



**World Health
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REGIONAL OFFICE FOR

Europe

**14th meeting of the
European Technical Advisory
Group of Experts
on Immunization (ETAGE)**

**8–9 October 2014
Copenhagen, Denmark**



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ABSTRACT

The European Technical Advisory Group of Experts on Immunization (ETAGE) met on 8–9 October 2014 to review and discuss immunization activities and developments in the WHO European Region and provide advice to the WHO Regional Office on appropriate activities. Main topics for discussion included the measles and rubella action plan and progress made in achieving the regional elimination goal; monitoring implementation of the Global Vaccine Action Plan (GVAP) and development of the European Vaccine Action Plan 2015–2020 (EVAP); defining a regional goal for hepatitis B control; an update on the Strategic Advisory Group of Experts on Immunization (SAGE) Pertussis Working Group activities; and updates on Vaccine Safety Communication, Advocacy initiatives, IPV introduction as part of the polio endgame strategy, and National Immunization Technical Advisory Group (NITAG) strategic activities.

Keywords

HEPATITIS B
IMMUNIZATION PROGRAMS
MEASLES
PERTUSSIS
RUBELLA
VACCINES

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Abbreviations

aP	acellular pertussis vaccine component
bOPV	bivalent oral polio vaccine
DTP	diphtheria, tetanus and pertussis combination vaccine
ESPID	European Society for Paediatric Infectious Diseases
ETAGE	European Technical Advisory Group of Experts on Immunization
EVAP	European Vaccine Action Plan
EIW	European Immunization Week
GVAP	Global Vaccine Action Plan
HCWs	health care workers
HBsAg	hepatitis B surface antigen
IPV	inactivated poliovirus vaccine
JRF	WHO/UNICEF Joint Reporting Form
MMR	measles, mumps, rubella combination vaccine
MR	measles, rubella combination vaccine
NITAG	National Immunization Technical Advisory Group
NRA	National Regulatory Authorities
OPV	oral polio vaccine
RCC	Regional Commission for the Certification of poliomyelitis eradication
RVC	Measles and Rubella Regional Verification Commission
SAGE	Strategic Advisory Group of Experts on Immunization
SIA	supplementary immunization activity
TIP	Tailoring Immunization Programmes
tOPV	trivalent oral polio vaccine
UNICEF	United Nations Children's Fund
VDPV	Vaccine-derived poliovirus
VPD	Vaccine-preventable diseases
VPI	Vaccine-preventable Diseases and Immunization Programme of the WHO Regional Office for Europe
WHO	World Health Organization
wP	whole-cell pertussis vaccine component
WPV	wild poliovirus

Executive summary

The fourteenth meeting of the European Technical Advisory Group of Experts on Immunization (ETAGE) was held on 8 and 9 October 2014 in Copenhagen, Denmark to review and discuss immunization activities and developments in the WHO European Region and provide advice to the WHO Regional Office on appropriate activities.

Main topics for discussion included a review of the implementation status of recommendations made at the 13th meeting of ETAGE; a situation update on measles and rubella elimination and progress made in implementing the measles and rubella elimination Package of Accelerated Action 2013-2015; monitoring implementation of the Global Vaccine Action Plan (GVAP) and adoption and plans for implementing the European Vaccine Action Plan (EVAP); the appropriateness and feasibility of establishing a regional Hepatitis B control goal, potential definitions of the goal and approaches to attaining it; a summary of the Strategic Advisory Group of Experts on Immunization (SAGE) pertussis working group activities and implications for the European Region. Updates were provided on vaccine preventable disease (VPD) surveillance; development of training and advocacy materials; National Immunization Technical Advisory Group (NITAG) status and strategic activities; implications of and preparations for inactivated poliovirus vaccine (IPV) introduction; and switching from use of trivalent oral polio vaccine (tOPV) to bivalent oral polio vaccine (bOPV).

A major development since the last ETAGE meeting has been adoption by the WHO Regional Committee of the European Vaccine Action Plan 2015 -2020 (EVAP), a regional interpretation of the Global Vaccine Action Plan (GVAP) developed to address specific needs and challenges related to immunization in the WHO European Region. ETAGE will be actively promoting the adoption and implementation of EVAP by Member States. As a first step, the Vaccine-preventable Diseases and Immunization Programme (VPI) will align its workplan with the EVAP vision, goals and objectives in order to provide the most appropriate and necessary technical support. Monitoring of EVAP implementation will begin next year, using data collected through the WHO/UNICEF Joint Reporting Form (JRF). Before this can be started Member States are being encouraged to align their national goals and objectives with those of the EVAP. This step, together with translation of EVAP into local languages by national immunization authorities, is regarded as a sign of national commitment and ownership.

The recent resurgence of pertussis reported in some countries with long-standing vaccination programmes and high vaccination coverage has been accompanied by a growing international debate on potential strategies to improve and optimize pertussis control. The SAGE Working Group has reviewed epidemiological data on pertussis together with results from animal model and mathematical modelling studies and concluded that both acellular pertussis-containing vaccines (aP) and whole-cell pertussis-containing (wP) vaccines have relative advantages and disadvantages, and there is insufficient data to support changes to current diphtheria, tetanus and pertussis combination (DTP) vaccination schedules. ETAGE considered the possibility that resurgence of pertussis is linked with a switch to acellular pertussis vaccine in some countries, but there is, as yet, no proof for such a link. Acellular pertussis-containing vaccines have worked well in many European countries with no detectable resurgence of disease, but improved disease surveillance, particularly improved and standardized laboratory confirmation of cases, is required before broad-based conclusions can be drawn. Member States currently using wP-containing vaccines should not switch to aP-containing vaccines at this time, unless appropriate boosters can be included in the national immunization schedule and the financial and logistical

implications of this can be addressed in a sustained fashion. Those currently using aP-containing vaccines should continue to do so, but be aware of the requirement for additional booster doses at older ages and the need to develop strategies to prevent early childhood mortality in the event of pertussis resurgence.

Within the vision and scope of the EVAP, the WHO Regional Office for Europe has committed itself to develop a Regional Hepatitis B Control Goal by 2020. Proposed targets for the control process include a hepatitis B surface antigen (HBsAg) prevalence of $\leq 0.5\%$ in children 5 to 10 years of age by 2020; universal childhood immunization achieving $\geq 95\%$ coverage with a third dose of hepatitis B vaccine by one year of age; evidence for sustainability of the hepatitis B immunization programme for a minimum of 3 years; and, establishment of a universal birth dose or effective screening of pregnant women with post-exposure prophylaxis of hepatitis B for children born to HBsAg-positive mothers. ETAGE supports the development and adoption of a regional hepatitis B control goal, but urges due caution, as the Region has existing disease control goals that have not yet been met, and adoption of additional goals will require additional resources for programme implementation.

