

**ANNUAL
REPORT**

2018

Network for Education and Support in Immunisation

Saving lives through immunisation



nesi
NETWORK
FOR EDUCATION AND SUPPORT
IN IMMUNISATION



Universiteit
Antwerpen

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| | |
|----------------|---|
| AEFI | Adverse Event Following Immunisation |
| AFP | Acute Flaccid Paralysis |
| BMGF | Bill and Melinda Gates Foundation |
| CDC | Centers for Disease Control and Prevention |
| ECAVI | East Africa Centre for Vaccines and Immunisation |
| ECTS | European Credit and Transfer Accumulation System |
| EMPHNET | Eastern Mediterranean Public Health Network |
| EPI | Expanded Programme on Immunisation |
| EPI-SA | Expanded Programme on Immunisation - South Africa |
| GACVS | Global Advisory Committee on Vaccine Safety |
| GHD | Global Health Development |
| GVAP | Global Vaccine Action Plan |
| HPV | Human Papillomavirus |
| ITMIH | Institute of Tropical Medicine and International Health |
| KMTC | Kenya Medical Training College |
| KRCHN | Kenya Registered Community Health Nursing |
| LIVE | Leading International Vaccinology Education |
| MLM | Mid-Level Management |
| MoH | Ministry of Health |
| MoU | Memorandum of Understanding |
| MPH | Master of Public Health |
| MSc | Master of Science |
| NESI | Network for Education and Support in Immunisation |
| NGO | Non-Governmental Organisation |

LIST OF ABBREVIATIONS

| | |
|------------------|--|
| NITAG | National Immunisation Technical Advisory Group |
| PCV | Pneumococcal Conjugate Vaccine |
| PhD | Doctor of Philosophy |
| SAGE | Strategic Advisory Group of Experts |
| SA-NDoH | South Africa National Department of Health |
| SAVIC | South African Vaccination and Immunisation Centre |
| SMU | Sefako Makgatho Health Sciences University |
| SOMIPEV | Société Marocaine d'Infectiologie Pédiatrique et de Vaccinologie |
| UK | United Kingdom |
| UNICEF | United Nations Children's Fund |
| UNPAD | University of Padjadjaran |
| VACFA | Vaccines for Africa Initiative |
| VLIR-UOS | Flemish Interuniversity Council – University Development Cooperation |
| VPD | Vaccine-preventable disease |
| VSN | Vaccine Safety Net |
| WHO | World Health Organization |
| WHO/AFRO | WHO Regional Office for Africa |
| WHO/EMRO | WHO Regional Office for the Eastern Mediterranean |
| WHO/HQ | WHO Headquarters |
| WHO/IARC | WHO International Agency for Research on Cancer |
| WHO/IVB | WHO Department on Immunisation, Vaccines and Biologicals |
| WHO/SEARO | WHO Regional Office for South East Asia |

Dear colleagues,

We are pleased to present the annual report of the Network for Education and Support in Immunisation (NESI), highlighting the achievements of 2018.

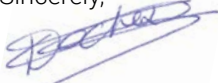
NESI is an international multidisciplinary network with the mission to strengthen immunisation programmes in low- and middle-income countries. Through partnerships with WHO, academic institutions, Ministries of Health and other interested stakeholders, NESI focuses on education and training, technical support and operational research, in order to complete its mission.

The activities of NESI are in alignment with the Global Vaccine Action Plan (GVAP). During 2018, NESI contributed to three Strategic Objectives (SO) of GVAP. Our contribution to SO1 “All countries commit to immunisation as a priority” was through the organisation of two workshops to strengthen NITAGs and Ministry of Health representatives in making evidence-based recommendations and decisions regarding HPV vaccine introduction in the Middle East and North Africa. Our major contribution was to SO4 “Strong immunisation systems are an integral part of a well-functioning health system”. To strengthen the capacity of managers and frontline workers, NESI contributed to both pre- and in-service training programmes and to the development of high-quality training materials. A contribution to SO6 “Country, regional and global research and development innovations maximize the benefits of immunization” was made through research in the framework of the Erasmus+ Mundus Joint Master Degree “Leading International Vaccinology Education”. The research focused on HPV vaccine acceptability and potential barriers for introduction in Morocco and Pakistan.

As we further aim to strengthen our current activity portfolio and diversify our funding, new opportunities for collaboration have emerged during 2018. We hope to build on this momentum to extend our network for capacity building in immunisation. The University of Antwerp considers this as an excellent opportunity to further strengthen the support to national immunisation programmes, which is justified by a global need. NESI has proven to be an active, valuable and appropriate network to accomplish this, and the University of Antwerp is proud to host this initiative.

The Annual Report summarises the activities of NESI during 2018 in capacity building in immunisation. We would like to sincerely thank all our partners for their continued commitment and support, contributing greatly to the achievements of NESI. We are looking forward to continuing this fruitful collaboration in 2019 and beyond, to contributing to the Global Vaccine Action Plan and the Sustainable Development Goals, and to maximising the benefits of immunisation to all.

Sincerely,



Dr Carine Dochez
Director NESI



Prof Dr Filip Lardon
Vice-Rector University of Antwerp



Workshop

Strengthening national teams of experts to support HPV vaccine introduction in Eastern Mediterranean countries

*14-16 October 2018
in Marrakech, Morocco*



HIGHLIGHT 2018





The Network for Education and Support in Immunisation (NESI) was officially launched in 2002. The Executive Secretariat of NESI is hosted at the Department of Epidemiology and Social Medicine, University of Antwerp in Belgium. NESI was built on the experience of the International Network for Eastern and Southern Africa on hepatitis B vaccination, which was established in 1999 by five universities in Eastern and Southern Africa (Kenya, South Africa, Tanzania, Zambia and Zimbabwe), Ministries of Health (MoH) in Africa and the University of Antwerp. The purpose of this network was to translate research on hepatitis B through capacity building and advocacy into universal access to hepatitis B vaccination in the partner countries.

With the development of new vaccines and increased commitment by development partners and private sector initiatives to strengthen vaccine supply and immunisation services, there are more opportunities to prevent more diseases in more people. This led to the establishment of NESI, which is an international multidisciplinary network with the mission to strengthen immunisation programmes, in particular in low- and middle-income countries. As human resources play a crucial role in the delivery of quality immunisation services to the public, NESI focusses on capacity building, education and training, and institutional strengthening through partnerships and collaboration with the World Health Organization (WHO), the United Nations Children's Fund (UNICEF), Gavi, the Vaccine Alliance, academic institutions, Ministries of Health and other immunisation stakeholders.

Due to its links with universities and other health professional training institutions, which are vital to achieving sustainable capacity and competence building in the field of vaccinology, NESI is unique in its attention on pre-service training, particularly on the development of curricula and training for nurses, medical doctors, pharmacists, public health specialists and other related health professionals.

A Memorandum of Understanding (MoU) between NESI and the WHO Regional Office for Africa (WHO/AFRO) clearly defines the overall goal and activities of NESI in the area of capacity building in the African Region. Collaboration in the Eastern Mediterranean Region (WHO/EMRO) and in the South-East Asian Region (WHO/SEARO) is based on joint work plans with partner organisations. To ensure the sustainability of the Network and to increase its reach, NESI has signed Memoranda of Understanding with partner institutions/organisation in the different WHO regions. This validates the position of NESI as an integral partner in capacity building within the different Regions.



Mission

The mission of NESI is to improve the quality and sustainability of immunisation programmes and services, in particular in low- and middle-income countries, through education and training, technical support, operational research and networking and advocacy. NESI aims to build the capacity of managers and staff working in the Expanded Programme on Immunisation (EPI) in their respective countries, as well as to improve pre-service and post-graduate training at the different faculties of health training institutions involved in immunisation, including medicine, nursing, pharmacy, and public health.

Strategies

• To accomplish its mission, NESI engages in a number of activities, which are grouped into four strategic areas: education and training, technical support, operational research and networking and advocacy.



