

**ANNUAL
REPORT
2019**

Network for Education and Support in Immunisation

Saving lives through immunisation



nesi
NETWORK
FOR EDUCATION AND SUPPORT
IN IMMUNISATION



**Universiteit
Antwerpen**

ANNUAL
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AEFI	Adverse Event Following Immunisation
CDC	Centers for Disease Control and Prevention
ECAVI	East Africa Centre for Vaccines and Immunization
EPI	Expanded Programme on Immunisation
GACVS	Global Advisory Committee on Vaccine Safety
GHD/ EMPHNET	Global Health Development/Eastern Mediterranean Public Health Network
GNN	Global NITAG Network
GVAP	Global Vaccine Action Plan
HPV	Human Papillomavirus
ICM	International Confederation of Midwives
ISV	International Society for Vaccines
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
NITAG	National Immunisation Technical Advisory Group
PhD	Doctor of Philosophy
RITAG	Regional Immunisation Technical Advisory Group
SAGE	Strategic Advisory Group of Experts

LIST OF ABBREVIATIONS

SAVIC	South African Vaccination and Immunisation Centre
SMU	Sefako Makgatho Health Sciences University
SOMIPEV	Société Marocaine d'Infectiologie Pédiatrique et de Vaccinologie
ToT	Training of Trainers
UN	United Nations
UNICEF	United Nations Children's Fund
UNPAD	Universitas Padjadjaran
VACFA	Vaccines for Africa Initiative
VLIR-UOS	Flemish Interuniversity Council – University Development Cooperation
VSC	Vaccinology Short Course
VSNI	Vaccine Safety Net
WHO	World Health Organization
WHO/AFRO	WHO Regional Office for Africa
WHO/EMRO	WHO Regional Office for the Eastern Mediterranean
WHO/EURO	WHO Regional Office for Europe
WHO/HQ	WHO Headquarters
WHO/IARC	WHO International Agency for Research on Cancer
WHO/IVB	WHO Department on Immunisation, Vaccines and Biologicals
WHO/PAHO	WHO Regional Office for the Americas/Pan-American Health Organisation
WHO/SEARO	WHO Regional Office for South East Asia
WHO/WPRO	WHO Regional Office for Western Pacific

FOREWORD

Dear colleagues,

It is a pleasure to present the Annual Report of the Network for Education and Support in Immunisation (NESI), highlighting the achievements of 2019.

The mission of NESI is to strengthen immunisation programmes in low- and middle-income countries, through education and training, technical support and operational research. To achieve its mission, NESI builds partnerships with WHO, academic institutions, Ministries of Health and other interested stakeholders. The activities of NESI are in alignment with the Global Vaccine Action Plan (GVAP). Our education and training activities address different levels of the immunisation programme: from supporting National Immunisation Technical Advisory Groups in evidence-based recommendation-making, to strengthening the capacity of immunisation managers and frontline workers. Operational research aims to better understand potential barriers and facilitators for accepting immunisation services.

The year 2019 was a year of activity expansion in support of NITAGs. NESI also became member of the NITAG partners group. As we further aim to strengthen our current activity portfolio and diversify our funding, new opportunities for collaboration have emerged during 2019, and we welcome our new partner, the Islamic Development Bank. Especially our activities in the Eastern Mediterranean Region have expanded through collaboration with Global Health Development/ Eastern Mediterranean Public Health Network (GHD/EMPHNET).

It was also a year of change. As we came towards the end of the implemented strategic framework, some structural changes have been made to the NESI Oversight Committee. We would like to sincerely thank all members for their dedication and commitment to excellence that has significantly enhanced the output and visibility of NESI. As we move into a new organisational structure, we hope to continue our excellent collaboration under a different format. At the same time, we sincerely welcome our new scientific advisory group.

Unfortunately, 2019 was also a year of sadness. The vaccinology world lost two wonderful colleagues, Prof André Meheus, founding father of NESI, and Dr Evariste Mutabaruka, retired capacity building officer at WHO/AFRO. Their contributions to public health and immunisation will always be remembered.

The Annual Report highlights the activities of NESI during 2019. We thank all our partners for their continued commitment and support, contributing greatly to the accomplishments of NESI. We are looking forward to continuing this excellent collaboration in 2020 and beyond, and to contributing to the strategic priorities of the Immunization Agenda 2030.

Sincerely,

Dr Carine Dochez
Director NESI

Prof Dr Filip Lardon
Vice-Rector University of Antwerp



Prof Dr André Meheus

21 September 1944 – 2 July 2019

André Meheus graduated in 1969 as Medical Doctor from the University of Ghent, Belgium. He continued his studies in Tropical Medicine (Institute of Tropical Medicine, Antwerp), Medical Statistics, Epidemiology and Demography (University of Brussels) and Public/Occupational Health (University of Ghent).

After graduation in 1969, he became assistant at the Department of Social Medicine and Hygiene at the University of Ghent. From 1971 to 1974 he was the Director of the National Institute of Public Health in Butare, Rwanda.

In 1974, he was appointed senior lecturer in the Department of Epidemiology and Social Medicine of the University of Antwerp. He became associate professor in 1978 and full professor in 1986. In 1987, Prof Meheus was nominated Chief of the Sexually Transmitted Diseases and Treponematoses Programme of the World Health Organization in Geneva, Switzerland. He resumed professorship and Head of the Department of Epidemiology and Social Medicine at the University of Antwerp in 1993, and became emeritus professor in 2009.

His research focused on the epidemiology and control of infectious diseases. He has published more than 450 scientific articles, monographs or books, and was member of the editorial committee of major scientific journals in the field of STD/AIDS, tropical medicine and public health. Prof Meheus was advisor for many multilateral, bilateral and non-governmental organisations, and received several awards.