Despite significant reductions in the reported incidence of measles and rubella in the European Region since the widespread introduction of vaccines, measles and rubella outbreaks continue to occur. In 2013 there were over 31,000 reported measles cases and almost 40,000 reported rubella cases in the Region, making achievement of the Regional measles and rubella elimination goal by 2015 highly unlikely. In 2013 approximately 1 in 3 reported measles cases occurred in persons >20 years of age, and it is likely that susceptible adults also play an important role in sustaining rubella endemicity. Reducing the immunity gap in adults and adolescents remains a major task yet to be fully addressed. The Region has entered into an accelerated phase of measles and rubella elimination and the programme needs to identify additional approaches to presenting the achievements gained, and also highlight the remaining gaps that need to be filled. Grouping countries according to level of achievement would allow programme support to be focussed on to where it is most needed. With some refinement, current data could be used to develop a simple form of 'traffic light' (red, amber, green) system for scaling levels of achievement and highlighting dangers. The next meeting of the measles/rubella Regional Verification Commission (RVC) will take place in November 2014, to be followed by an extraordinary meeting of ETAGE on 30 January 2015 to review the RVC 2014 report and status of interruption of endemic measles and rubella at the country and regional level, and to make specific recommendations on the verification process, and any potential modifications, and on the 2015 elimination target messaging through 2015 and beyond.

Introduction

The European Technical Advisory Group of Experts on Immunization (ETAGE) meets annually to review the progress of the Vaccine-preventable Diseases and Immunization Programme (VPI) towards the European regional disease prevention goals. The 14th meeting of ETAGE was conducted from 8 to 9 October 2014 at the WHO Regional Office for Europe, Copenhagen, Denmark (referred to below as the Regional Office).

Professor Pierre Van Damme chaired the meeting, Professor Christian Perronne was vice-chair, and Dr Ray Sanders was rapporteur.

Objectives of the meeting were:

1. To request advice and guidance from ETAGE members on the following key topics and issues:

- implementation against recommendations from the 13th ETAGE meeting (October 2013);
- progress and achievements in implementing planned VPI activities from October 2013 to October 2014;
- ETAGE participation and input into accomplishing and implementing the European Vaccine Action Plan (EVAP);
- progress made in implementing the measles and rubella elimination Package of Accelerated Action 2013:2015;
- development of a regional hepatitis B control goal.

2. To provide updates on:

- the WHO Strategic Advisory Group of Experts on Immunization (SAGE) Pertussis Working Group activities and the WHO Position Paper on pertussis vaccines;
- introduction of inactivated poliovirus vaccine (IPV) and the proposed switch to bivalent OPV (bOPV) use;
- regional vaccine-preventable diseases (VPD) surveillance performance;
- National Immunization Technical Advisory Group (NITAG) status within the Region;
- communications, including Tailoring Immunization Programme (TIP) projects, the new advocacy toolkit and resource mobilization.

Opening remarks

Professor Van Damme opened the meeting and welcomed ETAGE members, representatives of partner agencies and Regional immunization initiatives, representatives of selected NITAGs, and staff from WHO headquarters. The continued and increasing importance of the ETAGE in supporting and guiding the WHO Vaccine-preventable Diseases and Immunization Programme (VPI) was underscored, together with the importance and relevance of contributions from participating members of the National Immunization Technical Advisory Groups (NITAGs).

Dr Nedret Emiroglu, deputy Director, Division of Communicable Diseases, Health Security, and Environment (DCE), welcomed participants on behalf of the WHO Regional Director and provided an overview of the current organizational structure of the Regional Office. As a result of recent management changes a new acting Programme Manager for VPI, Mr Robb Butler, has been appointed.

A major development since the last ETAGE meeting has been finalization and WHO Regional Committee adoption of the European Vaccine Action Plan 2015–2020 (EVAP). EVAP is a regional interpretation of the Global Vaccine Action Plan (GVAP) developed to address specific needs and challenges related to immunization in the WHO European Region. Welcomed by the Regional Committee, EVAP appears to have widespread political support and commitment from the Member States and is seen as the roadmap for immunization activities for the coming 5 years.

Mr Robb Butler, acting Programme Manager, VPI, welcomed participants on behalf of the VPI team and presented the proposed agenda and programme for the meeting.

Review of 2013 ETAGE recommendations and implementation status

1. ETAGE advises VPI to provide technical assistance to national and supranational regulation authorities in licensing products pertinent to the polio Endgame Strategy.

A meeting for National Regulatory Authorities (NRAs) was held in October 2013 to address general licensing issues, NRA self-assessment of market authorization and pharmacovigilance functions. A meeting planned for December 2014 will specifically address inactivated poliovirus vaccine (IPV) and bivalent oral polio vaccine (bOPV) assessment and licensing issues.

2. Due to the threat to the 2015 measles and rubella elimination goal for the WHO European Region, ETAGE encourages Member States to formulate or revisit their current action plans for measles and rubella elimination and to urgently address immunity gaps in their populations.

The Regional verification process has required National Verification Committees (NVC), NITAGS and National Immunization Programmes to work together to produce annual national status reports for submission to the Regional Verification Commission (RVC). The RVC reviewed the first round of submissions in November 2013, and the second round of annual submissions is due to be reviewed November 10-12, 2014. Fifty of the 53 Member States have established NVCs, and 46 have submitted annual status reports for 2014, to date.

Population immunity gaps continue to pose a threat to achieving Regional measles and rubella elimination goals. Non-immune adults present a particular risk as approximately 1 in 3 measles cases reported in the Region now occur in adults, and multiple outbreaks have involved infections in healthcare workers (HCW). Supplementary immunization activities (SIA) have been conducted in a number of Member States including Georgia, Turkey, the UK and Azerbaijan, but none have been directed at the adult immunity gap.

A cadre of consultants for measles and rubella support in countries has been established by WHO with training provided in September 2014. Inter-country meetings with a focus on best practices have been planned for 2015. Work is continuing in collaboration with the London School of Hygiene and Tropical Medicine (LSHTM) on the development of measles and rubella population immunity profiles.

3. Recognizing that most Member States have not developed a framework to provide immunization services to adolescents and adults, ETAGE encourages Member States to include adequate practices and facilities for adult immunization in their health care systems.

There has, as yet, been no formal assessment of Member States implementing this recommendation.

4. ETAGE urges VPI to assist GAVI-graduating and lower middle-income Member States in ensuring access to quality-assured vaccines at an affordable and optimal price.

There has been dissemination of vaccine price information and sharing of country experiences through joint country missions by WHO and UNICEF and a session on vaccine pricing during the immunization Programme Managers' meeting in March 2014. Collection of vaccine price data through the WHO/UNICEF Joint Reporting Form (JRF) is being piloted and a vaccine pricing analysis report has been drafted. Nine countries in the Region are committed to sharing vaccine pricing data through the Vaccine Product, Pricing and Procurement (V3P) global project.