NESI offers the following in each area

1 EDUCATION AND TRAINING

- Organises training events in collaboration with partner institutions/organisations;
- Monitors and evaluates currently implemented education and training programmes;
- Validates the content of educational and training materials;
- Develops up-to-date, high-quality training materials for different audiences involved in immunisation programmes; and
- Provides support to universities to improve the curriculum for health professionals involved in immunisation and advises on regular refresher courses in collaboration with Ministries of Health.

2 TECHNICAL SUPPORT

- Performs training needs assessments in collaboration with academic and other partners;
- Assists countries in developing comprehensive training plans as part of their Multi-Year Plans;
- Provides support to country staff to implement training activities; and
- Supports institutional strengthening to improve national and regional capacity to deliver education and training.

3 OPERATIONAL RESEARCH

- Supervises MSc, MPH and PhD students;
- Evaluates pre-service EPI curriculum at health training institutions;
- Conducts post introduction evaluations;
- Evaluates effectiveness and impact of training activities;
- Writes scientific and review articles.

4 NETWORKING AND ADVOCACY

- Facilitates a forum to discuss and coordinate actions related to education, training, and support for immunisation programmes in low- and middle-income countries;
- Maintains a network of specialists drawn from international organisations, universities, national immunisation programmes, Non-Governmental Organisations (NGOs), industry, and other relevant stakeholders, to deliver high-quality training in all aspects of immunisation and at different stages of implementation of immunisation programmes;
- Collaborates with local, regional, and global training initiatives to advocate for better education and training; and
- Offers a website that houses training materials and links to other relevant sites.



Structure

NESI is a partnership between the University of Antwerp and the public and private sector. An Executive Secretariat, based at the Department of Epidemiology and Social Medicine, University of Antwerp, Belgium, coordinates and implements activities for the Network.

The Executive Secretariat reports to the Oversight Committee, which advises on strategy and funding opportunities, and reviews outcomes. The Oversight Committee is composed of representatives from this partnership, representatives of partner universities and international health organisations and alliances, and international vaccinology experts.

NESI has full operational and scientific independence

Funding

NESI is currently supported by an educational grant from GlaxoSmithKline, an educational grant from MSD, and by funds from the University of Antwerp, which also provides infrastructure, ICT, administrative, and legal support. Previously NESI received support from the Flemish Interuniversity Council - University Development Cooperation (VLIR-UOS) and the Flemish Government.



The mission of NESI is to improve the quality and sustainability of immunisation programmes and services, in particular in low- and middle-income countries, through education and training, technical support, operational research and networking and advocacy.



Education and Training

CHAPTER ONE

Human resources are key to providing good quality healthcare services to the population. A national immunisation programme relies on the support of well-trained medical and nursing staff, in order for the population to benefit of receiving the right vaccine at the right time in the right way. Therefore, training of health personnel must be relevant to national needs. Education and training must be coordinated and integrated with the developing health system as it moves towards meeting the objectives of health for all in the 21st century. For the current decade, the key global immunisation strategies are conveyed through the Global Vaccine Action Plan (GVAP) adopted at the 65th World Health Assembly in 2012.

Evidence from various health facility surveys and EPI reviews conducted at country and regional levels showed that important barriers to reaching every child in every district with immunisation services are related to planning and management of human, material and financial resources at district and service delivery levels. To overcome these barriers, capacity building will be key to improve planning and managerial skills and to integrate the immunisation services within the overall social and health system.

Training needs assessments conducted at various health training institutions revealed several gaps: EPI content is not outlined in the pre-service curricula or is incomplete or outdated; health training institutions often lack demonstration equipment, as well as current EPI reference material; time allocation for EPI theory is not always sufficient; some teachers lack knowledge on current EPI theory and practice. Clinical and public health training that incorporates the learning objectives of EPI will enable students to develop a firm basis of EPI core knowledge and skills. A strong collaboration between the EPI programme and the health training institutions, linking professional education with service reality, will be key to the overall success.

1.1 Development of training materials

Providing healthcare workers with up-to-date training materials on vaccines and immunisation is one of the key priorities of NESI. Training materials are being developed for different levels of the immunisation programme, capturing the needs of all staff. The training materials should be easily accessible and available for the intended user. As the immunisation programme is characterised by rapid progression, regular revision of training materials will be necessary.



1.1.1 Development of training modules on pneumococcal disease and PCV10 new multi-dose vial presentation

Presently used Pneumococcal Conjugate Vaccines (PCV) in national immunisation programmes include PCV10 and PCV13. Pneumococcal Conjugate Vaccines are highly effective and protect against severe forms of pneumococcal disease, such as meningitis, pneumonia and bacteraemia.

PCV10 presentations currently in use, include a mono- and two-dose vial without preservative. Recently a new presentation has been developed, a 4-dose vial with preservative. When countries start using the new 4-dose presentation, healthcare workers need to be trained on the correct use of this new presentation, including the use and handling of PCV10 multi-dose vials in accordance with WHO multi-dose vial policy.

To facilitate this process, NESI/University of Antwerp in collaboration with WHO/HQ, embarked on developing training modules on pneumococcal disease and PCV10 new multi-dose vial presentation.

The training consists of 7 modules, including a pre- and post-test to measure the impact of the training programme. The total duration of the training is approximately 3 hours

| | |
|----------|---|
| Module 1 | Pre-test questions |
| Module 2 | Key facts on pneumococcal diseases |
| Module 3 | Key facts on pneumococcal vaccine |
| Module 4 | Storage and handling of PCV10 4-dose vial |
| Module 5 | Organising an immunisation session with PCV10 4-dose vial |
| Module 6 | Communication with caregivers on pneumococcal disease and vaccine |
| Module 7 | Post-test questions |

Any country switching from the PCV10 mono- or two-dose vial to the 4-dose vial can use the training modules to prepare the country for the switch.

The training modules are available in both English and French and can be downloaded from the NESI and WHO websites



www.nesi.be/content/pneumococcal-vaccine-english-and-french

www.who.int/immunization/diseases/pneumococcal/training_materials_intro_PCV10-4d-vial/en/

1.1.2 Mid-level management training modules

National immunisation systems are constantly undergoing changes, including the introduction of new vaccines and technologies, and programme expansion to reach broader target populations beyond infants and children. In addition, the EPI programme faces external changes related to administrative decentralization, health reforms, among others. EPI programmes operate within the context of the national health systems, in alignment with global and regional strategies.

To address these changes and to ensure the smooth implementation of immunisation programmes, EPI managers and staff require skills in problem solving, priority setting, decision-making, planning and managing human, financial and material resources as well as monitoring the implementation, supervision and evaluation of services. Building national capacity in immunisation service management at all levels of the health system is therefore essential to achieve the goals of the global and regional strategic plans.

Standardised training modules, focusing on immunisation service management, for Mid-Level Managers have been developed first in 2004 by WHO/AFRO in collaboration with partners. These modules have facilitated the learning process during various inter-country and national Mid-Level Management (MLM) courses. In addition, MLM modules have been used during EPI lectures at pre-service health training institutions.

In view of the above mentioned current changes, WHO/AFRO in collaboration with key immunisation partners, like UNICEF and NESI/University of Antwerp are currently revising the EPI MLM training modules. In addition, the training will be reformatted to have a mix of classroom and self-paced online training. With the inclusion of online training, the face-to-face sessions will not go beyond 3 to 4 days as compared to the traditional 11 days.



List of revised MLM modules

| | |
|-----------|---------------------------------------|
| Module 1 | The Role of the EPI manager |
| Module 2 | Planning immunisation services |
| Module 3 | Problem solving |
| Module 4 | Communication |
| Module 5 | Costing & Financing |
| Module 6 | Vaccine Management |
| Module 7 | Cold chain |
| Module 8 | Monitoring and evaluation |
| Module 9 | Vaccine safety |
| Module 10 | New vaccine introduction |
| Module 11 | Supplementary Immunisation Activities |
| Module 12 | Surveillance |
| Module 13 | Supervision |
| Module 14 | EPI service assessment |

1.1.3 Higher Certificate in Vaccinology

The South African Vaccination and Immunisation Centre/Sefako Makgatho Health Sciences University (SAVIC/SMU) developed the online “Higher Certificate in Vaccinology” (HCert Vaccinology) programme, which is a basic introductory programme for in-service healthcare workers who work in the South African EPI programme (EPI-SA) and private sector clinics offering infant/childhood vaccination services. The training programme is divided into 2 blocks consisting of 11 modules over 30 weeks. Accreditation for the HCert in Vaccinology was received during 2018 and it is anticipated that student enrolment will start in 2019.

