Global report including key updates and challenges from regions

Philippe Duclos
SAGE Meeting
21-23 October 2014

World Health Organization
Organisation mondiale de la Santé
منظمة الصحة العالمية
Всемирная организация здравоохранения
Organización Mundial de la Salud
Outline

1. WHO's contribution to the GVAP – process to update the vision and mission and prioritize immunization work

2. Review of regional achievements, challenges and priorities

3. Feed-back on selected work streams of importance to SAGE
   - Integration
   - Data quality
   - Typhoid conjugate vaccine
   - Maternal immunization
   - World Immunization Week

4. SAGE working processes and topics on the horizon
1. WHO's contribution to the GVAP – process to update the vision and mission and prioritize immunization work
A unified vision

WHO's contributions to GVAP

→ Will describe the organizational roles of WHO's vaccines and immunization work

WHO's vision beyond 2020

Development will draw heavily on existing strategic and visionary documents

Inclusive – include polio, regulatory/safety and other areas including immunization in emergency situations

Formal endorsement by WHO of the final document

All regions have committed to be actively involved in the development
## WHO’s Vision and Mission for Vaccines and Immunization, 2015 – 2025: process and timelines

<table>
<thead>
<tr>
<th>WHAT</th>
<th>HOW</th>
<th>WHO</th>
<th>WHEN</th>
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<tbody>
<tr>
<td><strong>1. Take stock of where we are</strong></td>
<td>Review WHO’s work in immunization/vaccines, including contributions against the GVAP; Assess WHO’s strengths and weaknesses through internal assessment and expectations &amp; Survey to partners, EPI managers and National Immunization Technical Advisory Groups, SAGE</td>
<td>WHO HQ &amp; regions, Partners, SAGE</td>
<td>Nov 15(^{th})</td>
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<tr>
<td><strong>2. Project future needs</strong></td>
<td>Through trends and country analysis, project what immunization will need in 10-15 years.</td>
<td>WHO, external support</td>
<td>Dec 15(^{th})</td>
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<tr>
<td><strong>3. Identify gaps</strong></td>
<td>Map WHO’s immunization and vaccines capacities, strengths and weaknesses against its future role.</td>
<td>WHO</td>
<td>Feb 15(^{th})</td>
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<tr>
<td><strong>4. Define future role</strong></td>
<td>Analysis of which future needs WHO should fill, based on current work and its core competencies; solicit feedback.</td>
<td>WHO</td>
<td>Feb 15(^{th})</td>
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<td><strong>5. Vision/mission developed</strong></td>
<td>Final document outlining the vision, mission and role for WHO in immunization and vaccines.</td>
<td>WHO</td>
<td>March 31(^{st})</td>
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WHO's Contribution to the GVAP
Cross-cutting critical/core functions - all levels

- Norms & standards, policy recommendations, best practices setting
- Strategy, tools & guidelines development
- Partner coordination
- Global & regional monitoring/surveillance and feedback
- Advocacy and resource mobilization (e.g. World Immunization Week)
- Capacity building (e.g. training material & methods)
- Direct technical support to countries
WHO's Contribution to the GVAP Strategic Objective (SO) 1: All countries commit to immunization as a priority

- Support country development of and ownership of unified immunization plan (*e.g.* comprehensive multi year plans)

- Generate evidence on the value of immunization

- Support creation and strengthening of National Immunization Technical Advisory Groups

- Support establishment and strengthening of Interagency Coordinating Committees & Health Systems Coordinating Committees
WHO's Contribution to the GVAP
SO2: All understand the value of vaccines and demand immunization as right and responsibility

- Provide summaries of the evidence base for the safety and efficacy of vaccines
- Track and respond to global vaccines safety threats
- Facilitate addressing of vaccine hesitancy and demand creation
- Facilitate linkages with professional and academic networks
WHO's Contribution to the GVAP
SO3: Benefits of immunization equitably extended to all people

- Development of tools and technical support to reaching every community and understanding the causes of un- or under-immunization (include research to minimize barriers and improve coverage of vaccines currently in use)