The Dubrovnik workshop for Low and Middle Income Countries (MIC) held in November 2013 was aimed at strengthening national vaccine procurement capacity. Furthermore, a review

workshop, planned for December 2014, aims to strengthen NRA support to enhance market competition. Support has also been provided to MICs to modify national legislation to permit access to the UNICEF pooled procurement mechanism.

5. ETAGE recommends that WHO support the development of generic training materials on immunization for schools, as school populations are highly receptive to the immunization topic.

The small working group on education in vaccination, established through the WHO Regional Office, has conducted a basic assessment of existing teaching materials and identified gaps in available materials across the Region. In-house support for developing materials exists within the Regional Office, and in partnership with a local Danish group of school teachers and Information Technology advisors, the concept of 'flipped learning' is being explored as a possible methodology for introducing vaccines and immunology into the classroom environment. A pilot project to be run in conjunction with the 2015 European Immunization Week (EIW) has been proposed.

6. ETAGE recommends that WHO supports the development of training materials on immunization for continuous medical education schemes. Accreditation of this material could take place through national or international medical professional organizations or national licensing schemes.

Initial discussions took place during the first professional society engagement meeting held in December 2013 in Copenhagen. It is intended to develop continuing medical education (CME) materials on vaccination for health professionals using the platform developed by the European Society for Paediatric Infectious Diseases (ESPID) for antimicrobial resistance, and a funding source to conduct this work has been identified. An initial meeting with representatives from ESPID is planned for November 2014.

Discussion:

ETAGE agrees that implementation status of the 2013 recommendations should be reviewed again during the 2015 annual ETAGE meeting.

Addressing immunity gaps in adult populations through adult vaccination faces a number of challenges. In some Member States, inappropriately restrictive wording in vaccine package inserts has resulted in national health regulations that prohibit use of MMR vaccine in adults. Anticipated low acceptance of vaccines by adults is also considered to be a constraint in several countries, and vaccines are not routinely procured for adults use. Although MMR can be used for adult vaccination, there is no tradition of doing so in Europe and very limited data exist on the acceptance of adult populations. The 'framework' for developing services to provide immunization services to adolescents and adults will be more of a checklist than a typical framework, and will guide Member States in focusing attention on components essential to attracting adults and adolescents to receiving vaccines.

Updates from SAGE

Topics addressed by SAGE in their meetings in November 2013 and April 2014 included polio eradication and the polio endgame strategy, pandemic and pre-pandemic influenza vaccines, measles and rubella elimination, smallpox vaccines for outbreak response, and varicella, pertussis, yellow fever and HPV vaccines. More cross-cutting topics included the implementation of GVAP monitoring activities, immunization supply chains, surveillance

networks, the non-specific effects of vaccines, maternal immunization, and integration of immunization and child health services.

A new technical advisory body, the Product Development for Vaccines Advisory Committee (PDVAC) has been created to identify new diseases where there is sufficient priority for WHO to initiate activities and, among other things, advise WHO on ways to improve public access to information about products in development.

New or updated papers have been published on influenza, Haemophilus influenzae type b, polio, rotavirus, varicella and herpes-zoster, and yellow fever vaccines. Revised guidance on the choice of pertussis vaccine has been published as a WHO position paper, and an updated position paper on use of human papilloma virus (HPV) vaccine is scheduled for publication on October 24.

SAGE has provided a list of both specific and cross-cutting topics that could be addressed during meetings planned for 2015 and 2016. ETAGE has been requested to provide feedback to SAGE on a priority listing of these topics and if there are additional topics that should be included for consideration.

The SAGE Measles and Rubella Working Group is developing a set of emerging policy questions concerning specific issues encountered by the measles/rubella elimination initiative. ETAGE has been requested to provide feedback and advice on refining the specific questions that need to be addressed. The SAGE Working Group on Vaccine Hesitancy has almost completed its terms of reference and will be closed later this year. A report from the Group has been made available to SAGE and this will can be shared with ETAGE.

Regional Progress Report – October 2013 to October 2014

The WHO Regional Committee, at its 64th meeting, adopted EVAP and Member States made a commitment to harmonize national immunization plans with the Regional Plan.

A major focus of VPI activity has been monitoring responses to outbreaks of VPD. These include widespread transmission of wild poliovirus in Israel, and large scale measles and rubella outbreaks in several countries. Strengthening surveillance capacity has been a priority activity, with the appointment of a new data manager in the Regional Office and ongoing assessment of existing information technology (IT) capacities, structures and quality of the VPI databases. New protocols and standard operating procedures (SOP) for data management within VPI have been developed and project proposals for strengthening VPI surveillance capacities are being developed.

Four meetings for members of the Regional measles and rubella laboratory network have taken place, together with laboratory accreditation visits to 2 Regional Reference Laboratories and 6 National Reference Laboratories. In addition, desk reviews of 68 National Reference Laboratories were conducted in 2013 and 2014.

The second meeting of the Regional Verification Commission (RVC) for measles and rubella elimination took place in October 2013. The first annual reports on measles and rubella elimination status were received from Member States and reviewed at that meeting. The third meeting of the RVC will take place in November 2014, and more comprehensive, higher quality reports are expected from Member States following modification of the annual reporting form and changes to the surveillance indicators. Measles and rubella population immunity profiles are currently being developed in collaboration with the London School of Hygiene and Tropical

Medicine, to assist Member States and the Regional Office in identifying and focusing efforts on those populations most at risk.

To enhance resource mobilization and develop partnerships, a high-level meeting on measles and rubella elimination was held in Copenhagen in October 2013, with representation of DG SANCO, UNICEF, several Member States, WHO headquarters and the Regional Director, followed by a meeting of the Alliance of Health Professionals for Measles and Rubella-Free Europe in December 2013. There was WHO participation in the Lions Clubs International Conference for Central and Eastern Countries, held in Sarajevo, Bosnia and Herzegovina in June 2014, and information material is being prepared for use by Lions Clubs at national level.

In-country capacity building activities include the development of region-specific training materials for measles and rubella elimination and the establishment of a cadre of 20 trained consultants capable of supporting in-country activities. TIP projects have been completed in Bulgaria and Sweden, are ongoing in Kazakhstan and United Kingdom, and planned for Germany and Switzerland. An evaluation of the TIP Guide is planned for November 2014 and a step-by-step field guide will be finalized in 2015. A parallel project called TIP FLU is addressing low uptake of seasonal influenza vaccination among target groups. Based on the TIP approach, the Regional Office, in collaboration with the National Institute of Public Health and the Environment in the Netherlands, is developing TAP – a guide for tailoring antimicrobial resistance programmes.