Prof Meheus was the founding father of the Network for Education and Support in Immunisation (NESI), which was launched end of 2002 at the department of Epidemiology and Social Medicine at the University of Antwerp. NESI was his brainchild. No child should die from a vaccine-preventable disease and well-trained medical and nursing staff are at the basis of achieving this. Together with partner organisations he set up a global capacity building network on EPI and vaccinology. We are enormously grateful for everything he has done for NESI, for his wisdom and vision, for his continued efforts and guidance. He was an inspiration to us all.

Prof Meheus will be remembered as a very amiable man, very driven and with a lot of energy and humor. He showed a lot of respect for everyone and had many friends in different parts of the world. Prof Meheus will be greatly missed as a person and for his many achievements in public health. We are grateful that we had the privilege to have known someone like him.



Dr Evariste Mutabaruka

27 June 1951 - 1 October 2019

Evariste Mutabaruka obtained his Medical Degree from the Université Nationale du Rwanda in 1980. He also received a Master's degree in Health Management and Medical Education from Université Laval, Canada, in 1987. Since 1988, he has been teaching and consulting on health management and medical education throughout Africa.

He was an accomplished expert with extensive international experience in assisting governments in public sector and programme management, as well as providing institutional and individual capacity building expertise to private undertakings and multilateral organizations (WHO, World Bank, UNDP, UNICEF, UNFPA, JICA, Centre Africain de Management et de Perfectionnement des Cadres (CAMPC) and JHPIEGO.

Dr Mutabaruka has been working for the World Health Organization in the African Region for 13 years, where he served as regional immunisation capacity building officer. He was a leading professional in the area of capacity building, laying the foundation for mid-level management training and vaccinology courses in the African Region, from which thousands have benefited in the course of the last two decades. He also put the importance of immunisation pre-service training high on the agenda.

Dr Mutabaruka, as capacity building officer for WHO/AFRO, closely collaborated with NESI on the development of training modules for mid-level management and vaccinology courses. With Dr Mutabaruka as course director, many joint inter-country mid-level management and vaccinology courses have been facilitated. After his retirement from WHO in 2013, Dr Mutabaruka continued to collaborate on specific projects with NESI.

Dr Mutabaruka will be remembered as a very pleasant and motivated person. His enthusiasm and motivation set an example for us all. His contributions to EPI in the African Region will always be remembered.



Workshop

Supporting HPV vaccine introduction in the Asian Region, 18-20 November 2019 in Bandung, Indonesia



HIGHLIGHT 2019





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 Collaboration Agreements with partner institutions/organisations 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. NESI also aims to strengthen the capacity of the National Immunisation Technical Advisory Groups (NITAGs) in evidence-based recommendation-making.

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:

Education and training

- Organises training courses and workshops in collaboration with partner institutions/organisations;
- Serves as faculty in national and international vaccinology courses;
- Validates the content of educational and training materials;
- Develops up-to-date, high-quality training materials for different levels of the immunisation programmes, capturing the needs of all staff;
- Collaborates with health training institutions to strengthen the curriculum for health professionals involved in immunisation and advises on regular refresher courses in collaboration with Ministries of Health.

Technical support

- Monitors and evaluates currently implemented education and training programmes;
- 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;
- Supports institutional strengthening to improve national and regional capacity to deliver education and training.



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.

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;
- 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.

Collaboration with partner institutions/organisations in the different WHO Regions is an essential component for the implementation of NESI's activities. Collaboration Agreements have been established with the following institutions: South African Vaccination and Immunisation Centre/Sefako Makgatho Health Sciences University (SAVIC/SMU), South Africa; Société Marocaine d'Infectiologie Pédiatrique et de Vaccinologie (SOMIPEV), Morocco; Universitas Padjadjaran (UNPAD), Indonesia; East Africa Centre for Vaccines and Immunization (ECAVI), Uganda; Global Health Development/Eastern Mediterranean Public Health Network (GHD/EMHPNET), Jordan.

NESI **scientific advisors** are engaged in advising on strategic areas and reviewing outputs, identifying potential funding, reviewing proposals/applications.

NESI has full operational and scientific independence

Funding

During 2019, NESI was supported by educational grants from GlaxoSmithKline Vaccines and MSD, and by funds from the University of Antwerp, which also provides infrastructure, ICT, administrative, and legal support. Project specific support was received from the Islamic Development Bank.

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 EPI reviews and health facility surveys conducted at national and provincial/district levels showed that important barriers to reaching every child 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: incomplete or outdated EPI content in the pre-service curricula; lack of demonstration equipment and current EPI reference material; insufficient time allocation for EPI theory; insufficient 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, is key to the overall success.

1.1 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



Kenya Medical Training College (KMTTC)



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.

1.1.1 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. Following consensus on the EPI content, an EPI learning guide to be used by students during the skills laboratory sessions has been developed.

The last step in the process of strengthening EPI pre-service training at KMTC is the organisation of a refresher training course for all nurse lecturers on current immunisation guidelines and practices, in order for them to deliver the updated EPI content with confidence. Currently the implementation of the course is being planned and training materials have been compiled.

The experience of KMTC is being documented and can serve as an example for other health training institutions and other countries to evaluate and revise their respective institutional EPI curriculum.

1.1.2 Universitas Padjadjaran, Bandung, Indonesia

Since 2015, Universitas Padjadjaran (UNPAD) and NESI/University of Antwerp are closely working together to strengthen the EPI pre-service training at nursing and midwifery schools in West-Java, Indonesia. The first phase of the 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 study took place at public and private nursing and midwifery schools in the districts of Bandung, Garut, Tasikmalaya and Kuningan 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.

A protocol has now been developed 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 on current EPI training at the different nursing and midwifery schools. Following the extended survey, a standard EPI curriculum will be developed and refresher courses for current EPI lecturers and tutors will be organised.

1.2 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 (MLM) training has clearly shown that the performance of healthcare workers improves after in-service training.

1.2.1 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. 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.