- Support introduction of new vaccines across the life-course

- Coordinate and support supplementary immunization activities for accelerated disease control (*MenA, MR*, …)

- Respond to outbreaks in humanitarian crises and in conflict zones
WHO's Contribution to the GVAP
SO4: Immunization systems integral part of well-functioning health system

- Improve administrative data quality, analysis and use & promote state of the art immunization information systems (eg. immunization registries and national identification systems)

- Strengthen disease surveillance systems and laboratory capacity (including developing improved diagnostic tools)

- Ensure global capacity for vaccine safety

- Facilitate the independent assessment of all programme components (delivery, supply chain, surveillance,...) and support the development of a strong supply chain
WHO's Contribution to the GVAP

SO 5: Sustainable access to predictable funding, quality supply and innovative technologies

- Support pooled procurement mechanisms
- Promote vaccine affordability and transparent pricing
- Facilitate demand forecasting and assessment of supply for vaccines & technologies
- Support strengthening of National Regulatory Authorities
- Prequalification of vaccines and devices
- Establish and maintain vaccines stockpiles
WHO's Contribution to the GVAP
SO6: Research and development innovations

- Prioritization of vaccines and innovations (*eg.* *Product Development for Vaccine Advisory committees*)

- Accelerate development of vaccines
  - In early development (*eg.* *preferred product characteristics*)
  - Accelerate licensure of vaccines in earlier phases of clinical development (*eg.* *consensus-based trial design*)
  - Generate evidence to inform policy recommendations for candidate vaccines

- Impact evaluation of vaccines in use

- Stimulate research on optimizing delivery schedules and policy recommendations

- Promote access to technology, expertise and intellectual property for relevant technologies

- Develop a global regulatory science research agenda
2. Review of regional achievements, challenges and priorities
Development of Regional Vaccine Action Plans (RVAP) (1)

**AFRO**

Draft RVAP to be discussed at the 64th RC, 3-7 November 2014 (Regional strategic plan for immunization 2014–2020)

**EURO**

European Vaccine Action Plan (EVAP) adopted by the 64th RC

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**EXECUTIVE SUMMARY**

1. Immunization is considered as one of the most cost-effective public health interventions. Regional coverage with three doses of Diphtheria-Tetanus-Pertussis containing vaccine and the first dose of Measles Conjugated Vaccine were maintained around 70% during the last three years. There has been an estimated 85% reduction in measles mortality since 2000 and only one country in the Region remains endemic for wild poliovirus.

2. External evaluation of the 2009–2013 Regional Immunization Strategic Plan revealed challenges faced by access and utilization of immunization services. These include gaps in organization, coordination and management of immunization activities, insufficiency of vaccines and cold storage capacity, limited service delivery points, and inappropriate immunization strategies resulting in low community awareness and participation.

3. One of the significant developments in the field of immunization in the Global Vaccine Action Plan is the implementation of the Regional Immunization Strategic Plan 2004–2010 at the national level in a number of countries within the Region.

4. The key approaches include integrating immunization into national health policy and plans, strengthening budgeting, enhancing partnerships, building national capacity, improving monitoring and data quality, improving vaccine management, safety and regulation and promoting implementation, research and innovation.

5. The Regional Committee is invited to review the Regional Immunization Strategic Plan 2004–2020 and endorse the actions proposed and the related resolutions.
Development of Regional Vaccine Action Plans (RVAP) (2)

**WPRO**

RVAP validated by RTAG and adopted at the 65th RC, 13 -17 October 2014

**PAHO**

Regional Immunization Vision and Strategy 2007-2015 will finish next year. In Sept 2015, the regional adaptation of GVAP will be presented to PAHO's Directing Council

**EMRO**

RVAP based on CMYPs (bottom-up approach) will be submitted to the RC in Oct 2015

**SEARO**

Development of RVAP ongoing
Immunization Performance in the AFR
Action to address challenges and accelerate the performance