With the exception of Israel, there was no wild poliovirus (WPV) or vaccine-derived poliovirus (VDPV) transmission in the Region in 2013. The Regional Commission for the Certification of Poliomyelitis Eradication (RCC) is due to review the situation in Israel now that it appears that 6 months have passed with no evidence of further transmission. The risk of importation and subsequent transmission, however, remains high in some countries and Ukraine is of particular concern. Risk mitigation activities, including field reviews, outbreak simulation exercises and capacity building workshops and trainings have taken place in Member States considered to be of greatest concern.

Technical support to Member States in preparation for the global introduction of IPV has been provided through meetings, baseline-needs assessments, and preparation of national IPV introduction plans, development of communication materials and training packages for HCWs.

All countries receiving GAVI support for vaccine procurement fulfilled their co-financing requirements in 2013, and all GAVI-graduating countries have a graduation plan to address identified challenges. Implementation of graduation plans is being supported and monitored by the Regional Office. A workshop on immunization financing, vaccine procurement and regulations was held in Dubrovnik in November 2013, and a graduation workshop will be held in November 2014. Development of an advocacy toolkit for resource mobilization, including guidance on process and sample templates for advocacy messaging, is in preparation.

Sentinel surveillance for diseases preventable by new and under-utilized vaccines now takes place in 7 Member States within the Region (Armenia, Azerbaijan, Georgia, Republic of Moldova, Tajikistan, Ukraine and Uzbekistan), all 7 having established surveillance for rotavirus and 5 (Armenia, Azerbaijan, Georgia, Ukraine and Uzbekistan) having established invasive bacterial diseases surveillance for meningitis and *Streptococcus pneumoniae*. Rotavirus vaccine has been introduced in Armenia, Georgia, Republic of Moldova and Uzbekistan, and pneumococcal conjugate vaccine introduced in Armenia, Georgia and the Republic of Moldova. Rotavirus vaccine post-introduction evaluations in Armenia, Georgia and Republic of Moldova

suggest that the vaccine has been well accepted by medical workers and parents and that initial coverage of targeted populations has been reasonable in Armenia and Georgia.

Discussion:

It is becoming increasingly clear that vaccine hesitancy is a complex issue that requires a broad-based set of solutions. A tailored approach to developing information and training materials is required that permits the application of a set of core principles to a variety of specific situations. This principle is now accepted and supported by WHO. The SAGE Working Group on Vaccine Hesitancy will soon be closed and its recommendations provided to SAGE. If adopted, these recommendations will require work from the secretariat, partners and Member States for implementation. A report from the Working Group has been made available to SAGE and will be provided to ETAGE members.

Reasons for the widespread transmission of WPV in Israel are complex and still not completely understood. National vaccine coverage in Israel, using IPV, has been consistently high for many years, and surveillance quality is good. WPV was only detected in environmental samples, and although widespread transmission occurred, in the presence of high immunization coverage with IPV, no paralytic polio cases were detected. A potential lesson to be learned from the experience in Israel is that in countries with long-term high IPV coverage and an environment favourable for enterovirus transmission, an outbreak response using IPV alone may not be sufficient to prevent poliovirus transmission and vaccination with OPV, in either a monovalent or bivalent formulation, may be required.

Influenza vaccine is among the under-utilized vaccines in this Region, and discussions have begun at global level to include seasonal influenza as a new and under-utilized vaccine. Although it is Member States that make decisions on which vaccines to introduce, the WHO Secretariat and ETAGE are expected to provide technical advice and support for new vaccine introductions.

An item missing from discussions so far is the importance of communicating the indirect effects and advantages of vaccines. This is a cross-cutting issue that brings into consideration the broader aspects of vaccine introduction and use. Vaccines may be licensed for a specific use, but it often becomes apparent that vaccines can have a wider impact than originally intended. This leads to a broadening or re-defining of the target group, or reassessment of relative risk and population immunity issues. One example of this is the use of measles-containing vaccine (MCV) and the immunological responses to different doses in high-risk populations, particularly resource-poor populations. WHO should be aware of the potential for further study in this area.

ETAGE and NITAG members were requested to review the list of specific and cross-cutting topics to be covered by SAGE during 2015 and 2016 and mark the priority topics on print-outs of the list and include any additional topics for consideration. The marked lists were collected and the results summarized by the Secretariat.

Pertussis – information on SAGE Pertussis Working Group activities

There has been a resurgence of pertussis reported in some countries with long-standing vaccination programmes and high vaccination coverage, particularly among adolescents and adults and in infants less than 6 months of age. This has been accompanied by a growing

international debate on potential strategies to improve and optimize pertussis control. In 2013 SAGE established a new Working Group to review available data on pertussis and to consider updating the prevailing pertussis vaccine recommendations. Epidemiological data from 19 countries were reviewed, together with results from animal model and mathematical modelling studies.

The review found no evidence of a broad resurgence of pertussis at the global level, but data from 5 of the 19 countries reviewed indicated a true resurgence in pertussis-related morbidity. Of these 5 countries, 4 were acellular pertussis vaccine (aP) using countries with clear evidence of a resurgence despite achieving high vaccine coverage (Australia, Portugal, United States of America, United Kingdom). In all 4 countries the resurgence occurred 6 to 9 years after the introduction of aP-containing vaccine. Several other countries that introduced aP-containing vaccines 10 to 15 years ago have shown no resurgence of pertussis.

Animal model studies have shown that both aP and whole-cell pertussis vaccine (wP) are protective against symptomatic disease, but that aP was less effective at preventing infection and further transmission of pertussis, possibly due to the lack of mucosal immunity induced by aP. Mathematical modelling studies suggested that the duration of immunity following vaccination with aP was likely to be shorter than after vaccination with wP. The Working Group concluded that while there were many factors determining if or when pertussis resurgence could occur in aP using countries, only insufficient coverage or poorly performing vaccine could lead to resurgence when wP-containing vaccines were used.

SAGE recommends that all children should be immunized against pertussis, with the goal of maintaining >90% coverage, as minor reductions can lead to an increase in incidence. Vaccination with 3 doses of wP or aP vaccine should be given as soon as possible ≥ 6 weeks of age with vaccine of assured quality. The switch from wP to aP vaccines for primary infant immunization should only be considered if appropriate booster doses can be included in the national immunization schedules; this has substantial cost implications given the much higher cost of aP vaccines and higher number of doses required. .

There is insufficient data to support changes to current DTP vaccination schedules. Conclusions of the systematic review (including effectiveness and safety) of optimal primary immunization schedules (in association with DT-containing vaccine) will be presented at the October 2014 SAGE meeting. The 2010 pertussis position paper will be updated after the results of this review become available. A summary of the Working Group findings and revised guidance on the choice of pertussis vaccines has been published in the WHO Weekly Epidemiological Record, and a full updated WHO Position Paper will be published in early 2015.

