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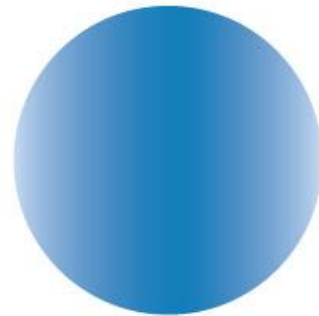
INTERNATIONAL FEDERATION ON AGEING
Global Connections

ADULT IMMUNIZATION ADVOCACY

SUMMIT

ROME MEETING – 25 - 27 JUNE 2015

DRAFT REPORT



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ADULT IMMUNIZATION ADVOCACY SUMMIT
ROME MEETING: 25 – 27 JUNE 2015
EXECUTIVE SUMMARY

The World Health Organization (WHO) reports that the number of countries reaching and sustaining 90% coverage of children with routine life-saving vaccinations has doubled since 2000. In 2012, all 194 WHO Member States endorsed the Global Vaccine Action Plan (GVAP), and committed to ensuring no one misses out on vital immunizations, with a target of 90% DTP3 vaccination coverage in all countries by 2015.

The situation is not the same for adult vaccinations, with each and every year millions of older people are admitted to hospitals with influenza and pneumonia, impacting on an already stretched health and social care system which includes family caregiving. Little global attention has been paid to the social and economic costs and consequences of older adults not being vaccinated against influenza, pneumonia, herpes zoster and for certain adult vaccines against Tetanus, Diphtheria and Pertussis.

Vaccinations can provide cost-effective protection against a host of diseases throughout life, but remains an under-promoted and underused public-health strategy in adults for the promotion of healthy ageing.

The poor uptake rates of adult vaccinations globally should not only be of concern across sectors and across disciplines, it should be central to civil society. Galvanising like mind organisations into action is critical.

The International Federation on Ageing (IFA) is a non-governmental organisation, and a global point of connection with experts and expertise to influence and shape age-related policies. The organization has embarked on a series of stakeholder summits with the purpose of building regional and global coalitions toward influencing policy around adult vaccinations.

The Adult Immunization Advocacy Summit convened by the IFA 25 – 27 June 2015 in Rome, Italy, comprised of scientists representing many of the key European organizations associated with diagnosis and treatment of infectious disease marking an important step in considering the life course approach to vaccinations in the context of the healthy ageing policy agenda.

The overall goal of the Summit was to consider the development of European Vaccination Guidelines and thereafter report on a strategic roadmap plan to overcome barriers in Europe to raise coverage rates to targets. This brief report provides high level insight into discussions around presentations from invited experts.

There were two agreed primary outcomes of the Summit. First, co-chairs Dr Javier Garau and Dr Serhat Unal together with fellow scientists agreed about the need for European guidelines to support physicians in decision making pertaining to the safety and efficacy of vaccinations; and committed to working to create a document that is both informative, addressing the burden of disease and cost effectiveness, and practical, supporting physicians in decision making pertaining to the safety and efficacy of vaccinations. Dr Garau will lead the coalition of scientific organisations who will convene before November 2015 to start the process of towards agreed guidelines.

Second, Dr Jane Barratt, International Federation on Ageing and Dr Daphne Holt, Confederation of Meningitis Organizations with acknowledgement by all attendees of the importance of civil society agreed to lead the development of an NGO Adult Immunization Advocacy Summit with the purpose of building a coalition within civil society to be agents of change in improving the uptake rate of adult vaccinations within the context of life-course immunization.

ADULT IMMUNIZATION ADVOCACY SUMMIT REPORT

INTRODUCTION

Global population ageing is an unprecedented phenomenon with social and economic consequences that have far reaching effects for future generations. The World Health Organization (WHO) estimates that between 2000 and 2050 the world's population of people 60 years of age will have doubled totalling some 2 billion people, with some 395 million over the age of 80 years.

The demographic shift in population ageing calls for government, academia, industry and civil society to rethink the impact that a life course approach could have on promoting equality across all age groups.

Immunization is a core component of the human right to health and reportedly prevents an estimated 2.5 million deaths each year¹. Promoting a life course approach to vaccinations as part of an overarching healthy ageing policy while being a 'thoughtful approach' is without substance if there is no consensus of the steps required to firmly position the evidence within a policy framework.

"Despite the evidenced-based report and recommendations by SAATI (2013) implementation of consistent policies, reflecting the respective roles and competences of EU Institutions, ECDC and EU Member States has been largely absent."

Vaccinations according to the WHO, have been identified as one of the most economically sound health interventions available, with children being key beneficiaries, 90% of whom receive at least a basic set of vaccinations. Adult immunizations however, remain under-promoted and are generally not meeting established benchmarks, and/or public health standards and goals.