- Ensure easy access to essential interventions and services
- Move from the Reach Every District to Reach Every Child approach with the full involvement of communities
- Improve data quality
- Improve logistics and cold chain systems
- Strengthen disease surveillance and reporting systems
- Ensure adequate resources for child health
- Ensure improved access to mobile and e-health technology to improve access to child health care
- Establishment/strengthening of NITAGs
- Ensure coordination, alignment and harmonisation of existing initiatives.
Nigeria’s Real Time Tracking of Routine Immunization Supervision
Impact of the Supportive Supervision
% sessions supervised with all antigens present

Some antigens not available at session site
All antigens available at session site

Availability of all antigens at the session site improved from 54% to 80% demonstrating better vaccine management
Number of Doses Administered in Guinea, Liberia and Sierra Leone (Jan-Jul 2013-2014)

Source: WHO/AFRO

Number of doses administered

Guinea
- Measles 1
- DTP3

Liberia
- Measles 1
- DTP3

Sierra Leone
- Measles 1
- DTP3
TAG XXII

“Vaccination: Your best shot!”

1-2 July, 2014

Washington DC

Participants:
– TAG members
– PAHO Secretariat

Topics: [*decisions]
– Polio endgame update
– Update on HPV uptake and schedules*
– Influenza vaccination
– Cholera vaccination
– Conclusions from IEC measles, rubella and CRS elimination
– Pertussis vaccines*
– PAHO Revolving Fund
– Immunization data quality
– PCV13 vaccination in adults*
– Operational research
– PAHO TAG ToRs and SOP
53rd PAHO Directing Council 2014
“Immunization on the top agenda in the Americas”

• Resolution:

• For information:
  o CD53/23: PAHO Revolving Fund for Vaccine Procurement: Challenges and Opportunities
  o CD53/INF/6: Plan of Action for Maintaining Measles, Rubella, and Congenital Rubella Syndrome Elimination in the Region of the Americas
EUR: the challenges ahead

- Political commitment
- Addressing the immunity gaps
- Understand and responding to vaccine hesitancy and refusals
- Integration with other health interventions
- Alignment with health system changes
- Sustainable access to vaccines and predictable funding
ETAGE recommended the development of generic training materials on immunization for schools and for continuous medical education.

Education in vaccination
- Flipped learning
- 10 -11 years
- Multi-language
- Parent & Child learning
- Anchoring beliefs & understanding

- Initial discussions
- Plan to develop CME
- Funding identified
- Face to face meeting with ESPID – Nov 2014
Achievements:

- 64th RCM adopted regional goal of reducing hepatitis B infection rates in children to less than 1% by 2017
- 11 countries have been verified to have achieved the Regional goal
- 14 countries conducting serosurveys in 2013 - 2015
Immunization Safety and Regulation: WPR

Strengthening national capacity for surveillance of adverse event following immunization (AEFI)

- Drafted Immunization safety communication guideline in 2014
- Responded to vaccine safety incidents in six countries in 2013/14
- Conducted national AEFI training workshop in five countries in 2013/14
- Conducted regional training on AEFI causality assessment and communication capacity building (9 countries participation) in 2014

Strengthening national regulatory capacity

- Validated NRA self-assessment in vaccine-procuring countries including Cambodia, Mongolia, Malaysia & Philippines in 2013-14
- NRA assessment in vaccine producing countries: Viet Nam & China in 2014
- Established regional NRA alliance as regulatory forum
Quality of Immunization Data
Polio and IPV Introduction
Measles and rubella surveillance and immunization
  • Assessing population immunity and defining susceptible populations
  • CRS Sentinel Surveillance
Maternal and Neonatal Tetanus Elimination
Influenza prevention and control
Effective vaccine management
Adverse events following immunization
Pooled procurement mechanisms
Japanese Encephalitis
Japanese Encephalitis
Accelerated Control: SEAR & WPR

Requires:
→ Sustain vaccination and expansion to additional risk areas
→ Improved surveillance to further define risk areas in a few countries, and to monitor the impact of vaccination

SEAR:
- Sri Lanka, Thailand, India, and Nepal conducted catch-up campaigns and have introduced JEV into routine immunization
- Bangladesh recently conducted a national consultation on JE and is preparing to apply for GAVI support for JEV introduction in selected districts
- Myanmar has planned a national consultation on JE at end of Oct 2014

