Immunization in the elderly
22-23 March 2017

Opening remarks

M. Teresa Aguado
Some figures...

- **Expected population growth.** By 2050, an increase of 3.000 M is expected, resulting in a world population around 10.000 M. Huge challenges in all aspects of life (food, space, health systems …)

- **The ageing of the global population.** By the year 2030 the % of the total population that will be over 60 is predicted to represent more that 25%, of whom 75% will be living in developing countries

- **Vaccines are one of the most cost-effective health interventions.** While vaccination of infants remains an unfinished task, sustained protection against infectious diseases in adulthood and older ages should become a goal of a comprehensive health program. Life-course immunization can really contribute to quality of life
WHO mandate to play a important role in adult/elderly immunization

- GVAP (Global Vaccine Action Plan) 2011-2020
  

- **Strategic objective 3**: The benefits of immunization are equitably extended to all people

- “Achieving this strategic objective will mean that every eligible individual is immunized with all appropriate vaccines - irrespective of geographic location, age, gender, disability, educational level, socioeconomic level, ethnic group or work condition”
GVAP and a "life course approach to immunization"

- The **equity** aspect of immunization, reaching **all populations and all ages**

- Vaccines for children of older age, adolescents, maternal immunization, **adults** and **elderly**: a life course approach

- Emphasis on **country ownership**: designing policy and programmes tailored to their particular needs

- Creating **strategies for reaching individuals** throughout their life course, a) with appropriate planning and implementation, b) tracking each individual’s immunization status, c) involvement of HCW and civil society through improved communication

- Using the opportunity to deliver **other preventive measures**, as complementary interventions
WHO mandate to play a important role in adult/elderly immunization

- Strategic Directions for Vaccine Research – August 2013 internal IVB working document (within the GVAP framework)

- World Immunization Week 2017: Vaccines work

“The main goal of the campaign is to raise awareness about the critical importance of full immunization throughout life, and its role in achieving the 2030 Sustainable Development Goals”
Previous IVR-related meetings and activities (1)

- Paris, France/Institut Pasteur, Satellite workshop on Aging and Immunity at the 8th Global Vaccine Research Forum, June 29 – July 2, 2008

Starting to gather some information in the field


Aimed to: 1) provide awareness of the importance of the increasing older population globally and the role vaccines could play in quality of life, 2) identify major areas or work and corresponding knowledge gaps and 3) set up a research agenda for WHO in this area
Previous IVR-related meetings and activities (2)

- The meeting contents and **recommendations for a global research agenda** resulted in a manuscript published in *Vaccine*, 2012, 30, 6007-6012

- Reviewed current knowledge and gaps in information and issued recommendations accordingly

- Proposed priority research topics as well as strategies to facilitate and coordinate the research, including the establishment of networks of collaborators, with WHO playing a key coordinating role
Priority topics and areas of research:

1. Epidemiology of infectious diseases in the elderly in developed and developing countries, their contribution to disability in old age and comorbidities.

2. Immune senescence and ways to measure and counteract it; development of biomarkers and better diagnostic tests, also for health status and frailty.

3. Immunization approaches to maintain or improve health in older persons: a “portfolio” of needed vaccines, improvement of efficacy, …

Additional: socio-economic and behavioural studies.
Previous IVR-related meetings and activities (3)

- Siena, Italy, April 25, 2012 following the Aging and Immunity II meeting – WHO satellite consultation on immunological parameters of immune senescence

The overall goal of the meeting was to develop a basic science network among expert partners to coordinate studies leading to understanding the protective responses during immune senescence and to identify the supporting methodology.

- St Gall, Switzerland, plenary session Forever Young, at the 8th World Demographic and Ageing Forum, August 27-30 2012

IVR participated in the running of the session, presentation and following debate on how the promotion of vaccination among adults and older persons should be part of a comprehensive strategy to promote healthy ageing.
Supported an study to optimize and eventually validate a qPCR assay to quantify naïve T cell pools (TREC assay) in dried blood samples, in order to elucidate their contribution to immune senescence.

Supported a **Systematic literature review on the epidemiology of vaccine preventable diseases in the older population in LMIC** - **WHO unpublished report, Xavier Bosch-Capblanch and a review team, Swiss TPH, Basel, April 2014**
Features and outcomes of the systematic literature review

- only in LMIC - in 5 continents
- studies between 2001-2013
- a total of 538,250 refs, selected 15,487 studies (according to criteria), eventually 316 included
- 3 groups of age: 45-64 y, 65-79 y, more than 80y
- types of outcome measures: incidence, prevalence, mortality, other
- search strategy, data collection, analysis and reporting
Features and outcomes of the systematic literature review

- some conditions widely reported (eg TB and influenza), others much less (eg UTI, bronchiolitis)

- heterogeneous quality, few complying with minimal quality criteria: subject to biases

- age ranges poorly defined, sometimes reporting aggregated data for all age groups (eg pneumonia)

- striking the relatively small number of studies carried out in LMIC which included subjects in the older range group for certain conditions

- outcomes varied greatly from country to country

- evidence is scarce and patchy (limited number of studies, concentrated in a few countries)
In order to build the case in LMIC, the following should be considered:

- Gathering **reliable evidence** on those conditions specifically affecting older population: strengthening surveillance, tools to collect data

- Promotion of **standardized research studies**: age group definitions, outcomes for each disease and reporting

- **Advocating in the appropriate forums** (international, geriatric, infectious diseases, ...) the need to consider diseases affecting older people
Other meetings with IVR participation
Fondation Merieux meetings

- Siena, Italy/Novartis Campus, September 21-23, 2009 – *Aging and Immunity*

- Siena, Italy/Novartis Campus, April 22-24, 2012 – *Aging and Immunity II*

IVR collaborated with the agenda development of the meeting + provided the WHO perspective. Manuscripts based on meeting contents were published respectively in *Vaccine, 2010, 28, 3627-3631* and *Science Translational Medicine, 2013, 5, 1-9*

- Siena, Italy, January 11-13, 2016 – *Aging and Immunity III*
Fondation Merieux meetings’ objectives

- Reviewed, assessed progress and discussed:

  - mechanisms of immune senescence and how this affects the response to vaccines
  - biomarkers of the immune responsiveness in the elderly
  - input of big data in the definition of the biomarkers
  - vaccines and novel approaches for the elderly
  - improvement of vaccine efficacy
  - some global epidemiology, frailty and economic studies
Present goals

With all the previously generated and available information, it is now important for WHO to:

a) address matters globally, with focus in LMIC

b) stimulate public and private sector to make available/develop vaccines for adults/elderly in LMIC

d) gather elements (programmatic and other) that will lead to generating policy + identify knowledge gaps

e) explore opportunities for “broader” prevention, improvement of communication and tracking systems
Meeting objectives

- To discuss the **incidence and determinants** of vaccine preventable diseases in adults

- To discuss **vaccine performance** in older adults and the pipeline of vaccines under development that may be of benefit to adults and older adults

- To **review policies** on immunization of adults, with a focus on older adults

- To discuss **challenges and opportunities** for strengthening an adult immunization platform in LMIC

- To **identify policies** that could be developed and **activities** that can be pursued to **promote access to vaccination for older adults in LMICs**
Expected outcomes

- Understanding of the **burden** of vaccine preventable diseases in adults
- Understanding of **performance** of vaccines used in the elderly
- Understanding of **challenges and opportunities** to building an adult or older adult immunization platform in LMICs
- Delineation of studies and activities that could address the **data needs for vaccine policy** making and implementation in LMICs