PURPOSE

The Adult Immunization Advocacy Summit (AIAS) was an invited only meeting of scientists representing many of the key European organisations associated with diagnosis and treatment of infectious diseases.

Hosting the meeting was the International Federation on Ageing (IFA), an international NGO with general consultative status at the United Nations and the World Health Organization and whose mission is to be a global point of connection of experts and expertise to help influence and shape age-related policy. The NGO sector was also reflected in observers from the Happy Ageing Alliance, Italy and the Confederation of Meningitis Organizations Confederation.

The Summit was chaired and convened by Prof Javier Garau, University of Barcelona, Spain and chair, Supporting Active Ageing through Immunisation (SAATI) and Dr Serhat Unal, Hacettepe University, Turkey and member of the European Federation of Internal Medicine (EFIM).

The overall goal of the Summit was to consider the development of European Vaccination Guidelines and thereafter report on a strategic roadmap plan to overcome barriers in Europe to raise coverage rates to targets. The specific objectives of the meeting were to:

1. Examine current data on Vaccine Preventable Diseases (VPD) and vaccines indicated in adulthood baseline data; and
2. Better understand the barriers for adult vaccination and strategies for improvement.

¹ World Health Organization (2012). Global Vaccine Action Plan 2011 – 2020. WHO Press, World Health Organization

DAY 1 CURRENT DATA ON VACCINE PREVENTABLE DISEASES AND VACCINES INDICATED IN ADULTHOOD

Dr. Garau opened the meeting and thanked the invitees for their willingness to participate in a meeting which brought together the voices of many of the key European organisations associated with the diagnosis and treatment of infectious diseases.

The International Federation on Ageing (IFA), the Confederation of Confederation of Meningitis Organisations (COMO) and Happy Ageing Alliance, Italy also attended the meeting as observers.

During the course of the first day presentations from members of the European Federation of Internal Medicine, the Central European Vaccine Advisory Board, and the European Society of Clinical Microbiology and Infectious Diseases reported the current data on VPD and vaccines indicated in adulthood.

“People aged 85 years and older are 16 times more likely to die from an influenza-related illness compared with those aged 65 to 69 years.”

Dr Javier Garau in the presentation on ***Adult vaccination, a necessary complement for healthy ageing*** posed several questions:

- Why is it necessary to protect the ageing society in Europe against the threat of infectious diseases?
- The benefits of a life-course approach to immunization
- Why is there no adequate implementation of adult immunization policies?
- Achieving consistent strategies to spur action

There are 19 vaccine preventable diseases evident in Europe; however, the number and nature of vaccines in national programs by age groups varies across member states.

Burden of disease and the reduction thereof was a recurring theme throughout the meeting with the suggestion that specific strategies could be implemented within a National Immunization Program (NIP), e.g. by targeting either the total population or specific age cohorts or other population subgroups with an increased risk of acquiring the disease or of developing a more severe disease once infected.

Many adults are unaware of the vaccinations they need and when they should receive them. Adult vaccine schedules often fail to align on evidence-based recommendations which then create confusions among patients and healthcare providers.

Despite the evidenced-based report and recommendations by the Supporting Active Ageing Through Immunisation (SAATI) partnership in 2013 implementation of consistent policies, reflecting the respective roles and competences of EU Institutions, ECDC and EU Member States has been largely absent. Vaccine uptake among adults remains low, there is a lack of coordinated programs for vaccination of adults and they are not well protected against infectious diseases.

Health professionals have a critical role in accurately informing patients of vaccination schedules. There appears in some quarters a general lack of leadership that may also contribute to the limited awareness and promotion of adult vaccination schedules. Vaccination in adults remains an underused public health strategy in the promotion of healthy ageing

The presentation on ***the failure to implement an effective adult vaccination program: lessons learned from the US experience*** outlined in broad terms the structure and composition, purpose, and processes undertaken by the Advisory Committee on Immunization Practices (ACIP) in making recommendations to the Director, Centre for Disease Control and Prevention (CDC) for approval.

ACIP is comprised of a group of medical and public health experts who develop recommendations on how to use vaccines to control diseases in the United States and are governed by the charter under Section 22 of the Public Health Service Act of which it was established. The Director of the CDC relies on ACIP for advice and guidance on the most appropriate selection of vaccines for the effective control of vaccine preventable diseases and publishes adopted recommendation as official CDC/HHS recommendations in the Morbidity and Mortality Weekly Report (MMWR).

The composition of ACIP is divided among 15 experts who are voting members and responsible for making vaccine recommendation, 8 ex officio members who represent other federal agencies with responsibility for immunization programs in the United States and 30 non-voting representatives of liaison organizations that bring related immunization expertise.