1.2.1.1 ECAVI vaccinology course, Kampala, Uganda, June 2019

The vaccinology course for healthcare professionals was organised by the East Africa Centre for Vaccines and Immunization (ECAVI) from 17 to 21 June 2019 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 format of the course included: 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
- Describe indications, contraindications, efficacy, and safety of vaccines according to WHO criteria

- Identify, manage and report Adverse Events Following Immunisation (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 partner with other immunisation stakeholders
- Champion and advocate for uptake and promotion of immunisation

The course was attended by 68 participants from the following countries: Ethiopia (1), Kenya (21), Somalia (3), South Sudan (11), Sudan (2), Tanzania (9) and Uganda (21).



ECAVI vaccinology course, Kampala, Uganda, June 2019

NESI was invited by ECAVI to chair 2 sessions and to give the following lectures:

1. Overview of vaccine-preventable diseases and their epidemiology;
2. Legal and ethical issues in vaccination;
3. Human Papillomavirus (HPV) vaccines; and
4. Vaccines in the pipeline.

NESI supported the participation of two EPI lecturers from Kenya Medical Training College (KMTTC), as part of the on-going support to strengthen EPI training at KMTTC (see section 1.1.1.).

1.2.1.2 Erasmus+ Mundus Joint Master Degree “Leading International Vaccinology Education” (LIVE), Lyon, France, September 2019

The Erasmus+ Mundus Joint Master 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);
- 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.

A total of 21 students are currently enrolled in the third LIVE promotion, called the “Lady Mary Montagu” Master LIVE Promotion 2018-20.

NESI was invited to give a lecture on 25 September 2019 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 “History and rationale of vaccination schedules; role of the NITAGs; and GVAP goals”.

From the second LIVE promotion, the “Louis Pasteur” Master LIVE Promotion 2017-19, one student completed his 6-months internship with NESI working on “Understanding the acceptability of vaccines and potential barriers to vaccination in general and specifically to HPV vaccines among university students in Indonesia ” (see section 3.1.).

1.2.1.3 15th Annual African Vaccinology Course Cape Town, South Africa, November 2019

The 15th Annual African Vaccinology Course was organised by the Vaccines for Africa Initiative (VACFA), University of Cape Town, from 4 to 8 November 2019 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 vaccine trials in Africa
- Foster communication and networking among African vaccinologists

Following the vaccinology course, a closed session for NITAG members was organised, representing 5 African countries.

The course was attended by 61 participants from 21 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 39 faculty members (national and international), all experts in the field of vaccinology coming from academia, government, non-governmental institutions and industry. NESI was invited by VACFA to lecture on “Vaccination schedules: past, present and future”. NESI also participated in the closed NITAG session.



15th Annual African Vaccinology Course, Cape Town, South Africa, November 2019



1.2.2 Mid-Level Management training

1.2.2.1 Revision of 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.



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EPI Mid-Level Management online training tool

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 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 view of the above mentioned current changes, WHO/AFRO in collaboration with key immunisation partners, like UNICEF and NESI/University of Antwerp have revised the EPI MLM training modules. This was done with the support of Bull City Learning, an organisation specialised in instructional design. In addition, the training was reformatted to have a mix of classroom and self-paced online training. All modules are available in English. Translation to French is on-going.



Example of EPI Mid-Level Management modules for face-to-face training (each module consisting of resource book and participant workbook)

.....



1.2.2.2 Mid-Level Management training Freetown, Sierra Leone, February 2019

WHO/AFRO in collaboration with the Ministry of Health of Sierra Leone, and supported by NESI, organised a Mid-Level Management training course in Freetown, Sierra Leone, from 26 February 2019 to 1 March 2019. This training was the second pilot of the newly reformatted MLM training modules, following the first pilot in Ghana in 2018.

The MLM training focused on 4 modules selected based on the national programme priorities in Sierra Leone:

1. Problem solving;
2. New vaccine introduction;
3. Supportive supervision; and
4. Surveillance.

A total of 34 participants from national and district level attended the course.

The aim of the workshop was:

- To be able to train trainers from various levels in Sierra Leone
- To be able 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

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 were 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.

1.2.2.3 Regional Mid-Level Management training for trainers, Addis Ababa, Ethiopia, November 2019

WHO/AFRO in collaboration with the Ministry of Health of Ethiopia, and supported by NESI, organised a Regional Training of Trainers' (ToT) workshop to introduce the updated Mid-Level Management training tools and to build capacity among WHO staff.

The revised modules were piloted in Ghana during 2018 and in Sierra Leone during 2019. The modules are currently available in English and are being translated in French.

The objectives of the ToT included:

- To introduce the new MLM modules
- To train a critical number of resource persons in order to enable them to serve as facilitators in future MLM courses



Regional Mid-Level Management training for trainers, Addis Ababa, Ethiopia, November 2019

The modules covered during this ToT included:

1. Planning immunisation activities;
2. Communication;
3. Organising and implementing Supplementary Immunisation Activities;
4. New vaccines introduction;
5. Vaccine management; and
6. Monitoring EPI.

In addition, a session on Adaptive Leadership was organised by the Sabin Vaccine Institute.

A total of 34 participants from 14 countries participated in the ToT workshop. Facilitators (8) were from WHO regional and inter-country support team offices and NESI. Instruc-

tional design experts from Bull City Learning were present to assist with the facilitation of the training and guide on good facilitation skills.

The outcomes of the ToT training included:

- A pool of potential trainers developed at regional, sub-regional and country levels who can run the MLM course in countries as per country request
- Potential trainers completed at least 6 workshop modules and two online modules
- Potential trainers received training on facilitation skills

The workshop concluded with a list of 20 tips for becoming a MLM master trainer.

1.3 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, NESI aims to strengthen national teams of experts and to build an international network.

