOGIVAC has contributed to the development of the first-ever French-language bachelor’s degree in health logistics; the creation of a regional reference / resource center; the implementation of a logistics demonstration site in Come, Benin; and a re-design of the Benin vaccine delivery system that is considered a model for the region.

As part of mission funding awarded by Gavi during 2013, AMP now works closely with five African countries and their EPIs – as well as WHO and UNICEF – to provide technical support for new vaccine introductions and immunization coverage improvement. Another recent project with Gavi is “Bobo-PREP” (Bobo-Dioulasso Pneumococcal Research and Evaluation Program), which aims to evaluate PCV13 impact in the region of Bobo-Dioulasso, Burkina Faso.

AMP’s Health Economics and Medical Anthropology program received a grant from the Meningitis Vaccine Project which it used to pioneer assessment of individual household costs and the importance of vaccine for household finances, in this case use of MenAfriVac to prevent serogroup A meningococcal meningitis. Subsequently, AMP received funding from the Bill & Melinda Gates Foundation to assess the costs of meningitis surveillance (to help support MenAfriVac vaccine monitoring) and to evaluate immunization costing and financing in West Africa.

During the current decade AMP has continued to advance its work on cholera. The Africhol program now includes 11 countries across sub-Saharan Africa. In addition to the original funding to support work on cholera surveillance, disease burden, and risk factors, the Bill & Melinda Gates Foundation provided AMP with an additional award to address issues surrounding cholera vaccine use.

With the dramatic occurrence of the Ebola outbreak in three countries in West Africa, AMP has received funding from the US Centers for Disease Control and Prevention to support work on anthropology, communication, surveillance, and health impact assessment. The work will occur in Guinea as well as at-risk countries including Côte d’Ivoire and Burkina Faso.

Extending its historical work on polio, AMP has received funding from the Bill & Melinda Gates Foundation to assess the feasibility of evaluating the sensitivity of environmental poliovirus surveillance in Cap Verde. Depending on the results of this work, the next step would be study implementation.

Additional accomplishments in the 2010s have included the designation, in 2012, of AMP’s health policy and institutional development unit as a WHO Collaborating Centre for Evidence-Informed Immunization Policymaking; and the creation of “economic interest groupings” (EIGs) with African partner institutions to facilitate and institutionalize long-term collaboration. These institutional developments provide AMP with new opportunities to develop effective and appropriate field-based, collaborative projects, for lasting impact on EPIs in all countries where it operates.

Finally, in recognition of its years of dedication to training health staff in West Africa, AMP’s EPIVAC® program has received the “2014 Bill & Melinda Gates Foundation Vaccine Innovation Award.” AMP plans to use the financial component of this award to support additional training activities to further support human resource development in Africa.
Ensuring that all children throughout the world benefit from life-saving vaccines is an ambitious goal. While vaccines prevent between two and three million deaths each year, around 20% of children still miss out. WHO estimates that during 2012, 22.6 million infants were not reached with routine immunization services.

Why? A number of factors come into play: inadequate supply of vaccines, lack of access to health centers, weak vaccine distribution systems, and inadequate knowledge of vaccines (schedule, benefits, safety, and so on). In some cases, children may receive the first vaccine dose, but not the follow-up doses necessary to achieve full immunization benefits.

Having all 22 million children worldwide up-to-date and maximizing the benefit of immunization is a major challenge. It will require continued collaboration to identify innovative solutions and spread evidence-based scientific knowledge on vaccination—to both policy makers and local populations. Fortunately much progress has been made through national EPIs and associated programs.

AMP is proud to participate in the ongoing efforts of countries, supported by key partners such as WHO, UNICEF, Gavi, The Vaccine Alliance, the Bill & Melinda Gates Foundation, and more, to improve the health and well-being of their populations.
Selected AMP publications on polio:


Selected AMP publications on Hib-related pneumonia and meningitis in Nigeria:


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