NESI was invited by SAVIC/SMU to be external moderator for three modules: [1] Introduction to immune response against infectious diseases; [2] Introduction to vaccinology; and [3] Introduction to vaccine manufacture and distribution.

..... *List of modules covered in HCert Vaccinology*

| | |
|------------------|--|
| Module 1 | Introduction to immune response against infectious diseases (1 week, 4 credits) |
| Module 2 | Introduction to vaccinology (1 week, 4 credits) |
| Module 3 | Introduction to vaccine manufacture + distribution (1 week, 4 credits) |
| Module 4 | Introduction to EPI-SA (1 week, 4 credits) |
| Module 5 | Introduction to the epidemiology of vaccine-preventable diseases and the corresponding vaccines used within EPI-SA (10 weeks, 32 credits) |
| Module 6 | EPI-SA vaccination schedules and strategies (2,5 weeks, 12 credits) |
| Module 7 | Introduction to cold chain management (3 weeks, 12 credits) |
| Module 8 | Introduction to safe administration of vaccines (3 weeks, 12 credits) |
| Module 9 | Introduction to Adverse Events Following Immunisation (AEFI) (2,5 weeks, 12 credits) |
| Module 10 | Introduction to communication, advocacy and social mobilisation (2,5 weeks, 12 credits) |
| Module 11 | Monitoring and evaluation of EPI-SA (2,5 weeks, 12 credits) |

1.2 Pre-service training

Pre-service health training institutions are critical in delivering medical and nursing staff deployable in immunisation programmes capable of addressing complex situations, sustaining routine immunisation, and introducing new vaccines and technologies. The incorporation of EPI into undergraduate medical education, nursing/midwifery, and other health professional training programmes is important towards improving and strengthening immunisation service delivery, logistics, surveillance, communication and management practices. Clinical and public health training that incorporates the learning objectives of EPI will enable students to develop a firm basis of EPI core knowledge and skills.

To facilitate the systematic revision of EPI curricula at training institutions in the African Region, two EPI prototype curricula for medical and nursing/midwifery schools were developed by WHO/AFRO and partners in 2006 and revised in 2015, and are available in English and French. Minor adaptations can be made to the EPI prototype curricula to serve other WHO Regions.



1.2.1 Kenya Medical Training College, Nairobi, Kenya

Since 2015 Kenya Medical Training College (KMTC) and NESI/University of Antwerp are closely collaborating to improve the pre-service training in immunisation at nursing and midwifery training institutions in Kenya. With its network of 31 colleges across the country, KMTC is one of the leading health training institutions in Kenya, and is also the driving force advocating for updating EPI curricula at all pre-service nursing and midwifery training institutions in the country.

Following a survey to determine the technical competences (knowledge, skills and attitudes) of nurse lecturers in EPI at the different KMTC colleges, a workshop was organised to strengthen the teaching and learning of immunisation within the existing curriculum for the pre-service Kenyan Registered Community Health Nursing (KRCHN) programme. Consensus was obtained on the EPI content to be incorporated in the pre-service KRCHN curriculum, using the EPI prototype curriculum as a guideline. Currently a workshop is being planned to develop the EPI learning guide to be used by students during the skills laboratory sessions.

1.2.2 University of Padjadjaran, Bandung, Indonesia

A joint study entitled “Evaluation of the curriculum on immunisation at nursing and midwifery schools in West Java Province, Indonesia” was initiated during 2015. The objectives of the study included: [1] to map which EPI-related topics are taught; [2] to list materials and demonstration equipment used in EPI teaching; [3] to evaluate knowledge on EPI of students and lecturers; and [4] to determine strengths, gaps and training needs.

The first phase of the study took place at public and private nursing and midwifery schools in the districts of Bandung, Garut, Tasikmalaya and Kunningan in West Java Province, Indonesia. A total of 7 training institutions, including 10 nursing and 5 midwifery programmes were reviewed. All programmes have EPI related content included in their curriculum, but variation between programmes was observed and no standard EPI curriculum is available.

We aim to include additional nursing and midwifery schools in the study and to extend the study to other provinces of Indonesia to get more in-depth knowledge of current EPI training at the different nursing and midwifery schools. Following the extended survey, we aim to develop a standard EPI curriculum and to organise refresher courses for current EPI lecturers and tutors.



1.3 In-service training

To be effective, a national immunisation programme relies on the support of well-informed medical, nursing and support staff. To provide immunisation services of good quality it is essential to have a workforce that is sufficient in numbers, well-educated and trained, adequately deployed and motivated. Evaluation of Mid-Level Management courses has clearly shown that the performance of healthcare workers improves after in-service training.

1.3.1 Vaccinology courses

In-service vaccinology courses are key to build national vaccinology expertise by strengthening the capacity of academics in vaccinology (involved in teaching/research related to infectious diseases, mother and child healthcare, vaccines and immunisation) and to guide policy makers and programme managers to make evidence-based recommendations and decisions on: [1] immunisation policies and strategies; [2] introduction of new vaccines and technologies; [3] sustaining routine immunisation; [4] adjustments of existing immunisation programmes (e.g. adolescent or adult vaccination); [5] adjustments to vaccination schedules; [6] conducting phase 1 to phase 3 clinical trials, and post-marketing surveillance (phase 4 studies).

The target audience of vaccinology courses are: [1] teachers at health training institutions from the different faculties involved in immunisation: medicine, nursing, public health and pharmacy; [2] National Immunisation Technical Advisory Group (NITAG) members; [3] EPI managers; [4] MoH support staff; [5] staff of multilateral (WHO, UNICEF) and bilateral organisations, and of NGOs; and [6] MSc/MPH students.

The general objective of the vaccinology course is *“to master the basic principles and specificities of a vaccine, how it is developed, produced and utilised, including its use within the EPI programme”*.

The vaccinology courses are built around 9 themes: [1] The scientific

basis of vaccinology; [2] Vaccine development and evaluation; [3] Routine EPI vaccines and optimising the impact of immunisation; [4] New vaccines; [5] Future vaccines; [6] Vaccine safety and the value of vaccination; [7] Prequalification, registration, production and control; [8] Programmatic issues; and [9] Training and research.

1.3.1.1 TropEd Advanced Vaccinology Course, Berlin, Germany, January 2018

The TropEd Advanced Vaccinology Course was organised by the Institute of Tropical Medicine and International Health (ITMIH), Berlin, and NESI/University of Antwerp, from 8 to 19 January 2018 in Berlin, Germany. The course is an accredited module (3.5 ECTS credit points) of the TropEd Masters Programme in International Health. TropEd is a network of institutions for higher education in International Health, including European and non-European institutions. The accreditation for the two-weeks advanced vaccinology course was obtained in October 2013 and is valid until October 2018.

Twelve MSc students attended the course.

Lecturers came from the University of Cape Town and the South African Medical Research Council (South Africa), Gavi, the Vaccine Alliance (Switzerland), Robert Koch Institute (Germany), Institute of Tropical Medicine and International Health (Germany), Freie Universität Berlin (Germany), London School of Hygiene and Tropical Medicine (UK), WHO/HQ (Switzerland), WHO International Agency for Research on Cancer (WHO/IARC) (France), GlaxoSmithKline (Belgium and Germany) and the University of Antwerp (Belgium).

Teaching methods included seminar-style and interactive lectures, exercises and group work on specific target diseases.

Student evaluation was based on presentation of the group work, a written exam, and a written essay on a topic of choice relevant to vaccines and immunisation. The essays were evaluated by the course directors from ITMIH and NESI.



1.3.1.2 ECAVI vaccinology course, Kampala, Uganda, June 2018

The vaccinology course for healthcare professionals was organised by the East Africa Centre for Vaccines and Immunisation (ECAVI) from 25 to 29 June 2018 in Kampala, Uganda.