In contrast to the structure and process associated with ACIP and the CDC, the European Centre for Disease Prevention and Control (ECDC) has a top down approach establishing scientific panels only after requests are made from Member State or the European Commission. More simply put, this framework requires structured and substantive development to help ensure that the concerns being addressed are beyond those identified by Member States and the European Commission.

Recommendations and endorsements from the WHO and the Global Vaccine Action Plan recognize the need for countries to establish formal and independent technical expert committees to guide immunization policies and aid national decision-making for national immunization programs.

National Immunization Technical Advisory Groups (NITAGs), considered as a technical resource to provide evidence-based guidance to national authorities and policy-makers, serve as the bodies that recommend vaccines for the NIP, however, less than half of these NITAGs have frameworks for formal recommendation processes. The substantial difference in vaccination schedules and policies can be attributed to the informality as well as the varying degrees of strength of recommendations within this recommendation process in Europe.

Enabling a less resource-consuming and more inclusive method, international cooperation would be beneficial to develop common methodologies for certain aspects of national immunization recommendation so as to avoid duplication of efforts, to build on existing strengths and to support NITAGs worldwide, while looking vaccination program effects at the population level.

Dr. Roman Prymula, in his presentation on ***vaccine-preventable diseases in an adult vaccination program and the burden of disease*** discussed evidence around morbidity rates, the burden of illness and vaccines, highlighting vaccine-preventable diseases. The Burden of Vaccine-Preventable Diseases discussed as categorized into three groups, namely:

- Influenza, Invasive Pneumococcal Disease and Hepatitis B
 - Older people are known to suffer more frequently from serious morbidity and mortality;
 - Low and middle income countries may have higher mortality rates; and
 - People age 85 years and older are 16 times more likely to die from an influenza-related illness compared with those aged 65 to 69 years.
- Human Papillomavirus (HPV) and Pertussis
 - The highest risk of testing positive for HPV is in the first few years after initiation of intercourse; and
 - HPV positivity declines with age, reflecting the transient nature of most HPV infections due to immune suppression.
- Shingles (Herpes Zoster)

- Advancing age and chronic illness are major risk factors;
- Approximately 99.5% of the U.S. population age 40 years and over has serologic evidence of previous varicella infection;
- The vaccine (SOR A) is not licensed for people under the age of 60 years and has not been evaluated for this group; and
- Exact risk for and severity of Shingles after a previous episode is unknown, reoccurrence has been confirmed in immunocompetent individuals.

Data generally showed that the vast majority of vaccine-preventable diseases occur in adults, producing substantial morbidity and mortality within this cohort. Currently, vaccine coverage of adults is suboptimal, with notable disparities of race / ethnicity and income.

In order to address the current issues and outcomes associated with vaccine-preventable diseases in adulthood, the development of national guidelines and the implementation of adult immunization calendars are critical.

Efficacy and effectiveness of vaccines in the adult population: A systematic analysis, presented by Dr. Endre Ludwig, addressed the current evidence on the efficacy of vaccines, particularly related to those most debated namely pneumococcal and influenza vaccinations.

At present, influenza and pneumococcal (PPV) vaccines are recommended widely despite unproved effectiveness in several settings. Recommendations are based on expert opinions that consider several other factors (i.e. disease epidemiology and burden, cost-benefit, resources and health system organization, vaccine efficacy, safety and immunogenicity).

A systematic analysis is required to determine: those vaccines which are highly effective with practically 100% protection and those proved but uncertain degree of effectiveness. The analysis would ideally include and examine evidence:

- On the target populations (i.e. pertussis, HPV, hepatitis A & B)
- On the necessity of boosting doses (i.e. tetanus, pertussis, hepatitis A & B)
- On the effectiveness of vaccination of household contacts of immunocompromised patients
- On effectiveness in adult healthy population according to age and disease manifestation
- Effectiveness in the particular disease stratified according to age and stage of the disease
- Based on RCTs, Cochrane database or others when the aforementioned are not available

The outputs from the analysis would be twofold: a short statement pertaining to the general significance of adult vaccination and the most important high level information about particular vaccines; and then a referenced comprehensive guideline with detailed analysis of the effectiveness (and ineffectiveness).

The process of analysis would abide by the VENICE network on vaccine recommendations, funding and coverage that discusses the usefulness of the development and elaboration of evidence-based guidelines and short/long term cost-effectiveness studies in order to harmonize vaccination strategies among countries.

Dr Serhat Unal presented on ***safety issues of vaccines in the adult: a review of the available information***, largely framing the importance of vaccine safety as primary concern for a multitude of stakeholders including the public, manufacturers, immunization providers and vaccine recipients.

The importance of dispelling myths around adult vaccinations and increasing awareness of knowledge and attitudes towards safety as well as cost of vaccines in order to instil public confidence is critical to the uptake in use vaccinations.