WPR:
- Four of 12 endemic countries vaccinate in all risk areas and five vaccinate in some risk areas
- TAG endorsed development of a regional goal for accelerated control of JE adopted by the Regional committee in Oct 2014

SEAR and WPR: bi-regional meeting in May 2014 to support surveillance and vaccine introduction.
Regional challenges for introduction of new vaccines

- High costs of new vaccines for non Gavi-countries and issue of Gavi-graduating countries
- Capacity building needed to support evidence-based decision-making
- Measurement of vaccine impact increasingly important to sustain policy decisions
- Communications with communities and other stakeholders, especially for HPV vaccine introduction
- New vaccines often require new or special delivery systems
- IPV introduction, competing priorities and scheduling issues
Main Challenges Countries are Facing: EMR

Emergency and security situation in increasing number of countries:
- Decreasing routine vaccination coverage
- Increasing measles incidence:
  - Elimination target is not on track
- Inability to implement planned activities
  - Important activities are cancelled or postponed to indefinite date

Regional average of DTP coverage dropped from 86% in 2010 to 82% in 2013

94% of the children who have not received their third dose of DTP3 are living in countries facing internal difficulties
Programmatic Challenges for Measles Elimination in AFR

- Routine immunisation MCV1 coverage remaining stagnant

- Inadequate preparations and resource mobilisation for measles SIAs → Gaps in coverage/quality

- Multiple and competing concurrent or overlapping program priorities at national level
  - eg., Men A / YF campaigns, NUVI launch, polio outbreak response campaigns, Ebola outbreak response, political elections

- Planning for scheduled measles SIAs in countries affected by Ebola outbreak, given the risk of measles outbreaks in the next peak transmission season starting Nov/Dec 2014
Measles in the WHO European Region, 1993, and 2007-2013

<table>
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<th>Bulgaria</th>
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<th>Ukraine</th>
<th>Georgia</th>
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<td>9168</td>
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<tr>
<td>2007</td>
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<td>35088</td>
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<td>31685</td>
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</tbody>
</table>
The most recent epidemiological data indicates reintroduction of measles virus in two states of Brazil, which has been circulating for more than 1 year (2013-14).

The International Expert Committee awaits the control of this outbreak, to declare the elimination of measles in the Americas.

Rubella and CRS elimination has been sustained in the Americas.

N=676 cases*
Genotype D8

Data as of EW 40 – source: Ministry of Health, Brazil
Immunization Strategies and Measles & Rubella Cases by Month and Year, Bangladesh, 2003-2014

Note: Serologically conformed and epi linked cases are included
Cases from outbreaks from 2003 onwards
Cases from outbreaks and health facilities 2009 onwards

- M-2006 (9m-15 yr)
- M-2010 (9m-5 yr)
- MR-2014 (9m-15 yr)

Introduce of MR at 9 m and MCV2 at 15m

National Level

2 districts + 1 City Corporation
62 districts + 5 City Corporations

Measles Cases
Rubella Cases
MCV1 Coverage

Number of cases

% MCV1 Coverage
3. Feed-back on selected work streams

- Integration
- Data quality
- Typhoid conjugate vaccine
- Maternal immunization
- World Immunization Week
Integration Progress

- Still working to break down silos (even within immunization) – hard work!

- GVAP WG discussed integration and selected indicators!

- Inter-Agency Supply Chain Group – Joint vision

- Main opportunity with new vaccine introduction – HPV, PCV, and Rota
  - Global Action Plan for Pneumonia and Diarrheal diseases (GAPPD)
  - Cervical Cancer & Adolescent Health
Utilizing new vaccine introduction to promote integration and strengthen systems

Updated guidelines on new vaccine introduction
- Special section on use of opportunity for integrated approaches
- Annex with examples of ways to strengthen the building blocks of health systems

GAPPD
- Planning workshops in 4 regions, targeting high mortality countries
- Pilot projects planned in Bangladesh, India, and Zambia
- Interest from Armenia, Burundi, Togo
- GAVI Strategy discussions