The aim of the vaccinology course was to equip healthcare professionals with up-to-date knowledge and skills on vaccines and immunisation in order to enable them deal with current and emerging challenges related to the immunisation programme.

The course was delivered through: formal lectures; case studies; debate and discussion; practical demonstration sessions and presentations by participants.

Upon completion of the course, participants were able to:

- Understand the concept and principles of vaccination
- Describe how vaccines work and their side effects
- Describe indications, contraindications, efficacy, and safety of vaccines according to WHO criteria
- Identify, manage and report AEFIs
- Identify ways to improve communication with patients, parents and caregivers about vaccination
- Identify best practices for implementing or improving immunisation programmes
- Understand how to link and partner with other immunisation stakeholders
- Champion and advocate for uptake and promotion of immunisation

The course was attended by 70 participants: the majority of participants were from Uganda, but also participants from neighbouring countries attended the course.

NESI was represented by SAVIC, who delivered several presentations and participated in the Question and Answer session.





ECAVI vaccinology course, Kampala, Uganda, June 2018



1.3.1.3 Erasmus+ Mundus Joint Master Degree “Leading International Vaccinology Education” (LIVE), Lyon, France, September 2018



The new Erasmus Mundus Joint Master’s Degree entitled “Leading International Vaccinology Education” (LIVE) was launched September 2016. LIVE is a two years Master’s programme between five European universities: Université Claude Bernard Lyon 1, France (coordinating university); Universtat Autònoma de Barcelona, Spain; Universitat de Barcelona, Spain; University of Antwerp, Belgium; Université Jean Monnet Saint-Etienne, France. The programme is supported by a worldwide network of 31 international associated partners and 16 supporting partners. NESI is supporting partner to the LIVE programme.

A total of 20 students are enrolled in the second LIVE promotion. NESI was invited to give a lecture on 27 September 2018 at the Université Claude Bernard Lyon 1, during the third semester of the LIVE programme in the session on “Communication on vaccines and public health”. The lecture focused on the history and rationale of vaccination schedules; role of the NITAGs; and GVAP goals.

One student also completed a 6-months internship with NESI working on “Understanding the acceptability and potential barriers of Human Papillomavirus (HPV) vaccination in selected EMRO countries” (see chapter 3 for more details).

1.3.1.4 14th Annual African Vaccinology Course, Cape Town, South Africa, November 2018

The 14th Annual African Vaccinology Course was organised by the Vaccines for Africa Initiative (VACFA), University of Cape Town, from 12 to 17 November 2018 in Cape Town, South Africa.

The objectives of the course included:

- Provide participants with essential expertise to support national immunisation programmes
- Broaden the understanding of the challenges and opportunities in vaccinology at regional and global levels
- Build sustainable research capacity for vaccine development and conducting high quality phase I-IV vaccine trials in Africa
- Foster communication and networking among African vaccinologists
- Discuss the feasibility of vaccinology e-learning in Africa
- Discuss the roles, challenges and opportunities for capacity building for the NITAG members in Africa



Two half days of the course was devoted to NITAG strengthening (16-17 November 2018). NITAG members from 9 African countries participated, which was a unique opportunity to share country experiences, including achievements and challenges.

The course was attended by 62 participants from 30 African countries. Participants included national EPI managers, healthcare workers and basic scientists involved in vaccination programmes and/or vaccinology research in the African Region.

The course was facilitated by 32 faculty members (national and international), all experts in the field of vaccinology coming from academia and industry. NESI was invited by VACFA to lecture on “Vaccination schedules: past, present and future”.

14th Annual African Vaccinology Course, Cape Town, South Africa





1.3.2 Mid-level management training

Mid-level management trainings aim to contribute to the reduction of morbidity and mortality due to vaccine-preventable diseases through the improvement of management of immunisation programmes. Specifically, MLM training aims to strengthen participant's managerial knowledge and skills related to problem solving, decision making and leadership, effective communication, strategic and operational planning, immunisation programme costing, budgeting and resource mobilisation, cold chain and vaccine management, immunisation safety management, human and financial resources management, new vaccine introduction management, conducting quality supplementary immunisation activities, integrated disease surveillance and response management, EPI monitoring and data management, supervision, EPI coverage survey and evaluation. The target audience of in-service MLM courses include: [1] EPI managers; [2] MoH support staff; [3] staff of multilateral (WHO, UNICEF) and bilateral organisations, and of NGOs; and [4] teachers at health training institutions from the different faculties involved in immunisation: medicine, nursing, public health and pharmacy.

1.3.2.1 Mid-level management training, Accra, Ghana, October 2018

WHO/AFRO in collaboration with the Ministry of Health of Ghana, organised the first pilot training with the newly reformatted Mid-Level Managers modules (see section 1.1.2. for more details). The training was conducted in Accra, Ghana, from 29 October to 1 November 2018.

A total of 29 participants from the national and regional levels in Ghana attended the MLM training, focusing on 3 modules selected based on the national programme priorities. The aim of the workshop was:

- To train trainers from various levels in Ghana;
- To pilot the updated training tools, and identify issues in the training materials and methods that need to be addressed before finalising the course materials.

Facilitators were from WHO and NESI. Instructional design experts from Bull City Learning were present to assist with the design of the training and to assist with finalising the remaining modules, including the online versions. Minor adaptations following the piloting will be incorporated in the final version of the revised MLM modules. A formal course evaluation was conducted and the new training format was well received by the participants.

1.4 Strengthening evidence-based decision-making

Before embarking on the introduction of a new vaccine, countries must make an evidence-based decision whether a new vaccine merits introduction into the national immunisation programme. As more new vaccines become available, countries face several challenges in introducing these vaccines in the existing immunisation programme: [a] decision-making and prioritisation of which vaccines to be introduced; [b] addressing strengths and weaknesses in the immunisation programme; [c] managing more complicated vaccination schedules; [d] developing multi-year plans to ensure sustainable use of the new vaccines; [e] integrating vaccines in the broader context of health systems. Since these tasks are multiple and complex, these issues need to be addressed in a comprehensive and detailed manner. Through round table discussions and workshops, bringing together NITAG chairs/members and MoH representatives, we aim to strengthen national teams of experts and to build an international network.

1.4.1 Renforcement des capacités de l'introduction du vaccin contre l'HPV dans les programmes nationaux d'immunisation, Marrakech, Morocco, April 2018

The HPV vaccine round table “Renforcement des capacités de l'introduction du vaccin contre l'HPV dans les programmes nationaux d'immunisation” was conducted on 6 April 2018, in Marrakech, Morocco, by Cadi Ayyad University, Société Marocaine d'Infectiologie Pédiatrique et de Vaccinologie (SOMIPEV) and NESI/University of Antwerp. This round table was organised back-to-back with the SOMIPEV symposium, which also aims to strengthen South-South collaboration.

The key target group included representatives of: Expanded Programme on Immunisation; National Immunisation Technical Advisory Groups; Adolescent Health Programme; Non-communicable Disease Programme; School Health Programme; National and international immunisation partners; and other relevant stakeholders.

A total of 8 countries participated in the round table: Algeria, Djibouti, Gabon, Mauritania, Morocco, Niger, Senegal and Tunisia. Facilitators were from Cadi Ayyad University, SOMIPEV, WHO/IARC and NESI.





The HPV vaccine round table, 6 April 2018, in Marrakech, Morocco

The round table explored the current status of HPV vaccine introduction in the participating countries, gaps in information about HPV disease burden, and the role of NITAGs in new vaccine introduction. The meeting comprised of interactive presentations and country presentations including sharing of experiences and best practices, followed by a plenary discussion.



1.4.2 Strengthening national teams of experts to support HPV vaccine introduction in Eastern Mediterranean countries, Marrakech, Morocco, October 2018

From 14 to 16 October 2018, the Workshop on “Strengthening national teams of experts to support HPV vaccine introduction in Eastern Mediterranean countries” was organised in Marrakech, Morocco, by the University Cadi Ayyad, SOMIPEV, and NESI/University of Antwerp. The workshop received support from WHO/EMRO, GHD/EMPHNET and the Ministry of Health of Oman.