1.3.1 Renforcement des capacités de l'introduction du vaccin contre la varicelle dans les programmes nationaux de vaccination, Marrakech, Morocco, March 2019

The workshop "Renforcement des capacités de l'introduction du vaccin contre la varicelle dans les programmes nationaux de vaccination", was organised on 29 March 2019 in Marrakech, Morocco, by Université Cadi Ayyad, Société Marocaine d'Infectiologie Pédiatrique et de Vaccinologie (SOMIPEV) and NESI/University of Antwerp. The workshop was organised back-to-back with the SOMIPEV symposium (see section 4.3.1.).

The workshop was attended by 44 participants. NITAG members and MoH representatives of the following countries participated in the workshop: Algeria, Benin, Cote d'Ivoire, Mali, Morocco, Mauritania, Niger, Tunisia and Senegal. Facilitators of the workshop were from Université Cadi Ayyad, SOMIPEV and NESI/University of Antwerp.

The objectives of the workshop included:

- To increase knowledge on vaccine-preventable diseases, focusing on varicella
- Raise the awareness about varicella disease burden in certain risk groups
- To create awareness regarding varicella vaccination in the participating countries in order to reduce morbidity and mortality
- To support the national team of experts to make evidence-based recommendations on varicella vaccine introduction

The workshop consisted of interactive presentations and a round table discussion, including sharing of experiences and best practices.

The workshop discussed the epidemiology and burden of varicella disease in the Region. An update of the varicella vaccines was presented, as well as the experience of varicella vaccination in the European Region. A round table discussion addressed the following issues: decision-making process; need for operational research and support from partners. All countries shared their views and experiences with decision-making for new vaccine introduction.

Although all countries recognized the potential of varicella vaccines to control the disease, most of them indicated that data on varicella disease burden were lacking.

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Renforcement des capacités de l'introduction du vaccin contre la varicelle dans les programmes nationaux de vaccination, Marrakech, Morocco, March 2019

1.3.2 Supporting HPV vaccine introduction in the Asian Region, Bandung, Indonesia, November 2019

From 18 to 20 November 2019, the Workshop on “Supporting HPV vaccine introduction in the Asian Region” was organised in Bandung, Indonesia, by Universitas Padjadjaran, the Indonesian Paediatric Society and NESI/University of Antwerp. The workshop received support from the Ministry of Health Indonesia.

The workshop explored the current status of HPV vaccine introduction in the South East Asian and Western Pacific Region, gaps in information about HPV diseases burden, optimal communication and delivery strategies for the introduction of HPV vaccine and the role of NITAGs in the decision-making process for the introduction of new vaccines, especially the HPV vaccine. The workshop comprised of interactive presentations, round table discussions, country presentations, including sharing of experiences and best practices.

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 stakeholders.

The objectives of the workshop included:

- To discuss the burden of HPV related diseases, especially cervical cancer, in the South East Asian and Western Pacific Regions
- 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 HPV vaccine introduction 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

A total of 84 delegates (participants and facilitators) participated in the workshop. Nominated delegates were from the Ministry of Health and/or NITAG members from the following countries: Afghanistan, Bangladesh, Bhutan, Cambodia, India, Indonesia, Lao PDR, Malaysia, Maldives, Myanmar, Nepal, Papua New Guinea, Sri Lanka, Thailand, Vietnam. Other participants and observers came from academia, national and international organisations and industry. Facilitators were from: Universitas Padjadjaran, Indonesian Paediatric Society, Indonesian Society of Gynecologic Oncology, WHO/India,

WHO/Indonesia, WHO/WPRO, WHO/IARC, Australian NITAG, Ministry of Health Oman, University of Pretoria, NESI/University of Antwerp.

Presentations highlighted key aspects on burden of disease, cervical cancer screening, update on HPV vaccines and cost effectiveness, delivery strategy for HPV vaccination, role of advocacy, communication and social mobilization for building public trust in HPV vaccination and monitoring and evaluation of HPV vaccination programmes. In addition, the role of NITAGs in the decision-making process for HPV vaccine introduction was also discussed. Experiences of HPV vaccine introduction were shared by delegates from Australia, Bhutan, Malaysia, Maldives and Sri Lanka. Other participating countries shared their current status of HPV vaccination demonstration programmes or plans for HPV vaccine introduction, along with potential challenges and opportunities.

The round table discussion explored how to overcome hurdles for HPV vaccine introduction and cervical cancer screening, focusing on socio-economic and cultural challenges. Countries who already successfully introduced the HPV vaccine nationally shared their experiences and lessons learnt, followed by interactive plenary discussion.

The workshop concluded with a look into the future on how to end cervical cancer.



*Workshop “Supporting HPV vaccine introduction in the Asian Region”
Bandung, Indonesia, November 2019*



Technical Support

CHAPTER TWO

2.1 NITAGs Inter-country workshop, Amman, Jordan, June 2019

Global Health Development/Eastern Mediterranean Public Health Network (GHD/EMPH-NET) organised a NITAGs inter-country workshop in Amman, Jordan, from 13 to 15 June 2019.

GHD aims to support targeted countries in the Eastern Mediterranean Region to operationalize their NITAGs according to the globally approved standards, through a comprehensive process.



NITAGs Inter-country workshop, Amman, Jordan, June 2019

The objective of the workshop was to develop a common understanding about the NITAG functionality criteria and strengthen NITAGs capacity in terms of recommendation-making process. A functional and effective NITAG helps to provide answers to complex immunisation issues and contributes to the decision-making process, which should be credible, accountable and independent. Therefore, well-trained NITAGs and EPI/NITAG secretariat are of utmost importance.

Participants included NITAG chairs and EPI managers from the following countries: Afghanistan, Jordan, Iraq, Libya, Morocco, Oman, Saudi Arabia, and Tunisia.

Representative from partner organisations attended and facilitated the workshop: Centers for Disease Control and Prevention (CDC), WHO/HQ and WHO/EMRO, UNICEF, Gavi, Global NITAG Network (GNN) and NESI/University of Antwerp.