Despite the major successes seen with immunizations in the last century, Vaccine Preventable Diseases (VPDs) continue to cause substantial morbidity and mortality among adults. Vaccinations for adults are markedly underused, particularly when looking at rates based on risk status that is much lower than age-based rates (ex. the highest vaccination rates are seen among older people for influenza (65.6%) and pneumococcal diseases (60.6%)).

Balancing the efficacy and safety of vaccines when assessing the potential risk of an adverse event following immunization (AEFI) is crucial in gathering evidence, and mobilizing knowledge.

Vaccine use relies heavily on the public's perceived risk of the side effects which includes familiarity of risk. Paired with a variety of personal perspectives sound immunization recommendations and policies, which include benefit and risk communication need to be further developed and more widely implemented.

The National Foundation for Infectious Diseases (NFID) conducted a telephone survey in 2009 to gain a better understanding of what / who influences individuals to get immunized. Overall, results showed that physician recommendations were most often cited as the main reason (69%), with a higher percentage within the age group of 65 years and older. This among other studies highlights the importance of physician recommendations and the essential role played by health care providers in getting adults vaccinated.

"Results showed that physician recommendations were most often cited as the main reason -69% - for people to be vaccinated, with a higher percentage within the age group of 65 years and older."

DAY 2 BARRIERS FOR ADULT VACCINATION AND STRATEGIES FOR IMPROVEMENT

The second day began with two presentations around the **major barriers to effective adult vaccination in Europe**, in relation to the overall strategies for improvement and those related to the doctors and venues for improvement, presented by Dr E. David G. McIntosh and Dr Mine Durusu Tanriöver respectively.

Dr McIntosh reviewed evidence around vaccines specific to adolescents and younger adults (i.e. HPV, Hepatitis B, Pertussis), as well as those specific to older adults (i.e. Influenza, Pneumococcal, Pertussis, Zoster). Data reviewed was dispersed across gender, race, socio-economic status, age, education level, geographic location and profession (i.e. health professional).

Perceived barriers for adolescents and younger adults were largely focused around access, reimbursement, consent issues, tracking immunisation history and education / awareness, with suggested strategies for improvement being the establishment and building of platforms, legislation and vaccination requirements for schools.

Determinants of vaccine hesitancy are complex and context specific, varying across time, place and vaccines. Evidence showed that despite the burden of disease caused by adult related VPDs, immunization and uptake rates are generally modest across the board. Major barriers included the perceived need for vaccination, cost / health coverage and low awareness / lack of knowledge among adults as well as health professionals. Addressing these barriers as well as the hesitancy towards vaccine should be done in a manner that is carefully tailored to the specific vaccine, target populations, the reasons for hesitancy, and the specific context.

Overall the immunization of adults, particularly older adults, can be vastly improved, especially for influenza, pneumococcal and zoster vaccines. Tailoring intervention materials, motivating and

education physicians, raising awareness around legislation and addressing hesitancy are but some of the actions that can be taken to overcome major barriers towards adult vaccinations.

With the focus of Dr Durusu Tanrıöver's presentation being around the factors related to the doctors that affect their vaccine uptake and their behaviours to vaccinate others, the following aims were identified:

- Increasing the vaccination coverage rates of the doctors to protect them and their patients
- Modifying doctor behaviours to make them role models and advocates for vaccination and to increase vaccination rates of the individuals and the adult population

Despite the several guidelines that exist for vaccinating Health Care Workers (HCWs) across a variety of vaccinations and strategies, the coverage rates remain persistently low. The European Union Commission for example, set a coverage target of 75% to be attained by 2014-2015 flu season for the influenza vaccine; the reality is 30% coverage among European HCWs.

The importance of coverage of HCWs reverts back to the notion of two-sided disease transmission, which outlines the reality that doctors do acquire and transmit diseases as they are at the frontline when an epidemic occurs, particularly as immuno-compromised individuals are already more susceptible. Evidence is consistent around the positive impact of vaccination specific to transmission, demonstrating in one study the predicted decrease in patient mortality, influenza-like illness and absenteeism after a 40% increase in vaccination of HCWs.

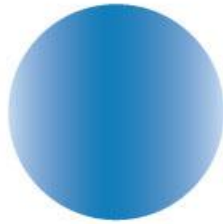
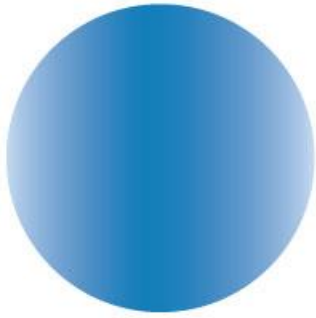
Evidence shows that doctors can and do influence patients' decision and behaviours particularly in the way an individual may proceed with a course of (preventative or responsive) treatment, heightening the need for doctors to sincerely believe in, take responsibility for and adopt vaccines, to then encourage others to accept immunization. In order for ownership of this adoption process to occur, gaps around awareness, knowledge, perception of and healthy communication about vaccines need to be addressed as a matter of personal as well as patient safety.