The workshop explored the current status of HPV vaccine introduction in Eastern Mediterranean countries, gaps in information about HPV disease burden in the region, and the role of NITAGs in new vaccine introduction. The workshop comprised of interactive presentations, round table discussions, country presentations, including sharing of experiences and best practices, and group work.

The key target group included representatives of: Expanded Programme on Immunisation; National Immunisation Technical Advisory Groups; Adolescent Health Programme; Non-communicable Disease Programme; School Health Programme; National and international immunisation partners; and other relevant stakeholders.

The objectives of the workshop included:

- To discuss the burden of HPV related diseases, especially cervical cancer, in the Eastern Mediterranean Region;
- To discuss the available HPV vaccines and their use in national immunisation programmes;
- To discuss potential adolescent health interventions to be delivered alongside HPV vaccination;
- To discuss optimal communication strategies for the introduction of HPV vaccination;
- To exchange lessons learnt and best practices regarding new vaccine introduction, especially HPV vaccine, and adolescent health services among participating countries;
- To strengthen national teams of experts in the participating countries to make evidence-based recommendations and decisions to support and advocate for the introduction of HPV vaccination;
- To strengthen the international community to further stimulate discussion and research on cervical cancer, HPV vaccination and adolescent health.

The workshop was attended by 57 delegates, including participants and facilitators. Nominated delegates were from the Ministry of Health and/or NITAG members from the following countries: Jordan, Morocco, Palestine, Somalia, Sudan, Tunisia, United Arab Emirates. Other participants came from academia, national and international organisations, International Islamic Fiqh Academy, Islamic Development Bank, and industry. Facilitators were from: Cadi Ayyad University, SOMIPEV, GHD/EMPHNET, MoH Oman, WHO/EMRO, WHO/IARC, London School of Hygiene and Tropical Medicine, Gavi, WHO/

Morocco, NESI/University of Antwerp.

Presentations highlighted key aspects on burden of disease, cervical cancer screening, update on HPV vaccines and cost-effectiveness, delivery platform for HPV vaccination, and effective communication strategies for building public trust in HPV vaccination. The role of the NITAGs in the decision-making process for HPV vaccine introduction was



stressed. Experiences of HPV vaccine introduction from other regions were shared by delegates from Indonesia and Senegal.

Two round table discussions addressed: [1] Overcoming hurdles for HPV vaccine introduction and cervical cancer screening, focusing on socio-cultural and religious challenges; and [2] HPV data required to make a decision to introduce HPV vaccine; and monitoring HPV vaccination coverage.

During the final session of the workshop, group work was conducted, addressing the following issues: [a] Status of decision making about HPV vaccine introduction in the participating countries; [b] Any needs for operational research to support the decision-making; [c] Technical and financial support that might be required from partners. Recommendations were made on how to advance the decision-making process for HPV vaccine introduction in the participating countries.



A short workshop summary has been published in the WHO Global Immunization News; November 2018:

www.who.int/immunization/GIN_November_2018.pdf?ua=1





2.1 Institutional strengthening

To ensure the sustainability of the Network's activities and increase its reach, NESI has signed Memoranda of Understanding (MoU) with partner institutions/organisations in the different WHO Regions who assist with the implementation of the activities.

Collaboration exists in the following areas:

- Conducting training needs assessment at pre- and in-service training institutions;
- In-service training: development of training materials and organisation/facilitation of vaccinology courses/workshops;
- Pre-service training: evaluate the curriculum in medical and nursing schools and assist the schools with updating their curriculum;
- Advocating for good interaction between the immunisation programme and academic institutions;
- Joint publication writing;
- Joint proposal writing;
- Exchange of students.

Currently, NESI has a MoU with: [1] South African Vaccination and Immunisation Centre/Sefako Makgatho Health Sciences University (SAVIC/SMU); [2] Société Marocaine d'Infectiologie Pédiatrique et de Vaccinologie (SOMIPEV); and [3] University of Padjadjaran (UNPAD).

During 2018, support was also provided to the University of Pretoria and to Setshaba Research Centre, Soshanguve, South Africa. Further collaboration with both institutions is being explored.



2.1.1 South African Vaccination and Immunisation Centre/Sefako Makgatho Health Sciences University, South Africa

SAVIC and NESI share a common goal of improving the quality and sustainability of immunisation programmes, through education and training; and have a long working relationship spanning over more than 12 years. A Memorandum of Understanding has been signed in 2012.

SAVIC was established at the Medical University of Southern Africa (now called Sefako Makgatho Health Sciences University) in 2003. It is a network of partners in the field of vaccination and immunisation. SAVIC is a Public Private Academic alliance between the South African National Department of Health (SA-NDoH), Vaccine Industry, Academic institutions and other stakeholders. SAVIC activities are undertaken in close collaboration with SA-NDoH, NESI/University of Antwerp, WHO and other partners. The strategic operational areas of SAVIC include **Education and Training, Operational Research and Technical Support and Advocacy**.

Joint activities

Among the many activities conducted by SAVIC in 2018, joint SAVIC-NESI activities included:

- Two poster presentations during 12th Vaccine Congress, 16-19 September 2018, Budapest, Hungary (see section 4.3.3 for more details).
- NESI served as external examiner for MPH thesis: Mashaole Rephus Makwela. Factors contributing to defaulting on Expanded Programme on Immunisation vaccines amongst children under 12 months at Stanza Bopape community health centre, Mamoledi in Gauteng Province. Sefako Makgatho Health Sciences University, South Africa. January 2018.
- SAVIC represented NESI during the ECAVI vaccinology course, Kampala, Uganda, June 2018 (see section 1.3.1.2 for more details).

Joint publication



Burnett RJ, Mmoledi G, Ngcobo NJ, Dochez C, Seheri LM, Mphahlele MJ. Impact of vaccine stock-outs on infant vaccination coverage: a hospital-based survey from South Africa. *International Health* 2018; 10: 376–81.



2.1.2 Société Marocaine d'Infectiologie Pédiatrique et de Vaccinologie, Morocco

SOMIPEV (Société Marocaine d'Infectiologie Pédiatrique et de Vaccinologie) is a non-profit association of paediatrics, chaired by the Dean of the faculty of Medicine, Université Cadi Ayyad, Marrakech, Morocco. This association brings together all Moroccan expertise in the field of paediatric infectious diseases and vaccinology.

The objectives of SOMIPEV are: [1] to improve and share knowledge of paediatric infectious diseases and vaccinology; [2] to strengthen health education for the prevention of infectious diseases in Morocco; [3] to strengthen education and training in medicine, nursing, public health and pharmacy; [4] to create an international scientific platform in this field; [5] to translate research into better prevention of paediatric infectious diseases in Morocco; and [6] to guide and assess the impact of national vaccination strategies of the Ministry of Health.

Given the common goals of SOMIPEV and NESI/University of Antwerp, a Memorandum of Understanding has been signed in 2013. Since then, SOMIPEV and NESI have been collaborating to strengthen both pre- and in-service training in Morocco, resulting in the development of training manuals and the organisation of several workshops.

Joint activities

Among the many activities conducted by SOMIPEV in 2018, joint SOMIPEV-NESI activities included:

- Renforcement des capacités de l'introduction du vaccin contre l'HPV dans les programmes nationaux d'immunisation, Marrakech, Morocco, April 2018 (see section 1.4.1 for more details)
- Strengthening national teams of experts to support HPV vaccine introduction in Eastern Mediterranean countries, Marrakech, Morocco, October 2018 (see section 1.4.2 for more details)
- Development of several scientific brochures on vaccine-preventable diseases, including measles, mumps, rubella and varicella, among other topics.





Fakultas Kedokteran

2.1.3 University of Padjadjaran, Indonesia

The University of Antwerp has a long-standing collaboration with the University of Padjadjaran (UNPAD) in Bandung, Indonesia, with activities initiated in the early 1980s. This collaboration is formalised through regularly updated Memoranda of Understanding.