The workshop focused on the functionality of the NITAGs. Findings of the NITAGs assessment exercise that was carried out prior to the workshop were shared with the participants. All partners presented their experience with capacity building of the NITAGs. The participants were also introduced to the concept and process of evidence-based recommendation-making. A framework for monitoring NITAG functionality was discussed and agreed upon.

The training workshop was well received by the participants. They expressed the need for further training and capacity building. The participating countries committed to finalize their respective NITAG improvement plans when returning to their countries.

2.2 NITAG Partners Retreat Copenhagen, Denmark, September 2019

The NITAG Partners Retreat was organised by WHO/HQ in Copenhagen, Denmark, from 3 to 4 September 2019. The meeting was hosted at the Regional Office of WHO/EURO.

The meeting was attended by the chair and steering committee members of the GNN, WHO/HQ, WHO/AFRO, WHO/EMRO, WHO/EURO, WHO/PAHO, CDC, Wellcome Trust, Task Force for Global Health, Robert Koch Institute, European Centre for Disease Prevention and Control, Gavi, NESI/University of Antwerp. WHO/WPRO connected remotely.

The annual NITAG Partners Retreat is an important moment to exchange, align and coordinate activities with the main stakeholders involved in supporting NITAGs at various levels.

The objectives of the meeting included:

- Review current partners activities and engagements in regions and countries
- Present results of the scoping work
- Discuss indicators to monitor NITAGs' performance
- Give an overview of the sysvac2 project
- Identify priority areas of collaborative work
 - Tools and curricula for training
 - Stages of development framework
 - NITAG twinning formalization
- Review the Global NITAG Network work plan and discuss meeting agenda



NESI was invited to participate in the NITAG Partners Retreat and gave an overview of past and current training activities in support of NITAGs. It was also an excellent opportunity to discuss and align activities and ideas with other NITAG partners, as to avoid duplication and increase impact.

Main priorities for the coming year were agreed upon among partners and regions.

2.3 Training in immunisation at South African Vaccinology and Immunisation Centre, Sefako Makgatho Health Sciences University

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 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 Higher Certificate in Vaccinology was received in 2018.

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.

In addition, SAVIC/SMU has developed **Vaccinology Short Courses** (VSC), based on the Higher Certificate in Vaccinology, which are organised three times a year. The VSC cover the 11 modules over three sessions. The duration of each session is two days. The first day comprises of interactive lectures, while the second day focuses on group work and case studies. NESI was invited as external reviewer to attend a session of the VSC from **30 to 31 October 2019**.

NESI served as **external examiner of MPH dissertations**:

- Byron Obinna Chukwu. Seasonal influenza and hepatitis B vaccination uptake amongst healthcare workers in selected Primary Health Care facilities in the Bojanala District, North-West Province, South Africa. Sefako Makgatho Health Sciences University, South Africa. February 2019.
- RPT Motha. Investigation of vaccination uptake and use in children under the age of 13 years in selected primary health care facilities in the Bojanala District, North-West Province. Sefako Makgatho Health Sciences University, South Africa. February 2019.



Vaccinology Short Course



2.4 Collaboration on Global Vaccinology Training

The Collaboration on Global Vaccinology Training was established in November 2018 during a Global Vaccinology Training Workshop, organised by Fondation Mérieux and Université de Genève. The collaboration aims to identify gaps and future needs as well as discuss potential collaboration between different vaccinology courses.

To address these aims, four working groups have been established:

1. e-portal;
2. industry engagement;
3. evaluation and;
4. needs assessment.

A global vaccinology training website has been developed, providing an overview of existing vaccinology training courses.

Teleconferences are being organised every six months to discuss any updates of the working groups. NESI is an active member of the Collaboration on Global Vaccinology Training.

A summary of the workshop organised in 2018 has been published:



Duclos P, Martinez L, MacDonald N, Asturias E, Nohynek H, Lambert P-H, on behalf of all participants of the Global Vaccinology Training Workshop. Global vaccinology training: Report from an ADVAC workshop. *Vaccine* 2019; 37 (22): 2871-2881.

2.5 VACFA Board Meeting, Cape Town, South Africa, November 2019

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 7 November 2019, during the 15th Annual African Vaccinology Course.



Operational Research

CHAPTER THREE

3.1 Internship project Erasmus+ Mundus Joint Master Degree “Leading International Vaccinology Education”

In the framework of the Erasmus+ Mundus Joint Master Degree entitled “**Leading International Vaccinology Education**” (LIVE), one MSc student has completed his internship at NESI from January to July 2019. 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. NESI is supporting partner to the LIVE programme.

Summary of internship project:

Many countries worldwide are embarking on the introduction of new vaccines, including the HPV vaccine. 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. Indonesia has a well-functioning immunisation programme, with 83% spending on routine immunisation financed by the government. However, recently the immunisation coverage is stagnating. Demonstration projects for pneumococcal conjugate vaccine and HPV vaccine are currently being implemented before nation-wide introduction. Rotavirus vaccine has not yet been introduced.

As many new vaccines are anticipated to be introduced in the coming years in Indonesia, the study aims to understand the acceptability and potential barriers to vaccination in general and specifically to the HPV vaccine in the general population.

The study used an online self-administered anonymous questionnaire and targeted a sub-population of the general public in Indonesia. The results of this project highlighted which areas need special attention for successful introduction of new vaccines, especially the HPV vaccine.

The student successfully defended his thesis in Barcelona on 13 June 2019.



Madan Khatiwada. To understand the acceptability of vaccines and potential barriers to vaccination in general and specifically to HPV vaccines among university students in Indonesia.



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, 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 was accredited in June 2018.

As member of VSN, NESI contributes to the content development of a **Vaccine Safety Chatbot** to address the most common concerns of the public around issues related to vaccine safety.