“Despite several guidelines that exist for vaccinating Health Care Workers (HCWs), coverage rates for the influenza vaccine remain persistently low with 30% coverage among European HCWs

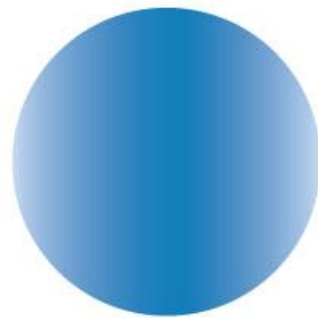
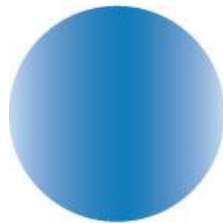
Active promotion and messaging around safety and effectiveness of vaccines within institutions, through social media and the mainstream media, and by civil society organizations as advocates can be identified as some of the necessary actions to take to better engage HCWs and magnify the critical role that they play in vaccine acceptance. It is crucial however that messaging takes into account the knowledge, concerns and belief of target populations, helping to ensure that the level of health literacy is adequately matched.

Outlined below are the major identified barriers to vaccination in target populations, including HCWs and the opportunities for improvement.

Barriers	Opportunities for improvement
Lack of leadership	<ul style="list-style-type: none"> - A positively reinforcing leader at each level - Setting multicomponent interventions and KPI's
Lack of prioritization of regulations about vaccination	<ul style="list-style-type: none"> - Multidimensional regulations – scientific, social, financial and industrial
Lack of targets and principles	<ul style="list-style-type: none"> - Realistic and reimbursed guidelines - Vaccine cards, single trusted source of vaccination data - Active surveillance systems
Not scientifically nor evidence-based information on the public media	<ul style="list-style-type: none"> - Education, early and continuing
Lack of health communication	<ul style="list-style-type: none"> - High quality patient visits - Integrating preventative health measures to every doctor-patient encounter
Incorrect perceptions and fears (adverse event, disease, injection etc.)	<ul style="list-style-type: none"> - Role models - Transparent, real-time, trusted pharmacovigilance
Lack of knowledge, awareness, venue and time	<ul style="list-style-type: none"> - Education - Free, easily reachable vaccine - Feasible vaccination venues - Having role models for vaccination - Decision support systems and time and cost efficient reminder/recall
Denial of the disease and the harms and risks of the disease overconfidence	<ul style="list-style-type: none"> - Motives to protect 'habitual' vaccination
Vaccine paradox	<ul style="list-style-type: none"> - Recalling and judging the impacts of vaccine preventable diseases - Appreciating the value of vaccines - Updated info on vaccines, contents and availability



APPENDIX



ADULT IMMUNIZATION ADVOCACY SUMMIT PROGRAM	
25 – 27 JUNE 2015	
Day 1, Part I - June 26th 2015	
	<p>Theme Current data on Vaccine Preventable Disease (VPD) and vaccines indicated in adulthood</p> <p>Outcome Basic data for European Immunization Guidelines</p>
8:30 – 8:35	<p>Opening remarks</p> <p><i>Dr. Javier Garau, University of Barcelona, Spain</i> <i>Dr. Jane Barratt, International Federation on Ageing, Canada</i></p>
8:30 – 8:45	<p>The Happy Ageing Alliance, an innovative model toward national adult vaccinations</p> <p><i>Dr. Anna Odon, The Happy Ageing Alliance, Italy</i></p>
8:45 – 9:15	<p>Adult vaccination, a necessary complement for healthy ageing</p> <p><i>Dr. Javier Garau</i> <i>Dr. Serhat Unal, Hacettepe University, Turkey</i></p>
9:15 - 10:00	<p>The failure to implement an effective adult vaccination program: Lessons learned from the U.S. experience</p> <p><i>Dr. Javier Garau</i></p>
10:00 -10:15	Health Break
10:15 – 11:00	<p>Vaccine-preventable diseases in an adult vaccination program and the burden of disease</p> <p><i>Prof. Roman Prymula, University of Defence, Czech Republic</i></p>
11:00 - 12:00	General Discussion
12:00 - 1:00	Lunch
1:00 - 1:45	<p>Efficacy and effectiveness of vaccines in the adult population: A systematic analysis</p> <p><i>Dr. Endre Ludwig, Semmelweis University, Hungary</i></p>
1:45 -2:30	<p>Safety issues of vaccines in the adult: A review of the available information</p> <p>Dr. Serhat Unal</p>
2:30 - 2:45	Health Break
2:45 – 3:30	<p>A European guideline for adult vaccination: Rationale and objectives</p> <p><i>Dr. Javier Garau</i></p>
3:30 - 5:00	General Discussion and Summary
Day 2, Part II - June 27th 2015	