Cervical Cancer & Adolescent Health
- UNICEF/WHO/UNFPA Adolescent Health Assessment - Toolkit (used in 6 countries)
- WHO Guidance: Options for Linking Adolescent Health Interventions with HPV Vaccination
Missed Opportunities

- When receiving a different vaccine or when health facility contact

- C. Sanderson, LSHTM, work in progress unpublished
  - Analysis of Demographic Health Surveys data
  - Only 4% of children overdue for MCV1 and treated in a health facility were vaccinated (7% for DTP)
  - DRC could move from 73% to 80% MCV1;
    Ethiopia from 62% to 73% --- gains sufficient in some countries to move to > 90% (eg. Burkina Faso, Ghana, Malawi).

- Causes: Lack of integration - poor planning, false age restrictions/lack of funding, false contraindications
Current Efforts at Improving Quality of Immunization Coverage Data (1)

Work led by WHO in close collaboration with other partner agencies (UNICEF, BMGF and GAVI secretariat)

Data of sufficient quality if “fit” for
- guiding policies and strategies
- making operational decisions

1. Enhancing the design and use of home-based records
   - Currently overlooked /neglected
   - Opportunity to re-energize with IPV introduction
   - Development of home-based records guide

2. Improving estimates of target populations
   - Updated guidance for national programme managers to better understand and improve estimates
   - Facilitate engagement with national statistics units and improves reporting
3. Information technologies to improve recording, reporting and use of immunization data
   • Development of guidance on the use of information and communications technologies to improve data systems
   • Support countries in strengthening district level systems for data analysis and use

4. Strengthen survey approach to validate administrative coverage
   • Updated guidelines for cluster surveys under development

5. Support countries for meeting GAVI Data Quality responsibilities
   • Annual desk review of data quality
   • Periodic in-depth data quality assessments
   • Periodic household surveys

However, human resources and capacity strengthening is critical for data quality to improve
Typhoid Conjugate Vaccines

Based on 2010 population, 11.9 million cases of typhoid fever and 129,000 deaths estimated in LMICs with 73% occurring in Asia.

2 products licensed by Indian NRA (Vi-TT, Vi-DT) and 1 product under review by Chinese NRA (Vi-rEPA) on immunogenicity data (ECBS guidance).

July 2014 WHO Expert Consultation reviewed adequacy of clinical data to support public health recommendations for use and concluded:

- **Additional data** need to be generated for SAGE policy review
  - more robust immunogenicity data eg. on duration of protection; all age groups
  - clinical efficacy data desirable; particularly in children <2 years

- **Standardization of assays** for evaluation of immune response critical

- **Additional epidemiological data to inform country decisions**

Tentative review by SAGE in 2017 with SAGE Working Group to be established in 2016 - Keep a watching brief on developments

Maternal Influenza Immunization at WHO

- Numerous activities coordinated and involving multiple WHO departments and collaboration with partner institutions (BMGF, Brighton Collaboration, CDC, PATH, and many others)
- Designed to address implementation obstacles to maternal influenza immunization program implementation
  - Burden of disease
  - Vaccine safety
  - Vaccine performance
  - Impact and economics
  - Implementation
  - Regulatory
  - Manufacturing
  - Data review and synthesis
Maternal Influenza Immunization: Major Activities Since Last SAGE Meeting

**Vaccine Safety**
- Investigating how to use data transparency initiatives by EMA and FDA to conduct reviews of unpublished trial and surveillance data
- Harmonizing/developing maternal immunization AEFI definitions and guidance (with Brighton Collaboration)

**Implementation**
- Conducting country case studies to identify best practices for routine maternal immunization (Malawi, El Salvador, …)
- Developing a global guidance document for implementation

**Regulatory**
- Evaluating data needs for product labels and identifying tools to promote more permissive pregnancy & lactation sections in labels
- Consensus building on testing and licensure pathways for RSV vaccines including maternal immunization
- Meeting on all-year availability of vaccines
World Immunization Week 2014
“Are you up-to-date?”

Campaign **focused on the general public**, asking:

Do you and your family have all the vaccines you need?