4.2 Meetings

4.2.1 WHO/AFRO Regional Immunisation Technical Advisory Group meeting and African Regional Immunisation Stakeholders meeting, Brazzaville, Congo, January 2019

The Regional Immunisation Technical Advisory Group (RITAG) meeting was organised by WHO/AFRO in Brazzaville, Congo from 15 to 17 January 2019, followed by the African Regional Immunisation Stakeholders meeting on 18 January 2019.

Both meetings were attended by 132 participants, including representatives from WHO, RITAG members, SAGE members, NITAG members from several African countries, MoH staff and immunisation partners.

The RITAG meeting addressed the following topics: Yellow Fever control; Polio eradication and end-game strategy; Malaria Vaccine Implementation project update; Routine immunisation; Measles/rubella and Maternal and Neonatal Tetanus elimination; Demand for immunisation; Vaccine-preventable disease surveillance investment case; and NITAGs.

The African Regional Immunisation Stakeholders meeting gave an update on the Addis Declaration on Immunisation. A round table discussion focused on the importance for tailored technical support to address specific country needs.

4.2.2 Second WHO African Health Forum, Praia, Cabo Verde, March 2019

The Second WHO African Health Forum was jointly convened by WHO/AFRO and the Government of Cabo Verde from 26 to 28 March 2019, in Praia, Cabo Verde. The theme of the Forum was **“Achieving universal health coverage and health security: the Africa we want to see”**.

The Forum was attended by a broad range of participants: high-ranking government officials from the Ministry of Health and other Ministries, parliamentarians, civil society organisation and youth representatives, UN agencies, academia, media and other stakeholders. NESI was invited by the WHO Regional Director of the African Region to attend the Forum.

The Forum was organised in four major sessions:

- Taking Universal Health Coverage to the Next Level in Africa: Leaving No One Behind
- Multi-sectoral Collaboration to Improve Health Outcomes
- Moving Beyond Rhetoric to Evidence-Based Engagement of the Private Sector for Universal Health Coverage
- Collaboration for Improved Coordination, Preparedness and Global Health Security

For each of these key thematic areas, recommendations were made to Member States, as well as to WHO and other UN agencies, partners and the private sector as applicable.

4.2.3 Strategic Advisory Group of Experts meeting Geneva, Switzerland, April and October 2019

The Strategic Advisory Group of Experts (SAGE) meetings were organised by WHO from 2 to 4 April 2019, and from 8 to 10 October 2019, 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 2019*

Topics discussed at SAGE April 2019	Topics discussed at SAGE October 2019
Report from WHO/IVB and Regional Updates	Report from WHO/IVB and Regional Updates
Report from Gavi, the Vaccine Alliance	Report from Gavi, the Vaccine Alliance
Quality and use of immunisation and surveillance data	Immunisation partners: Report from the Vaccine Innovation Prioritisation Strategy
Report from the Global Advisory Committee on Vaccine Safety	Measles and Rubella
Update on the development of a Post-2020 Immunisation Strategy	HPV vaccines
Immunisation partners: Report from the Coalition for Epidemic Preparedness Innovations	Post-2020 Global Immunisation Strategy/ Global Vaccine Action Plan
Malaria vaccine	Ebola vaccines
Polio, the last mile	Quality and use of immunisation and surveillance data
Defeating meningitis by 2030 Global Roadmap	Polio
Ebola vaccines	
Update on the SAGE evaluation	

During the SAGE meeting in October 2019, NESI, among other partners, was also invited to participate in the **NITAG side meeting**. The objectives of this side meeting included:

1. Present NITAG support and GNN priority activities for 2019-2020;
2. Share NITAGs current priorities;
3. Discuss SAGE's role in supporting NITAGs; and
4. Discuss the role of NITAGs in relation with other existing committees.

NITAG members of the following countries participated in the side meeting: Angola, Belarus, Brunei, Ecuador, Iraq and Syria. The meeting was chaired by WHO/HQ and the chair of GNN.



4.2.4 Vaccine Safety Net Workshop, Geneva, Switzerland, October 2019

The Vaccine Safety Net (VSN) is a global network of websites, established by WHO, that provides reliable information on vaccine safety. VSN organized a workshop from 15 to 16 October 2019 in Geneva, Switzerland, to discuss best practices on promoting credible, accurate, compelling vaccine and vaccine safety information online and using data and analytics for decision-making in vaccine and vaccine safety communication.

The CDC-VSN “minimum package” project on recommended content and structure for immunisation programme and other vaccine related government websites (including social media channels) was also discussed. The representatives from social media platforms like Facebook, YouTube and Pinterest shared their work on how they are minimizing the flow of misinformation on vaccine-related topics in their respective platforms. Some of the countries also shared their experience regarding the influence of social media like Facebook on the immunisation programme and mass vaccination campaigns.

NESI has been an active VSN member for the last two years and therefore, was invited to attend the workshop remotely. In total, 102 participants attended the workshop in person and remotely. The workshop included interactive presentations, group work discussions and trainings on using data and analytics for decision-making on vaccine and vaccine safety communication.

4.3 Symposia and conferences

4.3.1 7ème Congrès SOMIPEV, Marrakech, Morocco, March 2019

NESI was invited by SOMIPEV to attend the 7th SOMIPEV symposium from 29 to 31 March 2019 in Marrakech, Morocco. The symposium was organised back-to-back with the joint NESI-SOMIPEV workshop on varicella vaccination (see section 1.3.1.).

The symposium addressed the following topics: antibiotic treatment; infectious diseases, epidemiology and vaccinology (varicella, HPV, meningococcal and influenza vaccines); acute and recurrent respiratory infections; nutrition; encephalitis.

The majority of participants were from Morocco, but SOMIPEV also aims to strengthen South-South collaboration. Delegates from Algeria, Benin, Cote d'Ivoire, Mali, Mauritania, Niger, Tunisia and Senegal also attended the symposium.