	<p>Theme Barriers for adult vaccination and strategies for improvement</p> <p>Outcomes A strategic plan for a roadmap to overcome barriers in Europe and improve targets for coverage</p>
8:00 – 10:00	<p>Major barriers to effective adult vaccination in Europe</p> <p><i>Dr. E. David G. McIntosh, Imperial College, United Kingdom</i> <i>Dr. Mine Durusu Tanrıöver, Hacettepe University, Turkey</i></p>
10:00 – 10:15	Health Break
10:15 – 12:15	<p>Roundtable discussion: Synthesis of evidence for the development of paper and draft guidelines</p> <p><i>Dr Serhat Unal</i></p>
12:15 – 12:30	<p>Closing remarks</p> <p><i>Dr. Javier Garau</i></p>

ATTENDEES

Dr. Jane Barratt

Secretary General, International Federation on Ageing, Canada

Dr. Roberto Bernabei

Professor of Internal Medicine, Università Cattolica del Sacro Cuore, Italy
Italian Longevity Organization

Dr. Mine Durusu Tanrıöver

Associate Professor of Internal Medicine, Hacettepe University, Turkey
Turkish Society of Internal Medicine

Prof. Dr Javier Garau

Associate Professor of Medicine, University of Barcelona, Spain
Supporting Active Ageing Through Immunisation (SAATI)

Dr Daphne Holt

Vice President, Confederation of Meningitis Organizations (COMO), France

Prof. Dr Endre Ludwig

Medical Doctor, Semmelweis University, Hungary
Hungarian Society of Infectology and Clinical Microbiology

Dr. Francesco Macchia,

Managing Director, NOMOS Laboratorio Politiche Sanitarie, Italy

Mr. Marco Magheri

Director, The Happy Ageing Alliance, Italy

Dr. E. David G. McIntosh,

Honorary Clinical Senior Lecturer, Imperial College, United Kingdom
International Society Chemotherapy (ICS)

Dr. Anna Odone

The Happy Ageing Alliance, Italy

Prof. Roman Prymula

University of Defence, Czech Republic
Central European Vaccine Advisory Board (CEVAG)

Dr. Antoni Torres

University of Barcelona, Spain
European Respiratory Society (ERS)

Dr. Serhat Unal

Chair of the Department of Infectious Diseases, Hacettepe University, Turkey
European Federation of Internal Medicine (EFIM)

ADULT IMMUNIZATION ADVOCACY SUMMIT

BIOGRAPHIES

DR. JANE BARRATT



Dr. Barratt is the Secretary General of the International Federation on Ageing (IFA) comprising of government and non-governmental members in 62 countries and representing some 50 million older people. She brings to this position over 35 years' experience in both public and private sectors in the fields of public health, community and aged care, and ageing and disability.

Dr Barratt strives to strengthen the roles and relationships between government, NGOs, academia and industry in order to help shape and influence policy to improve the quality of life of older people. She is a strong contributor to the international dialogue on the social, political, cultural and physical environments that impact on the lives and human rights of older people.

Dr Barratt is a Churchill Fellow, and recently awarded the Queen Elizabeth II Diamond Jubilee Medal in Canada in recognition of her commitment and passion to enhance the understanding of issues relating to ageing and engaging in dialogue with governments and the private sector to improve the quality of life of older people.

She represents the IFA at the United Nations Economic and Social Council and is directly responsible for the formal relations with the Ageing and Life Course Department, World Health Organization. Jane holds adjunct academic positions, executive and board positions on ministerial, government and non-government organizations including Age Macular Degeneration Alliance International and Baycrest which is one the world's premier academic health sciences centers focused on ageing

DR. ROBERTO BERNABEI



Dr. Bernabei is a Professor of Internal Medicine at the Università Cattolica del Sacro Cuore, Director of the Department of Geriatrics and Rehabilitative Medicine at the A. Gemelli University Hospital in Rome, Italy and a Board Member of the European Academy for Medicine of Aging (EAMA). He served as the President of the Italian Society of Gerontology and Geriatrics (2006–2009), and as Project Leader of two large European Commission grants (FP5-FP7) involving eleven

European Union countries.

Dr. Bernabei's main research interests are in geriatric assessment, models of health services for elderly care, and geriatric pharmacoepidemiology. He is a member of the board of trustees of the Università Cattolica, member of the Geriatric Working Group of the Agenzia Italiana del Farmaco (AIFA), President of the Network "Italia Longeva," the Italian agency for the elderly, and author of over 250 papers published in peer-reviewed journals, four books, and eight book chapters.