Within the scope of this MoU, the Faculty of Medicine and Faculty of Nursing of UNPAD and NESI/University of Antwerp strengthened the collaboration in the area of vaccine-preventable diseases. The South-East Asian Region is the one most lagging behind regarding new vaccine introduction and immunisation programme strengthening. This has considerable impact on child morbidity and mortality, as by far the greatest birth cohorts are in this Region. Strengthening national immunisation programmes and supporting the introduction of new vaccines will further reduce the morbidity and mortality of vaccine-preventable diseases.

Joint activities

- Presentation during 6th Padjadjaran International Nursing Conference, Bandung, Indonesia, May 2018 (see section 4.3.2 for more details).
- Lecturing at Faculty of Nursing and at Faculty of Medicine. Lectures: "Types of vaccines" and "HPV vaccines".
- Brainstorm session on developing EPI training modules for medical doctors.
- Brainstorm session on continuation of project on harmonising EPI curriculum at nursing/midwifery schools and organising refresher courses for lecturers (see section 1.2.2 for more details).





2.2 Support to partner organisations and initiatives

Technical support is provided by NESI to partner organisations/initiatives in the area of e.g.: training needs assessment; development of comprehensive training plans; support to country staff to implement national education and training activities; evaluation of EPI services; advice to partners; serving on advisory boards.

2.2.1 Teach to Reach workshop, Dar Es Salaam, Tanzania, May 2018

The Teach to Reach workshop was organised by the Bill and Melinda Gates Foundation (BMGF) in Dar Es Salaam, Tanzania, 1-3 May 2018.

The workshop provided an opportunity for country-level, global and implementing partners to propose solutions to challenges in immunisation training. Participants were divided in six working groups, focusing on similar challenges in each group. Five groups addressed challenges in specific countries (Ethiopia, India, Nigeria, Pakistan, Tanzania) and one group addressed challenges at the Global level. Each group discussed their challenges, proposed solutions with specific goals for their target audience, implementation plan, proposed partners to assist with the implementation, required resources and needs, and monitoring and evaluation. Experts in instructional design, curriculum development, on-the-job mentoring, and monitoring and evaluation provided guidance and input to group work throughout the process. At the end of the workshop, action plans were developed for implementing the solutions. NESI participated in the working group at Global level.



Following the close of the Teach to Reach workshop, participants were invited to join a session to document best practices in training.

During a networking event, a poster was presented by NESI

Strengthening EPI training at Kenya Medical Training College

Margaret Juma (KMTC) & Carine Dochez (NESI/University of Antwerp)

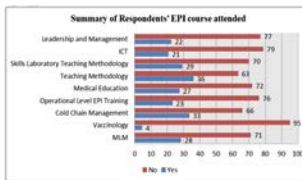
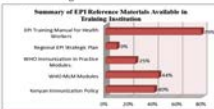
Background

Incorporation of immunisation and the Expanded Programme on Immunisation-related activities into nursing and midwifery education is key to improving and strengthening immunisation service delivery, disease surveillance, communication and management practices. Clinical and public health training that incorporates learning objectives on immunisation, specific to the EPI will enable students to develop a firm basis of core knowledge and skills in immunisation.

Kenya Medical Training College (KMTC) and NESI/University of Antwerp are closely collaborating to improve the pre-service training in immunisation at nursing and midwifery training institutions in Kenya. KMTC is one of the leading health training institutions in Kenya, and is also the driving force advocating for updating EPI curricula at all pre-service nursing and midwifery training institutions in the country.

The first activity conducted was an **evaluation of the EPI curriculum content and a study to determine the technical competences (knowledge, skills and attitudes) of nurse lecturers in EPI at KMTC colleges**. The study also aimed to determine factors that could influence EPI competencies among nurse lecturers and to propose recommendations to address the needs.

The **main findings** of the study indicated that: (1) socio-demographic, individual characteristics and institutional factors directly or indirectly influence technical competencies of the nurse tutors in the implementation of the EPI pre-service training programme; (2) a significant number of respondents did not recently participate in refresher courses aiming at boosting tutors' competencies in teaching EPI; and (3) institutional factors like staffing, number of students, and quality of training materials and demonstration equipment, directly affect the nurse tutors performance in teaching EPI.



National workshop to standardize EPI curriculum for Kenya Registered Community Health Nursing programme

Following the results of the survey, an EPI prototype curriculum induction workshop was organised in Mombasa, Kenya, from 15 to 19 November 2017. During this workshop, the recently revised WHO EPI prototype curriculum was used as basis for the training. The workshop was attended by 15 participants drawn from the various KMTC colleges. Facilitators were from KMTC, the Nursing Council of Kenya/Department of Education, and from Mbagathi County Referral Hospital. Objectives of the workshop: (1) to get consensus on the EPI content to be incorporated in the pre-service curriculum; (2) to develop the EPI content to be incorporated in the curriculum; and (3) to develop tools for use in the implementation of the EPI training.



Min M participating in the training workshop: "National EPI prototype curriculum induction workshop, Kenya Medical Training College, 15-19 November 2017"

Table 1: Number of hours of EPI theory and practical and field visits

| Topic | Theory (hours) | Practical and field visits (hours) |
|--|----------------|------------------------------------|
| Immunisation systems and operations | 1 | 0 |
| Immunisation policies, norms and standards | 0.5 | 0 |
| Immunisation service delivery strategies and innovative approaches | 1.5 | 0 |
| Target diseases for immunisation and disease surveillance | 1.5 | 40 |
| Vaccinology and EPI vaccines | 1 | 0 |
| Immunisation service delivery and vaccine administration | 8 | 80 |
| Immunisation programme management | 5 | 40 |
| TOTAL | 18.5 | 160 |

Outputs of the workshop

At the end of the workshop, the following outputs were achieved:

- Content developed for the 7 curriculum topics in line with KMTC policy
 - Topic 1: Immunisation systems and operations
 - Topic 2: Immunisation policies, norms and standards
 - Topic 3: Immunisation service delivery strategies and innovative approaches
 - Topic 4: Target diseases for immunisation and disease surveillance
 - Topic 5: Vaccinology and the EPI vaccines
 - Topic 6: Immunisation service delivery and vaccine administration
 - Topic 7: Immunisation programme management
- EPI skills identified
- Resources identified required for EPI skills
- Strategy drafted to implement the EPI curriculum content

It is feasible to develop a standardised immunisation curriculum for pre-service training at nursing and midwifery schools. Such curriculum will empower graduates with the necessary skills and knowledge to deliver quality immunisation services to the public when employed in the EPI programme. Quality EPI pre-service training will lead to a reduced need for in-service training, thereby reducing costs and time incurred during such in-service training.

Juma M. & Dochez C.

Technical competencies of nurse lecturers on EPI in Kenya Medical Training College.

2.2.2 Comprehensive review of the immunisation programme, Mauritius, June 2018

From 15 to 25 June 2018, WHO and the Ministry of Health and Quality of Life of Mauritius organised a comprehensive review of the immunisation programme. External partner organisations supporting the review included: UNICEF, Centers for Disease Control and Prevention (CDC) and NESI/University of Antwerp.

WHO recommends that periodic EPI programme reviews are conducted in member countries every 3 to 5 years to assess the strengths and weaknesses of the immunisation system and vaccine-preventable disease (VPD) surveillance at all levels, with the aim to provide evidence for the strategic directions and priority activities for the immunisation programme.



The specific objectives of the review included:

- To conduct a comprehensive assessment of the organisation and implementation of the EPI programme in Mauritius
- To assess the organisation and the implementation of VPD surveillance (with specific focus on Acute Flaccid Paralysis (AFP), measles and AEFI) including the current measles outbreak management at all levels in Mauritius
- To conduct an immunisation data quality review (verification)
- To assess the introduction of the Hexavalent vaccine (DTP-HepB-Hib-IPV)

The review period included a desk review, training, field work including data collection and data entry, report writing and debriefing to the Ministry of Health and Quality of Life. Teams collected data through key informant interviews, document reviews and observation of

immunisation practices. In addition the role of private health facilities and community health workers in immunisation service delivery were assessed. All 5 regions of Mauritius, as well as Rodrigues were included in the review.