Discussion:

ETAGE noted that in some countries where there is a resurgence, this can be attributed to gaps in the immunization programme, in other countries no obvious cause can be implicated. It is possible that the occurrence of resurgence is linked with a switch to acellular pertussis vaccine in some countries, but there is no proof for such a link. The SAGE working group has reinforced the requirement for all Member States to establish high-quality surveillance for pertussis, particularly for laboratory confirmed disease. Results of the working group study on pertussis resurgence need to be interpreted with caution as the situation in different countries is complex and in some instances the population effect of vaccine use may be simply to convert a childhood disease into an adult disease. Acellular pertussis-containing vaccines have worked well in many European countries with no detectable resurgence of disease, but improved disease surveillance,

particularly improved and standardized laboratory confirmation of cases, is required before broad-based conclusions can be drawn.

Discussions on 'good' and 'bad' vaccines should be avoided; all available pertussis vaccines are safe and effective, and all have both relative advantages and disadvantages. Member States currently using wP-containing vaccines are urged not to switch to aP-containing vaccines at this time, unless they are already fully financially committed to provide the primary series and several booster doses.. Member States currently using aP-containing vaccines should continue to use aP. Member States considering introduction of one dose of IPV vaccine may look favourably to the introduction of IPV- and aP-combined vaccines as use of stand-alone IPV requires an additional injection, which may cause additional problems for immunization services.

Member States should be aware of the financial implications of introducing aP-containing vaccines. For lower-middle income countries (LMIC) a switch from wP to aP can result in a doubling of total immunization programme costs. In many cases countries may consider it more prudent to utilize available funds to introduce available new vaccines that prevent diseases of public health importance or to strengthen the immunization system.

Update on the Decade of Vaccines Global Vaccine Action Plan (GVAP)

Each year, the GVAP secretariat prepares a progress report on GVAP implementation, compiling all country data on progress from the previous year. The 2013 GVAP secretariat report has been submitted to SAGE for independent review, and SAGE has issued its GVAP Assessment Report. The report notes that although globally progress has been made, many countries are not on track for meeting vaccine coverage targets. Four of the six WHO Regions, including the European Region, are not on track for meeting regional elimination goals or the pre-elimination targets for 2015, and country ownership of national programmes needs to be strengthened. An overarching recommendation by SAGE is that data quality must be improved, as the quality of currently reported data is inadequate to reliably monitor progress being made and to inform programme decision making. The WHO/UNICEF JRF remains the key instrument for collecting most of the required data, but several Member States appear to be experiencing difficulties in reporting accurately, comprehensively or on time. For 2014 there needs to be an assessment of how the recommendations made at global level are being applied at regional level. It is proposed that next year requests will be made for formal responses from Regions to the SAGE recommendations.

Discussion:

The indicators and variables used to monitor progress achieved in implementing GVAP were developed by the working group and have not been reviewed by the WHO regions. Clearly, discussions are required between global and regional levels over the variables monitored and indicators used if Member States are to be effectively supported in providing data.

While WHO can only work with official data provided by the Member States, it is acknowledged that other sources of data do exist, and could potentially be used to monitor progress at Regional level. This would need to be discussed with individual Member States. The Regional Office has considered the use of electronic registers for collection of immunization coverage data, but has not yet established a mechanism to collect these data. The role of WHO in establishing, supporting and monitoring these registers needs to be discussed at global level, but in the

absence of any global initiative the Region is considering providing Member States with technical guidance on electronic registers, in line with previous ETAGE recommendations.

Update on the European Vaccine Action Plan 2015-2020 (EVAP)

The Regional Committee for Europe requested the Secretariat to develop a regional vaccine action plan that translates the GVAP into the regional context, revitalizes commitment to immunization and addresses remaining challenges in the Region. Following advice from ETAGE a draft European Vaccine Action Plan (EVAP) has been developed through an extensive consultative process. Both the ETAGE and the Standing Committee of the Regional Committee have been engaged throughout the process, and extensive consultations with Member States and partners have taken place. The draft EVAP was unanimously adopted by the WHO Regional Committee at its 64th Session.

EVAP accommodates an aspirational vision that incorporates regional principles and directions for immunization programmes during the period covered by EVAP and beyond. The vision reflects joint commitment to a common purpose by Member States, stakeholders and partners, with a long-term collective goal of establishing a “European Region free of vaccine-preventable diseases, where all countries provide equitable access to high-quality, safe, affordable vaccines and immunization services throughout the life course”.

The goals of EVAP are:

- sustaining polio-free status;
- eliminating measles and rubella;
- controlling hepatitis B infection;
- meeting regional vaccination coverage and timeliness of vaccination targets at all administrative levels throughout the Region;
- making evidence-based decisions on introduction of new vaccines; and
- achieving financial sustainability for national immunization programmes.

EVAP objectives are the technical and operational components required to achieve the goals, and include the following:

- All countries commit to immunization as a priority.
- Individuals understand the value of immunization services and vaccines and demand vaccination.
- The benefits of immunization are equitably extended to all people through tailored, innovative strategies.
- Strong immunization systems are an integral part of a well-functioning health system.
- Immunization programmes have sustainable access to predictable funding and high-quality supply.

On the basis of guidance from ETAGE, a regional monitoring and evaluation framework, aligned with the global framework, has been developed to monitor progress in implementing EVAP. In order not to overburden Member States, the existing WHO/UNICEF JRF will be used to report data for EVAP monitoring and evaluation. The Secretariat has been tasked with preparing annual progress reports on EVAP implementation in the Region. These progress reports will be reviewed by ETAGE and then submitted to the World Health Assembly (WHA) through SAGE and the WHO Executive Board.

First steps in the implementation of EVAP is to align the VPI workplan with the EVAP vision, goals and objectives in order to provide the necessary technical support to Member States. This may require reviewing VPI staff resources and their terms of references in line with the priorities reflected in EVAP. Committing to immunization as a priority and harmonization of national immunization plans with EVAP will require increased ownership and shared responsibility by Member States. This can only be facilitated through targeted advocacy efforts for EVAP by the Regional Office and partners. Key questions to ETAGE include their prospective role in advocacy activity and how best to engage ETAGE and other key stakeholders in advocating and promoting EVAP implementation.

Discussion:

ETAGE is already active in supporting NITAGs and in TIP activities and this participation can be used to actively promote the EVAP. A new action plan is being developed for the European Immunization Week (EIW) activities for 2015 and promotion of the EVAP will be on the agenda for the next planning meeting to include all national focal points.

Poor quality data is a common theme in discussions on monitoring implementation, and it appears that opportunities do exist to improve data collection and quality using modern information collection methods. This could be considered by WHO for a small-scale study to demonstrate the potential for high-quality information collection and analysis. A demonstration project using an electronic registry to collect vaccine coverage data has been conducted in Albania and this will be on the agenda of an upcoming stake-holder meeting. There is also a need to document experience and best practices in data collection and management in use in different Member States.