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



7ème Congrès SOMIPEV, Marrakech, Morocco, March 2019

4.3.2 Africa Regional Conference of the International Confederation of Midwives, Windhoek, Namibia, September 2019

The Africa Regional Conference of the International Confederation of Midwives (ICM) was organised from 12 to 14 September 2019 in Windhoek, Namibia. The theme of the conference was: “Midwives leading the way for quality and equity in Africa”.

NESI was invited by ICM to organize a parallel session during this conference: “**Role of midwives in advocating for and supporting neonatal and maternal immunisation programmes**”. The session addressed the scientific rationale for neonatal and maternal immunisation, and gave an overview of the current status of neonatal and maternal immunisation programmes in countries in the African Region. These presentations were followed by a panel discussion on how to improve the uptake of neonatal and maternal immunisation. Two midwives participated in the panel discussion and shared their views and experiences. The closing presentation focused on an overview of the vaccine pipeline for neonatal and maternal immunisation. The session was organized in collaboration with the University of Nairobi, WHO/Namibia and VACFA/University of Cape Town.

More than 400 participants attended the conference. It was the first time during a conference of ICM that immunisation issues were discussed. It was observed that there is a need for training midwives on the important role they have in supporting immunisation programmes and specific areas of training needs were identified.

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Poster presentation 13th Annual ISV Congress, Ghent, Belgium, October 2019



To understand knowledge, attitude and acceptability of HPV vaccine and potential barriers to HPV vaccination among university students in Indonesia.

Khatiwada M, Kartasasmita C, Mediani HS, Delprat C, Van Hal G, Dochez C.

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To understand knowledge, attitude and acceptability of HPV vaccine and potential barriers to HPV vaccination among university students in Indonesia

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Introduction

- Cervical cancer, major outcome of persistent Human Papillomavirus (HPV) infection, is the third most common cancer among women worldwide and claimed around 311,000 women lives in 2018.
- Majority of these deaths evaluated in low- and middle income countries (LMICs).
- In LMICs, where cervical cancer screening coverage is low, HPV vaccine can be a promising tool to prevent HPV infection and thus avert cervical cancer cases.
- In Indonesia, cervical cancer is the second most common cancer and also the HPV vaccine has not yet been introduced nationally.
- Since students are important source of information to the community and also medical and nursing students are future healthcare professionals, this research study explored knowledge, attitude and acceptability of HPV vaccine among university students in Indonesia.

Methodology

- A self-administered anonymous online questionnaire was used to assess the knowledge, attitude and willingness of university students towards HPV vaccination.

Result

- In total 430 students from Medical, Nursing, Social Sciences and other faculties participated in the survey.
- Overall, it was observed that more than 90% of the students were aware about cervical cancer and HPV but only 69% knew about HPV vaccine before participating in the study.
- In case of having average knowledge on HPV vaccine, students showed high willingness to receive the vaccine (86% acceptance rate).

Potential facilitators for HPV vaccination

- HPV vaccines are safe and effective.
- HPV vaccination can protect from high-risk HPV infections.

Potential barriers for HPV vaccination

- Limited provision of adequate information on HPV related topics in Indonesia.
- High cost of HPV vaccine.

Statistical analysis of association between variables

Variables	Significance (p value)	Odds Ratio	95% Confidence Interval
Knowledge	0.01 **	1.351	1.03 - 2.18
Gender	0.38 **	0.59	0.17 - 1.96
Age	0.96 **	1.03	0.27 - 3.95
Vaccine Uptake	0.001 ***	2.28	1.29 - 4.03
Willingness to get vaccinated	0.002 **	0.20	0.07 - 0.54
Knowing someone who got vaccinated	0.98 **	0.97	0.10 - 9.62
History of seeking information on HPV vaccine	0.01 **	0.16	0.07 - 0.26

Discussion

- Students with medical background were more likely to know about cervical cancer, HPV and HPV vaccine compared to non-medical students which reflects that there is knowledge gap between the faculties.
- HPV vaccine acceptance rate among the students was immensely high and also the students had positive attitude towards vaccination which is possibly due to the highly organized and effective National Immunization Program.
- Comparing the research study with similar studies conducted in different countries, it was seen that knowledge level varies from one country to the other and exposure to health information can have a positive impact on the level of knowledge on cervical cancer, HPV and HPV vaccine.

Conclusion

- Despite high willingness for HPV vaccine uptake among the students, it is necessary to impart education on HPV vaccine related subjects to the Indonesian students through awareness/training programs, workshops and by upgrading academic curriculum on immunization for long term sustainability of the HPV vaccination program.

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Logos: NESI, Universitas Padjadjaran, University of Antwerp, INSERM, CRCL, CNRS, UMR, 5286, Univ Lyon, Université Claude Bernard Lyon 1 (UCBL1), Lyon, France.

Contact Information: Madan Khatiwada, Email id: Madan.Khatiwada@uantwerpen.be

4.3.3 Annual International Society for Vaccines Congress, Ghent, Belgium, October 2019

The International Society for Vaccines (ISV) organised the 13th Annual ISV congress from 27 to 29 October 2019 in Ghent, Belgium. The ISV Annual congress is the world largest scientific conference for basic and clinical researchers interested in vaccines and the underlying sciences with broad coverage of topics related to vaccines ranging from basic research through manufacturing and clinical trials for human and veterinary vaccines encompassing infectious diseases and cancer.

The congress was attended by over 400 participants from academia, research institutes, non-profit organizations and industry. The conference provided a platform to exchange ideas through lively discussions led by session chairs and through vibrant interactive poster sessions among the participants.

4.3.4 Global Vaccine Safety Summit, Geneva, Switzerland, December 2019

The Global Vaccine Safety Summit was organised by WHO, from 2 to 3 December 2019, in Geneva, Switzerland.