DR. MINE DURUSU TANRIOVER



Dr. Mine Durusu Tanriover is an Associate Professor of Internal Medicine in Hacettepe University Faculty of Medicine, Ankara, Turkey, with clinical experience in the care of acute and critical patients. She is a consultant of the Acute Care Unit mainly admitting patients with acute decompensation of chronic diseases; lower respiratory tract infections, organ failure and acute, undiagnosed conditions.

She has authored more than 40 peer-reviewed articles. Her research areas mainly consist of acute care and adult vaccination. She has been involved in the Global Influenza Hospital Surveillance Network project as a site coordinator for the last three years and many other local projects related to acute diseases and adult vaccination.

Representing the Turkish Society of Internal Medicine, she is involved in the National Adult Immunization Guideline Task Force. She is the founder and the first chair of the Young Internists Working Group and Honorary Fellow of the European Federation of Internal Medicine (EFIM). She is currently an active member of the Professional Issues and the Adult Vaccination (ADVANCE) Working Groups of EFIM.

DR. JAVIER GARAU



Dr. Javier Garau is an Associate Professor of Medicine at the University of Barcelona and Chair of Supporting Active Ageing Through Immunization (SAATI).

Dr. Garau, a world leader in the study of adult immunization, is the former President of the European Society of Clinical Microbiology and Infectious Diseases (ESCMID) and former Head of the Department of Medicine at Hospital Universitari Mutua de Terrassa, Barcelona. His research includes community-acquired bacterial infections, antibiotic resistance and new antimicrobials.

Dr. Garau has authored over 215 peer-reviewed publications in the field of clinical microbiology and infectious diseases. He is an American Board of Internal Medicine and American Board of Infectious Diseases diplomat and an active member of numerous medical committees, professional societies and editorial boards of peer-reviewed journals. Dr. Garau served as the president of La Sociedad Española de Enfermedades Infecciosas y Microbiología Clínica from 1990 to 1992 and as vice-president of the Spanish Society of Chemotherapy from 1988 to 1990. He also served as the ESCMID education officer.

DR. DAPHNE HOLT



Dr. Holt joined the world of charity management in 1999 after 30 years in medical research and education, first with the UK Medical Research Council and then at Imperial College in London, where from 1986 she was team leader at the Karim Centre for Meningitis Research.

After working on international development for the Meningitis Trust (UK) she joined the Confederation of Meningitis Organisations (CoMO) in 2009 to become the first executive director, and to establish CoMO as a registered organisation in Perth, Western Australia. CoMO now has 43 members in 28 countries around the world and she has been involved with this organisation since its inception, as a loose network of like-minded people, in 2004.

During Dr. Holt's career in science and as a charity manager she has published and presented on meningococcal disease, especially in the new-born baby. She also served on the WHO Working Group on the terms of reference for the International Coordinating Group (ICG) on Vaccine Provision for Epidemic Meningitis Control.

Dr. Holt retired in March 2010 and has lived in France since 2001. She is now a member of the Governing Council of CoMO and holds the Vice Presidency.

DR. ENDRE LUDWIG



Prof. Dr. Endre Ludwig is a Medical Doctor at the Semmelweis Medical University and specializes in Internal Medicine, Clinical Pharmacology and Infectology.

Prof. Dr Ludwig is involved in the Hungarian Society of Infectology and Clinical Microbiology, European Society of Clinical Microbiology and Infectious Disease, is the Secretary General of the Hungarian Society of Chemotherapy, and part of the Executive Committee of the Federation of European Societies of Chemotherapy and Infection. Prof. Dr. Ludwig is also a member of the Hungarian College of Infectologists and the Head of the College of Hungarian Infectologists.

His research areas mainly focus on clinical pharmacology and antimicrobials, treatment of nosocomial bacterial infections, treatment of UTI-s in special patient groups, antibiotic stewardship, respiratory tract infections (pneumonia in particular), evolution of bacterial resistance, impact of antibiotic use and vaccination and pneumococcal vaccines.

Prof. Dr. Ludwig regularly attends local and international conferences and symposiums as an invited speaker for over 28 years. He has published over 250 publications in Hungarian and English. He has authored and co-authored several books and book chapters, such as computers in clinical decision making, clinical pharmacology of antimicrobials, and pharmacodynamics effect of antimicrobials, nosocomial infections and practice of antibiotic therapy.

DR. E. DAVID McINTOSH



Dr E. David G. McIntosh is an Australian paediatrician (with dual Australian/British nationality), Vaccinologist and Infectious Disease Specialist. Dr. McIntosh was promoted to the position of Head, Global Scientific Affairs at Novartis Vaccines on 29th April 2014, having held the post of Global Scientific Affairs Senior Expert since December 2009.