Monitoring of EVAP implementation will begin next year, using data collected through the JRF. Before this can be started Member States need to align their national goals and objectives with those of the EVAP. The WHO Regional Office will investigate the options and requirements for development of a simple checklist to allow Member States to compare their national plans with the goals and objectives of the EVAP.

A revised edition of the EVAP, available in the four official WHO languages, will be published early in 2015. It will be distributed to all Member States when the advocacy plan has been completed. A potential supportive role of ETAGE would be to review the advocacy plan at an extraordinary meeting of ETAGE to be held at the start of 2015. Although it would be possible to translate the EVAP executive summary into more languages, it could be regarded as a sign of national commitment and ownership if Member States undertook to translate the plan themselves. This would require some oversight from WHO to ensure that appropriate and accurate translations were made.

Developing a European hepatitis B control goal

WHO has recommended that all regions and associated countries develop goals for hepatitis B control appropriate to their epidemiological situation. Within the vision and scope of the EVAP, the WHO European Regional Office has committed itself to prepare an action plan for the control of hepatitis B infection by 2020. A working group for developing the action plan has been formed, and held its first meeting at the beginning of October 2014. The proposed control goal and action plan will be further discussed at the Regional Office working group on hepatitis, back to back to the next Viral Hepatitis Prevention Board meeting to be held in November 2014.

It is intended that a draft action plan will be available by the end of January 2015 to coincide with the planned extraordinary meeting of ETAGE, when it will be vetted and approved by ETAGE. A consultation period with Member States and partners will take place from March to May 2015, and the plan will be further developed through 2015.

Key questions addressed to ETAGE for response and guidance include:

- Does development of a regional hepatitis B control plan appropriately address the EVAP call to control hepatitis B infection?
- Does ETAGE agree with the concept and approaches proposed by the working group?
- Will ETAGE members suggest modifying the proposed approaches?
- Will ETAGE members assist in defining the regional hepatitis B control vision?

Discussion:

The vision for hepatitis B control needs to incorporate the concept of lifetime protection against hepatitis B-associated disease, because the most important outcomes of infection, including hepatic carcinoma, often occur later in life following a long period of chronic carriage. It is also important to include the concept of equity into the goal, particularly towards meeting the immunization needs of high-risk groups.

Proposed possible targets for the control process include a hepatitis B surface antigen (HBsAg) prevalence of $\leq 0.5\%$ in children 5 to 10 years of age by 2020; universal childhood immunization achieving $\geq 95\%$ coverage with a third dose of hepatitis B vaccine by one year of age; a universal birth dose coverage of 80 to 90%; and evidence for sustainability of the hepatitis B immunization programme for a minimum of 3 years. The most effective way to evaluate impact of hepatitis B vaccine is through serosurvey, and this would probably be best achieved through special studies. Routine collection of blood samples for serosurvey from healthy children is problematic in several countries, but alternative target populations could probably be identified in most circumstances.

The World Health Assembly has long supported the requirement for universal vaccination against hepatitis B, but this policy has been resisted by industrialized countries with very low hepatitis B endemicity. These countries implement vaccination strategies for high-risk sub-populations along with screening of pregnant women and post-exposure prophylaxis of hepatitis B in children born from HBsAg positive mothers. Some countries in the Region implement universal infant immunization. ETAGE strongly supports the recommendation for universal hepatitis B vaccination. It is recognized, however, that universal immunization of new-borns may not be implemented in every Member State and control targets established for verification purposes need to take into account the situation in these countries. Verification targets should to be flexible enough for Member States claiming to have effective prevention of perinatal transmission of hepatitis B virus through screening of pregnant women and vaccination of children born to HBsAg positive mothers can provide conclusive evidence to support such a claim.

While adoption of a global goal for control of viral hepatitis B is under consideration, adoption of a Regional goal should be approached with caution, as the Region has existing disease control goals that have not yet been met, and adoption of additional goals will require additional resources for programme implementation.

Update on measles and rubella elimination

Despite significant reductions in the reported incidence of measles and rubella in the European Region since the widespread initiation of immunization programmes, measles and rubella outbreaks continue to occur. In 2013 there were over 31 000 reported measles cases and almost 40 000 reported rubella cases in the Region, making achievement of the Regional measles and rubella elimination goal by 2015 highly unlikely. There are large current or recent measles outbreaks in Bosnia and Herzegovina, Italy, Ukraine, Russian Federation, Turkey and Georgia with smaller outbreaks in Azerbaijan, Germany, the Netherlands, United Kingdom, and Latvia. There is a large ongoing rubella outbreak in Poland, albeit with the reported number of cases in decline. Reasons for continuing outbreaks include the accumulation of susceptible individuals among older children and young adults, pockets of low vaccination coverage in population subgroups, increasing vaccine hesitancy often in association with strong anti-vaccine lobbying, inaccurate information on vaccine package inserts implying rubella-containing vaccine is not indicated for use in adults, and disruptions to immunization services due to ongoing health sector reforms.

A regional Package for Accelerated Action 2013–2015 was adopted in 2013 and this is being used to monitor progress and serve as a framework to provide technical support to Member States. In 2013 approximately 1 in 3 reported measles cases occurred in persons >20 years of age, and it is likely that susceptible adults are playing an important role in sustaining rubella endemicity. Multiple outbreaks of measles have involved high infection rates among health care workers. Supplementary immunization activities (SIAs) have been conducted in Azerbaijan, Georgia, Turkey and United Kingdom, but none of these have addressed immunity gaps in adults.

The European Regional Verification Commission (RVC) reviews and reports on the status of interruption of endemic measles and rubella transmission of each Member State based on annual reports submitted by national verification committees (NVC). Questions have been raised over whether there are changes that could be made to the verification process that would introduce efficiencies in the process and better empower or motivate Member States to reach elimination. Potential changes include reporting verification of elimination at the country level in addition to the current recommendation of reporting verification at Regional level. This may motivate Member States by making the goal more easily realized and would highlight countries that have excelled. It may, however, detract from attempts to achieve the collective regional goal. Another potential change is to group countries for reporting purposes in to pre-defined blocks, for example into geographic sub-regions (as has been done for polio eradication) or into level of achievement in attaining the elimination goals. Although geographical grouping may be of assistance to the secretariat in focussing resources, there are no obvious epidemiological blocks for measles and rubella and attempts to group countries into geographical blocks may not be acceptable to Member States. An alternative approach to grouping that takes into account the level of progress achieved towards verification of elimination would highlight those Member States that excel, but could also be confusing as status, and therefore group membership would not be fixed but dynamic.