Through:
- country activities
- website
- social media platforms
- media outreach
This year

- Participation from over 180 countries
- Vaccinations and outreach to health workers
- Multilingual poster toolbox with 83,000 page views
- Introduction in Europe of smartphone app with vaccination reminders
- SMS messaging: Cameroon, Sudan and Tajikistan reported dispatch of messages
- Good level of media interest, particularly given no "hard news" announcements
- Marking an important milestone!!
- Various products launched in April & May 2014 to commemorate 40 years of EPI
4. SAGE working processes and topics on the horizon
Measles and Rubella Working Group
Emerging Policy Questions

Issues:

- Measles outbreaks with an increasing proportion of cases aged <9 months
- Measles and rubella outbreaks with a high proportion of cases aged >15 years
- No special recommendation for measles vaccination in HIV-infected children on Highly Active Retroviral Therapy (HAART)

Policy questions:

- “Should the recommended age for MCV1 in endemic settings be lowered to <9 months?”
- “Under what epidemiological circumstances should adolescents and/or young adults be vaccinated in order to stop measles or rubella transmission?” eg. immunity thresholds
- “Should an additional dose of MCV be recommended for HIV-infected children on HAART?”
Pertussis Working Group: Discussions on the Optimization of DPT and TT Immunization schedules

Met 26-27 August 2014

"not enough data to support a change in the recommendation for the use of a different schedule for DTP in infants, children, adolescents and adults at this stage. In particular, there is not enough evidence to support a change from a 3-doses to a 2-doses primary immunization."

DPT session postponed to April 2015 in view of Ebola pressure and lack of urgency of session in view of the above conclusion

As a result updating of pertussis position paper will be delayed to Q3 2015
What is the status of the RTS,S malaria vaccine trial and of the WHO policy process?

RTS,S/AS01 has completed a Phase 3 trial in 15,460 infants and children in 2 age groups:
- infants aged 6-12 weeks
- children aged 5-17 months
- 3 monthly doses followed by a booster dose after 18 months

JTEG reviewed the final Phase 3 data including booster dose on 25-26 Sep 2014
- EMA Art. 58 Scientific Opinion Expected July to September 2015
- SAGE/Malaria Policy Advisory Committee JOINT SESSION - FOR DECISION October 2015
- Possible prequalification November-December 2015
- GAVI Board decision during 2016
Results from first phase III trials of a dengue vaccine

- Vaccine efficacy (VE) against dengue of any serotype:
  - 56.5% (95% CI: 43.8-66.4) in Asia
  - 60.2% (95% CI: 52.0-68.0) in Latin America

- VE against hospitalized dengue cases
  - 67.2% (95% CI: 50.3-78.6) in Asia
  - 80.3% (95% CI: 64.7-89.5) in Latin America

- Variable VE by serotype, age at vaccination, serostatus at baseline

- No safety signals in 12 months of follow up post-dose 3

- Expected submission to regulatory authorities Q1 2015

- Planned SAGE session on dengue in April 2016

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WHO Statement on Public Disclosure of Clinical Trials Results

Existing WHO Position that **All Interventional Clinical Trials** should appear on a public **Clinical Trial Registry Site**

A draft WHO Statement on Public Disclosure of Clinical Trials Results is **now open for public consultation**

→ 15 Nov Deadline for comments

http://who.int/ictrp/results/en/

Includes an expected timeframe for publication in a preferably open access journal

In addition to reporting in journals, use of the results component of registries is encouraged
Selected topics on the horizons

Cross-cutting
- GVAP monitoring of implementation
- Use of vaccines in immunocompromised populations
- Pain reduction
- Vaccines co-administration
- Sustainable access to vaccines in MICs
- Strategies to reach older age groups
- Immunization platform in 2nd year
- Involvement of the private sector
- Strengthening NITAGs
- Maternal vaccination

Vaccine specific
- Polio eradication
- Measles and rubella elimination
- Optimizing immunization schedules (hepatitis B, DPT-TT)
- Impact monitoring
- Malaria
- Dengue
- Typhoid
- TB
- HPV
- Ebola?
thank you