Mauritius has a well-functioning national immunisation programme, which is fully government funded. The programme currently provides 14 antigens in various combinations,





resulting in sustaining the control of vaccine-preventable diseases, including maintaining polio free status and sustaining the elimination of maternal neonatal tetanus. The introduction of new vaccines has been done smoothly without disrupting routine immunisation sessions or challenging the cold chain capacity.

However, in recent years there is an observed decline in reported coverage, which could be due to denominator issues, requiring further investigations. The current measles outbreak might indicate immunity gaps especially at sub-national level among high risk groups. In line with global and regional targets, the Ministry of Health and Quality of Life needs to sustain its efforts for AFP surveillance, in order to maintain its polio free status. Measles and AEFI surveillance need to be strengthened.

NESI staff participated actively in the entire review process and was field team lead for two regions, and conducted interviews at the National Cold Store, Procurement Unit and the Pharmacovigilance Unit.

2.2.3 Global Vaccinology Training Workshop, Annecy, France, November 2018

NESI was invited to participate in the Global Vaccinology Training Workshop, organised by Fondation Mérieux and Université de Genève, in Annecy, France, from 7 to 8 November 2018. The workshop brought together the leaders of 26 vaccinology courses. NESI represented the “TropEd” Advanced Vaccinology Course and the WHO/AFRO-NESI joint Vaccinology Course.

Before the workshop, representatives of the 26 courses completed a questionnaire covering the content of their course, format, periodicity, type and number of participants, and other parameters.

The workshop consisted of introductory presentations followed by plenary discussions.

The objectives of the workshop included:

- Perform a landscape analysis of major current courses, objectives, target audiences and source of funding for the course and trainees;
- Define the vaccinology education gaps and future needs around the world;
- Identify current and future best practices for training in vaccinology;
- Review the organisational and financing structure of Global Vaccinology Training;

- Promote the use of innovative and effective educational technology; and
- Identify potential areas of collaboration and cross pollination between different training initiatives.

The workshop reviewed the current status of advanced vaccinology training globally. A meeting report will be published by the organisers in a peer reviewed journal.

2.2.4 VACFA Board Meeting, Cape Town, South Africa, November 2018

The Vaccines for Africa Initiative (VACFA) was established in 2009 at the Faculty of Health Sciences at the University of Cape Town within the Department of Public Health and Family Medicine. The goal of VACFA is to increase awareness and to promote uptake of vaccines in the African region.

Since 2017, NESI staff is member of the VACFA board. The VACFA Board Meeting took place on 15 November 2018, during the Annual African Vaccinology Course.



3.1 Internship project Erasmus+ Mundus Joint Master's Degree "Leading International Vaccinology Education"

In the framework of the Erasmus+ Mundus Joint Master's Degree entitled "Leading International Vaccinology Education" (LIVE), one MSc student has completed his internship at NESI from February to July 2018. LIVE is a two years Master's programme, between five European universities: Université Claude Bernard Lyon 1, France (coordinating university); Universitat Autònoma de Barcelona, Spain; Universitat de Barcelona, Spain; University of Antwerp, Belgium; Université Jean Monnet Saint-Etienne, France. The programme is supported by a worldwide network of 31 international associated partners and 16 supporting partners. NESI is supporting partner to the LIVE programme.

Summary of internship project:

Several countries worldwide are embarking on the introduction of the HPV vaccine into their national immunisation programme. One of the regions lagging behind in the introduction of the HPV vaccine is the Eastern Mediterranean Region. The purpose of this project was to better understand the reasons behind this delay in order to make recommendations to guide countries to successfully introduce the HPV vaccine. Specifically, the project aimed to understand the current knowledge on cervical cancer and HPV vaccine, to identify the acceptability and potential barriers to introduce the HPV vaccine in the region, and to identify optimal delivery and communication strategies with the public. The study used an online self-administered questionnaire targeting university students. The results of this project highlighted areas needing special attention for successful introduction of the HPV vaccine in selected countries in the Eastern Mediterranean Region.

The student successfully defended his thesis in Lyon on 12 June 2018



Inayat Ur Rehman. Knowledge and awareness about cervical cancer, HPV vaccine, its acceptability and potential barriers in its introduction in the Eastern Mediterranean Region (Morocco and Pakistan).



Networking and advocacy

CHAPTER FOUR

NESI works with both the public and private sector to develop and deliver high-quality pre- and in-service training programmes. Through networking and advocacy NESI aims to align the different stakeholders in immunisation to achieve faster and coordinated introduction of new and under-utilised vaccines. Therefore, building and sustaining international networks is paramount in sharing experiences and best practices.

The NESI website (www.nesi.be) plays an important role in the dissemination of up-to-date information on vaccines and immunisation. The website hosts high-quality training materials, which can be downloaded if required.

A database keeps track of all alumni and training activities organised. A mailing list linked to this database has been established in order to send out news updates and updated training materials.

Participating in networking meetings is important for NESI to discuss and plan collaborative activities, to share experiences with other immunisation partners, and to receive latest updates and recommendations on vaccines and immunisation.

4.1 NESI website

The Vaccine Safety Net (VSN) is a global network of websites (www.vaccine-safetynet.org), established by WHO, that provides scientifically based information on vaccine safety in various languages. The Global Advisory Committee on Vaccine Safety (GACVS) is a key player in this network. GACVS developed four categories of criteria for good information practices, namely credibility, content, accessibility and design to which websites providing information on vaccine safety should adhere. WHO evaluates those websites for their adherence to these criteria.

The NESI website has been submitted early 2018 to WHO for evaluation to join VSN. Following feedback, minor adaptations were made to the website, and accreditation has been granted in June 2018. The logo of VSN has been added to the NESI website.

Language: English
Website evaluated: July 2018
Country: Belgium
Audience: Health-care professionals
Decision-makers
NITAG members
Educators

Website's sponsorship policy
The NESI website is supported by the University of Antwerp and by educational grants from the pharmaceutical industry. The website is hosted at the University of Antwerp.

Website's content or editorial policy
All information and materials contained in the website are from peer reviewed scientific journals and websites whose information reporting is evidence-based. Where applicable, references are provided. Depending on the content or type of training materials immunisation experts from different universities and institutions are involved in the reviewing process.
The website master is responsible for the day to day management of the website. The NESI director provides final oversight to the overall management of the website, including its contents.

4.2 Meetings

4.2.1 Strategic Advisory Group of Experts meeting, Geneva, Switzerland, April and October 2018

The Strategic Advisory Group of Experts (SAGE) meetings were organised by WHO from 17 to 18 April 2018, and from 23 to 25 October 2018, in Geneva, Switzerland. SAGE advises WHO on overall global policies and strategies, ranging from vaccine research and development, to delivery of immunisation services and linking immunisation with other health interventions. SAGE usually meets twice a year and reports directly to the Director-General of WHO.

SAGE is an excellent opportunity for NESI to network but also for understanding the rationale supporting WHO's recommendations on vaccines and immunisation. These evidence-based arguments can immediately be incorporated in NESI's education and training activities enriching discussions with the most up-to-date information, especially relevant for vaccinology courses and workshops focusing on new vaccine introduction.

... Topics addressed by the Strategic Advisory Group of Experts during 2018

| Topics discussed at SAGE April 2018 | Topics discussed at SAGE October 2018 |
|--|---|
| New leadership and new priorities at WHO | Report from WHO/IVB Dean |
| Report from WHO/IVB and regional updates | Report from Gavi |
| Report from other Advisory Committees on Immunisation: <ul style="list-style-type: none"> • Global Advisory Committee on Vaccine Safety • Expert Committee on Biological Standardization • Immunisation and Vaccines Related Advisory Committee | Report from other Advisory Committees on Immunisation: <ul style="list-style-type: none"> • Global Advisory Committee on Vaccine Safety • Immunisation and Vaccines related Implementation Research Advisory Committee • Immunisation Practice Advisory Committee • Product Development for Vaccines Advisory Committee |
| Report from Gavi | Global Vaccine Action Plan |
| Malaria Vaccine Implementation Programme | Report from International immunisation partners <ul style="list-style-type: none"> • Prevent initiative – Pregnant Women & Vaccines Against Emerging Epidemic Threats |
| Polio, the last mile | Polio |
| Updating policy recommendations on the use of the first licensed dengue vaccine | Measles and Rubella |
| Measles and Rubella | HPV vaccines |
| Full Public Health Value Propositions for Vaccines | Ebola and other unlicensed vaccines for emergency use |
| | Lessons learned from diphtheria outbreaks: opportunities for early warning and preventive action |



4.2.2 Meeting of the Vaccine Safety Net, Veyrier-du-Lac, France, June 2018

The Meeting of the Vaccine Safety Net (VSN) was organised in Veyrier-du-Lac, France, from 4 to 5 June 2018. In view of the anticipated WHO accreditation of the NESI website, NESI was invited to remotely attend the Meeting through WebEx.