The WHO's Global Advisory Committee on Vaccine Safety (GACVS) celebrated its 20th anniversary in 2019. Therefore, the Global Vaccine Safety Summit was an opportunity to take stock of GACVS accomplishments and look towards priorities for the next decade. The draft Global Vaccine Safety Blueprint 2.0 strategy 2021-2030 was presented to the delegates.

The Summit was attended by vaccine safety stakeholders from around the world, including current and former members of GACVS, immunisation programme managers, national regulatory authorities, pharmacovigilance staff, representatives of UN agencies, academic institutions, technical partners, industry representatives and funding agencies. NESI was invited to attend the Summit as VSN member.



Scientific advisors

NESI scientific advisors are engaged in advising on strategic areas and reviewing outputs, identifying potential funding and reviewing proposals/applications.

The input of the scientific advisory members will contribute to

1. refinement of strategic areas;
2. identification of additional resources;
3. identification of new collaborations, and
4. overall improved functioning of NESI.

Current scientific advisors:

- **Dr Robin Biellik**, DrPH
Retired Epidemiologist WHO - Geneva, Switzerland
- **Dr Edith Maes**, DBA, MSc
Director Health Economics, Monitor Deloitte - Brussels, Belgium
- **Prof Dr Fred Were**, MD, PhD
Professor of Paediatrics, Department of Paediatrics and Child Health, University of Nairobi - Nairobi, Kenya
- **Dr Salah Al Awaidy**, MD, MSc
Sr. Consultant Epidemiologist, Communicable Disease Surveillance and Control
Advisor to the office of the Undersecretary of Health Affairs at the Ministry of Health
Muscat, Sultanate of Oman

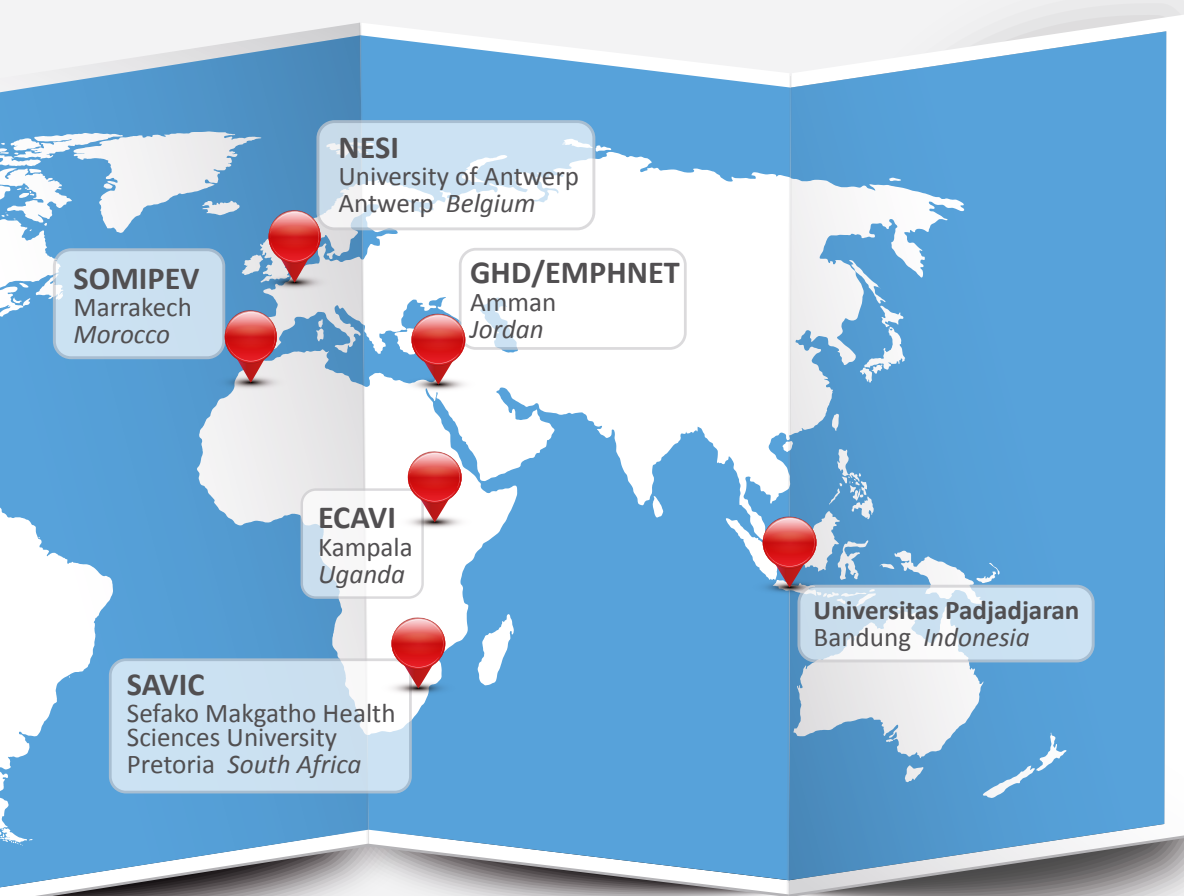
Collaboration with partner institutions/organisations

Collaboration with partner institutions/organisations in the different WHO Regions is an essential component for the implementation of NESI's activities. Each partner will bring in their own strength and expertise, consequently strengthening the overall Network, ensuring its sustainability and extending its reach.

NESI has established Collaboration Agreements with five partner institutions:

- South African Vaccination and Immunisation Centre/Sefako Makgatho Health Sciences University | SAVIC/SMU, South Africa
- Société Marocaine d'Infectiologie Pédiatrique et de Vaccinologie | SOMIPEV, Morocco
- Universitas Padjadjaran | UNPAD, Indonesia
- East Africa Centre for Vaccines and Immunization | ECAVI, Uganda
- Global Health Development/Eastern Mediterranean Public Health Network | GHD/EMHPNET, Jordan





Colophon



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