The next meeting of the RVC will take place in November 2014, and it has been proposed that following this an extraordinary meeting of ETAGE should be conducted to review the annual verification data provided by Member States and make specific recommendations on the verification process and potential for grouping countries.

Discussion:

The Region has entered into an accelerated phase of measles and rubella elimination and the programme needs to identify additional approaches to presenting the achievements gained, but also highlighting the remaining gaps that need to be filled. Grouping countries according to level of achievement would allow programme support to be focussed where it is most needed, but the structure and criteria of any grouping system remains unclear. There is a danger of any grouping system becoming focussed on the process of grouping, rather than on the practicalities of achieving the elimination goals. Introducing a scale of Member State achievements, rather than any form of geographical grouping, would be more appropriate and more useful to attaining the goal. There was general agreement among NITAG representatives present that this approach may be helpful, but some reservations were voiced over attempting to impose a 'one-size-fits-all' approach on Member States in very different circumstances.

With some refinement, current data could be used to identify countries with imminent problems and at risk of outbreak. It may be possible to develop a simple form of 'traffic light' (red, amber, green) system for scaling levels of achievement and highlighting dangers. In addition, within the assessment process there should be a mechanism to monitor the effectiveness of responses to the identification of population immunity gaps.

Questions have been raised over the continued use of established susceptibility thresholds used to determine the level of population immunity required to achieve measles and rubella elimination. The susceptibility thresholds proposed by Ramsay et. al. (1999) considered the following by age group: 15% (1-4 years), 10% (5-9 years), 5% (10-14 years), 5% (in each cohort >15 years). It was considered that in the absence of any contradicting evidence, established thresholds for population immunity remain valid and there was no need for technical working groups to revisit these recommended thresholds.

Issues of vaccine supply and availability were raised and the relative advantages and limitations of the UNICEF procurement system discussed. Production of both measles and rubella vaccine (MR) and measles-mumps-rubella vaccine (MMR) for UNICEF procurement is limited, and supply requires a reasonable level of pre-planning and early ordering, with a lead time often lasting several weeks. There are currently no vaccine stockpiles for MR or MMR that Member States can access for emergency use, and given the challenges faced in licencing, gaining acceptability and identifying sufficient funding it is unlikely that vaccine stockpiles for measles and rubella will become a reality.

Update sessions

Provided for information only

IPV introduction and the tOPV/bOPV switch

According to the WHO Polio Eradication and Endgame Strategic Plan 2013–2018, to achieve and sustain a polio-free world, the use of OPV must be stopped worldwide, starting with vaccines containing type 2 poliovirus (OPV2). For countries still using OPV this will require initially switching from tOPV to bOPV – oral poliovirus vaccine containing only types 1 and 3.

For all countries at least one dose of IPV must be introduced into the routine immunization schedule as a risk mitigation measure and to boost population immunity.

In the European Region there are currently 10 Member States using OPV alone in their immunization schedules, and 10 using mixed OPV/IPV schedules. Of the countries yet to introduce IPV, 7 (Armenia, Azerbaijan, Georgia, Kyrgyzstan, Moldova, Tajikistan and Uzbekistan) are eligible for GAVI support, and all plan to introduce IPV by the end of 2015. Of concern are Georgia, where introduction has been delayed by withdrawal of the combined vaccine presentation by the manufacturers, introducing financing uncertainties; the former Yugoslav Republic of Macedonia, where there are uncertainties over the ongoing vaccine tender; and Kyrgyzstan, where concerns over reported vaccine adverse events in 2012 compromised public trust in immunization services and subsequent communications plans to gain public acceptance have not been fully implemented.

The trigger for setting the date for switch from tOPV to bOPV in all OPV-using countries will be validation of the elimination of persistent circulating vaccine-derived polioviruses (cVDPV) type 2 (absent for at least 6 months) and confirmation of wild poliovirus type 2 eradication. After the switch is triggered countries and regions will have 6 months to prepare for the actual switch. Achieving the global withdrawal of OPV2 will require meeting a combination of logistical, communications, vaccine-supply and programmatic challenges. Substantial logistical challenges must be addressed to synchronously switch all OPV-using countries, withdraw the tOPV field stocks, and safely destroy or contain residual type 2 Sabin vaccine viruses. It is currently expected that the switch will take place either during 2016 or 2017.

VPD surveillance performance

With 53 Member States, diverse surveillance systems, different surveillance protocols, different levels of data collection and management and different reporting timeframes, the task of monitoring and analysing VPD surveillance in the Region is complex and constantly evolving. The main challenges to determining surveillance performance include the quality and validity of data received at the Regional level, potential contradictions between WHO recommendations and national regulations, the lack of recognition given to surveillance at all levels, and the lack of capacity and resources available.

The Regional Office is currently embarking on a programme of mapping and defining the surveillance process to improve synchronization of systems and activities, and to improve data quality through redevelopment of systems for quality assessment and validation. In addition to increasing data management capacities in countries, attempts are being made to establish realistic budget lines specifically for surveillance activities.

Current NITAG status in the Region

Continuing the progress made since 2010, 43 of 53 Member States have now established NITAGs that report information on immunization practice and policy, however; approximately 40% of these have not been established in concordance with WHO recommendations. The most common problems include NITAG members that are not fully independent from the Ministry of Health and the national immunization programme, and a lack of disclosure on potential conflict of interests. This is primarily an issue of lack of transparency and is made more complicated by the different cultural interpretations placed on it in different parts of the Region. It should be possible to modify existing templates for declaration of interest statements that can be adopted

by Member States. This will be further discussed at the SIVAC meeting planned for Paris in December 2014.

Also of concern is that many of the recently established NITAGs include members with limited experience in developing evidence-based recommendations and presenting them to national decision makers. Considerable experience in the functioning of NITAGs has now been established within the Region, and opportunities exist for members of long-established NITAGs to support the development of those more recently established. Support for this is being delivered through WHO and its partners, including the US CDC, SIVAC and GAVI. Training on NITAG composition were held in 2010 and 2011, and workshops on developing evidence-based recommendations were held in May and November 2013. The exchange of experience and information between countries at regional meetings has continued with a WHO regional meeting on new vaccine introduction in June 2014, and collaboration between NITAGs and ETAGE has strengthened through participation of NITAGs in ETAGE meetings and involvement of ETAGE members in workshops and meetings.

Vaccine acceptance, communications and advocacy

The WHO Guide to Tailoring Immunization Programmes (TIP) was initially developed to focus on diagnosing the issues and identifying problems in delivering immunization services within Europe, and will now be subjected to independent evaluation and assessment. In partnership with WHO headquarters, preliminary activities are underway to develop a TIP field-guide, focussing on practical solutions to problems identified. It may be helpful to ETAGE if a future meeting includes representatives from countries that have used TIP to present their experiences and views on the usefulness of the guide.