The objectives of the meeting included:

- Review strategies to address internet users' information needs to enhance websites' content, structure and features;
- Discuss vaccine safety information and communication on social media;
- Discuss how and when to address controversies and vaccine hesitancy in the digital sphere;
- Think outside the box and have a cutting-edge dialogue for new ideas to build and sustain confidence in vaccines using the web.

The meeting was attended by VSN members, VSN advisory group, VSN web analytics team, partners and stakeholders, WHO and VSN secretariat. Around 90 participants attended the meeting, including those that connected remotely.

Participants shared their experiences, challenges and best practices for improving vaccine safety information and communication on websites and social media.

4.3 Symposia and conferences

4.3.1 6ème Congrès SOMIPEV, Marrakech, Morocco, April 2018

NESI was invited by SOMIPEV to attend the 6th SOMIPEV symposium, which was organised back-to-back with the HPV vaccine round table, from 6 to 8 April 2018 in Marrakech, Morocco.

The symposium addressed the following topics: antibiotic treatment; osteo-articular infections; vaccinology; nutrition; travel vaccines for children; and update on meningitis and antibiotic resistance in Morocco.

The majority of participants were from Morocco, but SOMIPEV also aims to strengthen South-South collaboration. As such, delegates from Algeria, Djibouti, Gabon, Mauritania, Niger, Senegal and Tunisia also attended the symposium.



During the closing ceremony, the excellent and longstanding collaboration between SOMIPEV and NESI was acknowledged.



4.3.2 6th Padjajaran International Nursing Conference, Bandung, Indonesia, May 2018

The Faculty of Nursing of the University of Padjajaran organised the 6th Padjajaran International Nursing Conference in Bandung, Indonesia, from 23 to 24 May 2018.



The theme of the conference was “The role of nursing in advancing quality of care through application of conceptual models in areas of nursing practices and health practice”.

The conference format included plenary sessions, workshops, and concurrent oral presentations and poster sessions, presenting a total of 205 research articles. Conference participants came from: USA, Malaysia, Taiwan, Thailand, England, Japan, Oman, Belgium and Indonesia.

NESI was invited by the Dean of the Faculty of Nursing to attend the conference and to jointly present the results of the NESI-UNPAD study



Mediani HS, Beels D, Mathieu T, Feenstra E, Dochez C. Evaluation of the immunisation education in nursing and midwifery training institutions in Indonesia – recommendations for strengthening.

4.3.3 12th Vaccine Congress, Budapest, Hungary, September 2018

The 12th Vaccine Congress was organised by Elsevier from 16 to 19 September 2018 in Budapest, Hungary. The Vaccine Congress is complimentary to the journal *Vaccine*, a leading journal for scientists interested in vaccinology.

The Congress was attended by over 250 participants from academia, research institutions, ministries of health and industry. In addition to the plenary sessions, break-out and poster sessions, a workshop was organized on “Author/Reviewer/Grant writing”. There was also an opportunity to meet the editors of the journal *Vaccine* for a speed review of draft papers.

Poster presentations



Razwiedani LL, Nkwinika VV, Dochez C, De Schryver A, Burnett RJ. Should South African healthcare workers be screened for immunity before hepatitis B vaccination? Evidence from Gauteng Province.

Burnett RJ, Mmoledi G, Ngcobo NJ, Dochez C, Seheri LM, Mphahlele MJ. Vaccine refusal may play only a very minor role in sub-optimal vaccination coverage in a hospital-based study in Gauteng Province, South Africa.



Fourteenth NESI Oversight Committee Meeting, Marrakech, Morocco, October 2018

NESI is a partnership between the University of Antwerp and the public and private sector. The Executive Secretariat based at the University of Antwerp coordinates and implements activities for the Network. The Executive Secretariat reports to the Oversight Committee, which advises on strategy and funding opportunities, and reviews outcomes. The Oversight Committee is composed of representatives from this partnership, representatives from partner universities and international health organisations and alliances, and international vaccinology experts.

Specifically, the committee:

- shapes a strategic vision and direction for NESI;
- advises on the strategy to follow and defines priorities;
- stimulates/fosters participation of Gavi partners and others in the implementation of NESI activities;
- reviews the plans, evaluates the postulated goals and endorses the work plan;
- facilitates networking and collaboration with other bilateral and multilateral stakeholders engaged in the area of capacity building for immunisation programmes;
- ensures the academic freedom of NESI in planning and implementing its activities;
- verifies the independency of the activities organised by NESI in relation to its sponsors.

The 14th NESI Oversight Committee Meeting was organised in Marrakech, Morocco, on 17 October 2018.

The Executive Secretariat reported to the Oversight Committee on the implementation of the Plan of Action and the financial report for the year 2017/2018. After the discussion of the reports, the secretariat presented the work plan for 2019. A special session was devoted to the future of NESI and possible funding opportunities.

Based on the discussions of the report for the year 2017/2018 and the work plan for the year 2019, the members of the committee endorsed the NESI work plan for the year 2019.

*Members of the NESI Oversight Committee 2018*

| Core Members | Affiliation |
|------------------------------|---|
| Prof Fred Were - Chair | Dean and Professor of Paediatrics, Department of Paediatrics and Child Health, University of Nairobi, Kenya |
| Prof Mohammed Bouskraoui | Professor and Dean of the Faculty of Medicine, University of Cadi Ayyad, Morocco |
| Prof Tandakha Dieye | Head Immunology Unit, Le Dantec Hospital Head of Laboratories, IRESSEF University Cheikh Anta Diop, Senegal |
| Dr Carine Dochez | Director NESI, Department of Epidemiology and Social Medicine, University of Antwerp, Belgium |
| Prof Anwar Hoosen - Co-chair | Professor, Department of Medical Microbiology University of Pretoria Consultant Pathologist, Vermaak & Partners Pathologists, South Africa |
| Prof Cissy Kartasasmita | Professor of Paediatrics, Department of Child Health, Faculty of Medicine, Universitas Padjadjaran, Indonesia |
| Prof Najwa Khuri-Bulos | Professor, Department of Paediatrics and Infectious Disease, Jordan University Hospital, Jordan |
| Dr Heidi Larson | Director, The Vaccine Confidence Project and Associate Profes- sor, Department of Infectious Disease Epidemiology, London School of Hygiene and Tropical Medicine, UK |
| Prof André Meheus | Senior advisor NESI, Department of Epidemiology and Social Medicine, University of Antwerp, Belgium |
| Prof Jeffrey Mphahlele | Vice President of Research: South African Medical Research Council, South Africa |

| Core Members | Affiliation |
|-------------------------|---|
| Prof Joost Weyler | Professor and Deputy Head, Department of Epidemiology and Social Medicine, University of Antwerp, Belgium |
| Non-core Members | |
| Dr Salah Al Awaidy | Communicable Diseases Advisor, Ministry of Health, Oman |
| Dr Raj Kumar | Senior Programme Officer, Gavi, the Vaccine Alliance, Switzerland |
| Dr François Meurice | Ambassador Vaccines, Director Scientific Affairs & Public Health, GlaxoSmithKline, Belgium |
| Dr Afisah Zakariah | Chief Director, Ministry of Gender, Children and Social Protection, Ghana |
| Secretariat | |
| Mrs Katrin Verboven | Administrative and Finance Project Coordinator NESI, Department of Epidemiology and Social Medicine, University of Antwerp, Belgium |






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