Previously, in Wyeth Pharmaceuticals as the Medical Director Vaccines and Infectious Diseases Europe/Middle East/Africa, Dr. McIntosh worked on the 7- and 13-valent pneumococcal conjugate vaccines, the intra-nasal cold-adapted influenza vaccine, the antibiotics tigecycline and piperacillin-tazobactam, and the anti-parasitic agent moxidectin, for the treatment of River Blindness (onchocerciasis) in Africa.

He originally trained as a medical doctor in Sydney, Australia, and specialised in paediatric infectious diseases and public health. His early work was in Papua New Guinea, the Northern Territory of Australia, Peru, Argentina, New Zealand and the UK.

His early research was on early-onset Group B streptococcal infection at the King George V Hospital for Mothers and Babies in Sydney. His MPH treatise involved the study of chronic suppurative otitis media in Australian Aborigines and his PhD thesis described the molecular epidemiology of hepatitis B virus in recent immigrant families to Australia. He co-authored the landmark 50-year follow-up of the original congenital rubella syndrome patient cohort. His post-doctoral work was on gene therapy for hepatitis, in the Department of Medicine at Imperial College, a university in London, UK.

Dr. McIntosh completed a four-year Higher Medical Training period in Pharmaceutical Medicine at the Royal College of Physicians, London, and is on the Specialist Register of the UK as a Pharmaceutical Physician and as a Paediatrician. He has written chapters on hepatitis A and hepatitis B vaccination, pneumococcal vaccination, paediatric clinical pharmacology, paediatric clinical trials, post-infectious sequelae and long-term consequences of infectious diseases, efflux pumps, respiratory infections and meningococcal vaccination. In May 2012 he obtained another post-graduate degree, a Master's degree in Medical Law and Ethics (LLM), the dissertation for which was on the subject of maternal immunisation.

Dr. McIntosh is an Honorary Clinical Senior Lecturer at Imperial College, London, Honorary Professor at the Scientific Center for Children's Health, Russian Academy of Medical Science, Moscow, and Chair Allergy and Clinical Immunology at the I. M. Sechenov First Moscow State Medical University. He is an ECDC Expert and member of the UK Parliamentary and Scientific Committee. On 13th June 2011 in the Queen's Birthday Honours List he was appointed as a Member in the General Division of the Order of Australia, within the Australian Honours System. He holds the following qualifications: MBBS, MPH, LLM, PhD, FAFPHM, FRACP, FRCP&CH, FFPM, DRCOG, DCH, Dip Pharm Med.

PROF. ROMAN PRYMULA



Prof. Prymula is a Director of the University Hospital in Hradec Kralove and former Dean of the Faculty of Military Health Sciences and Chair of the Department of Epidemiology at the University of Defense in Hradec Králové, Czech Republic.

Prof. Prymula graduated from Military Medical School and Charles University School of Medicine in Hradec Králové, Prague, with a medical degree, before completing an International Certificate in Hospital Management, at the University of Birmingham in the United Kingdom in 1995. He became an Associated Professor in Epidemiology in 1995 and in 2007 he became full Professor of Hygiene, Epidemiology and Preventive Medicine. Prof. Prymula obtained his PhD from Purkyne Military Medical Academy in Hradec Králové and holds specialization degrees in hygiene and epidemiology, public health, and medical microbiology.

Prof. Prymula is involved in various research activities in preventive medicine, including clinical development of new vaccines, such as those for pneumococcus; rotavirus; varicella; meningococcus B; measles, mumps, rubella (MMR); and human papillomavirus. In addition to his active research and teaching activities, he serves as a consultant for several national and international organizations. He is a member of the European Centre for Disease Prevention and Control (ECDC) management board, Chairman of Central European Vaccine Advisory Board (CEVAG), Chairman of the Czech Advisory Board for Epidemiology, Chairman of the Czech Vaccinological Society JEP and member of the Czech National Immunization Board (NIKO). Prof. Prymula is also on the editorial board of several scientific journals and serves as a consultant for several national and international organizations. He has published numerous articles and book chapters on vaccine preventable infectious

DR. SERHAT UNAL



Prof. Unal was the Dean of the School of Medicine and Chair of Department of Internal Medicine. He is currently the Chair of the Department of Infectious Diseases at Hacettepe University in Ankara, Turkey. He previously served as a Fellow in Infectious Diseases at the New England Deaconess Hospital and Harvard Medical School in Boston, MA.

Prof. Unal's main areas of interest are hospital infection control, antimicrobial resistance in gram positive cocci, adult vaccination, and HIV infection. Prof. Unal has published 155 international articles and 160 international abstracts.

He was honored with the Non-Governmental Organizations Women Health Commission Millennium Award in HIV/AIDS in 2002 and the Centenary Medal of the Polish Society of Internal Medicine in 2008. Prof. Unal is President of the Turkish Society of Internal Medicine, and Secretary General of Turkish Society of Hospital Infection and Control.