Scenario, exercised-based training activities have been developed in support of the WHO Guide on Vaccine Safety Events: managing the communications response. Training activities with simulation exercises have been conducted for some of the Central Asian Republic countries and will be conducted for western Balkan countries in December 2014. The training programme has undergone some refinement and will be going into its second edition. By mid-2015 an additional 6 countries should have been provided with workshop training and simulation exercises.

Next year will be the 10th European Immunization Week and appropriate activities will mark that anniversary. Opportunities will be taken to include national immunization programme managers in a review of activities undertaken and progress made and to develop strategies and activities for the future of the EIW in line with requirements of the EVAP.

The VPI internet visibility and social media interaction have been significantly enhanced over the past year. Development of a simple smart phone application for reminding parents of immunization clinic appointments is underway and currently 5 Member States have used the supplied generic software to develop local versions for use.

A clear need has been identified for support to countries in providing accurate, concise and authoritative information on immunization through an easily accessible route, such as the internet. Technical support in developing appropriate Ministry of Health and national immunization programme web pages has been provided through development of a standard template that countries can use to improve navigability and clarity of their web sites.

Adverse events following a measles/rubella vaccination campaign in Syria, September 2014

On 16 Sept. 2014, WHO received a report about a cluster of deaths and severe illness associated with the measles-rubella immunization campaign in Northern Syria. The vaccine campaign began on 15 September, and on the 16th September local authorities in 1 province reported approximately 50 cases of severe illness and 15 deaths following receipt of vaccine. Cases clustered around immunization teams from two health facilities that had a common supply source of vaccine and injectables. As a result of investigation it was concluded that the vaccine itself was not a fault, but that a muscle relaxant had inadvertently been used by these teams as vaccine diluent. The vaccination campaign had been conducted using two different products procured through different suppliers, and had been initiated in a context of severe limitations in human resources and health infrastructure without comprehensive planning and provision of required funds to support training, supportive supervision and independent monitoring.

Conclusions and recommendations

Conclusions:

ETAGE greatly appreciates the personal attention and support for immunization given by the WHO Regional Director, and commends the secretariat for the work being undertaken in support of immunization services.

Recognising the progress made in implementing recommendations made during its 13th meeting, ETAGE would like to receive a report on further progress at its 15th meeting with particular emphasis on attempts to reduce adult susceptibility to vaccine preventable diseases.

ETAGE is encouraged by progress made in developing immunization-specific materials for continuous medical training, the new collaboration with ESPID to accredit these materials, and the prospect of broadening collaboration in this field to include other health professional organizations.

Updates from the SAGE have been received with appreciation, particularly outlines of the activities and conclusions of the various SAGE working groups.

Appointment of a new data manager in the Regional Office to extend and improve VPD surveillance capabilities is appreciated and ETAGE looks forward to the increased availability of more comprehensive high-quality surveillance data in the near future.

ETAGE urges the secretariat to consider assigning greater importance to communicating the indirect effects and advantages of vaccines, a cross-cutting issue that considers the broader aspects of vaccine introduction and use. Considerable potential exists for WHO to be involved in further study in this area.

ETAGE is appreciative of the update on activities and conclusions of the SAGE working group on pertussis and is encouraged that the working group has reinforced the requirement for all Member States to establish high-quality surveillance for pertussis, particularly laboratory confirmed disease.

ETAGE is encouraged by the adoption of the EVAP by the WHO Regional Committee and the high level political support expressed by Member States and looks forward to alignment of the VPI workplan being fully aligned with the EVAP vision, goals and objectives.

As WHO can only work with official data provided by the Member States, ETAGE is encouraged that further development of technical support for the use of electronic registers for collection of immunization coverage data is being considered by the secretariat.

ETAGE concurs that this is an appropriate time to develop a Regional hepatitis B control goal, but urges due caution as existing VPD control goals have yet to be achieved, and adoption of additional goals will require additional resources.

ETAGE acknowledges that the Region has entered into an accelerated phase of measles and rubella elimination and additional approaches to presenting achievements and remaining gaps need to be found. Development and introduction of a scale of achievements by each Member State may be an appropriate way of grouping countries with similar levels of achievement, promote competition between countries to attain elimination and help the secretariat to focus resources on countries with the greatest need.

Recommendations:

1. **Pertussis**

Recognising that all currently available pertussis vaccines, both whole-cell vaccine (wP) and acellular vaccine (aP), are safe and effective, ETAGE recommends Member States currently using wP vaccine do not change to aP vaccine for primary immunization. Member States that do switch to aP vaccines should be fully aware of the significant financial implications given the much higher cost of aP-containing vaccines and the need for several booster doses to ensure long-term protection. Member States currently using aP vaccines should continue to do so, but be aware of the requirement for additional booster doses at older ages and the need to develop strategies to prevent early childhood mortality in the event of pertussis resurgence.

ETAGE also recognizes the continued need for extensive improvement in the clinical awareness, reporting and laboratory diagnosis of pertussis throughout the Region. Member States are urged to implement WHO recommended activities to establish high-quality laboratory-based surveillance for pertussis, and to refer to the WHO manual for laboratory diagnosis of pertussis which was update in 2014 .

2. **Establishing a Regional hepatitis B control goal**

ETAGE considers development of a Regional hepatitis B control goal is an appropriate response to the European Vaccine Action Plan (EVAP) call to control hepatitis B infection and approves the concept and approaches proposed by the Working Group.

ETAGE recommends that the Working Group continues to develop the proposal and that attempts be made to determine and assess interest in establishing a Regional goal among Member States.

ETAGE recommends that countries implementing universal new-born hepatitis B immunization should undertake efforts to improve monitoring of vaccine coverage and ensure timeliness of the birth dose. Those countries implementing universal infant immunization programmes should

evaluate the coverage of their antenatal Hepatitis B screening programmes and the timeliness and completeness of vaccination of infants born to carrier mothers.

ETAGE also recommends that the concept of achieving equity in access to vaccines should be included in the vision statement.

3. Measles and rubella elimination

ETAGE recommends that an extraordinary ETAGE meeting be held in Copenhagen on Friday 30 January to review more complete data on the status of regional measles and rubella elimination, discuss activities and develop specific recommendations for advancing the initiative.

ETAGE agrees with the concept of a categorization system applied to Member States to identify priority actions required to achieve regional measles and rubella elimination goals. The country grading approach is appropriate but additional work is required on developing the indicators used to grade performance and country status. ETAGE also agrees with the concept of verification at country level, and requests the secretariat to further develop the proposal.

ETAGE requests the secretariat to prepare and provide a detailed strategy and operational plan, including specific actions and timelines, for achieving measles and rubella elimination goals. Attention should also be given to adopting strategies to best document and broadcast information on the significant achievements made in the Region to date.

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The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

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