

Feasibility of measles eradication

Measles Global Management Meeting

14-16 October 2009

Alya Dabbagh



**World Health
Organization**

Overview

- Action points for follow-up
- Feasibility of measles eradication
 - Background
 - Biologic/technical feasibility
 - Vaccine market analysis
 - Programmatic feasibility
 - EB paper
 - Next steps



Action points from Feb 09 MGMM

- Most AP completed. Summary table in your folders

Responsible organization/ office	Action point	Status
WHO/HQ	On going action points from 2008 meeting: Hold a technical meeting in Q1 2009 to discuss and evaluate experience with the use of surveillance performance indicators and the indicators for monitoring progress towards elimination	DONE- on agenda for 16-09-09
	Retrospective SIA results: Once yearly reconciliation process for SIA data	ONGOING- close to finalization
WHO/HQ & UNICEF/HQ	On going action points from 2008 meeting: 1-pager on "Issues to consider for inclusion of measles activities in cMYPs" to be finalized and distributed	ONGOING
	2-dose schedule for measles: To improve the reporting of the 2 nd dose estimates, a small working group at global level will be formed by WHO and UNICEF to revise current definition and propose ways to measure	ONGOING
	Research agenda: Circulate the latest update on needle-free devices and new vaccine formulations (e.g. aerosol)	ONGOING- update distributed with meeting materials
	Routine immunization: To establish a working group to come up with specific actions for the measles partnership to increase the first/second routine doses	NOT DONE?
CDC & WHO/HQ	Sub-optimal use of SIA technical reports: Modify technical report format.	NOT DONE. Need for this?

Outstanding Action points

- Establish a working group to come up with specific actions for the measles partnership to increase the first/second routine doses- **WHO and UNICEF.**
- **India: How can the partnership help mobilize India?**
 - Action points include:
 - Gov and partners to clarify TA needs for 2009
 - Partners and Gov to finalize budget for 4 high priority states.
 - Discuss with Gov the timing for the next ITAGM meeting



Feasibility of measles eradication



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Background

- May 2008 Executive Board of WHA
 - Request to assess feasibility of "*global elimination of measles*"
- April 2009 SAGE
 - "*Global elimination of measles*" = measles eradication
 - Both mean interruption of transmission worldwide
- May 2009 Executive Board of WHA
 - Report on status of global measles control
 - Request for report to EB in Jan 2010

Feasibility of Measles Eradication

1. Biological feasibility

2. Impact on health systems

3. Economic analysis

4. Vaccine market analysis

5. Programmatic feasibility

6. Risk analysis for post-measles era

7. Global context and political feasibility

Feasibility of measles eradication is on agenda at the January 2010 EB



World Health Organization

Biological/Technical Feasibility

Measles eradication is *biologically* feasible (*properties of the virus and disease*)

- Humans are the only host
- Life-long immunity after natural infection
- Only one serotype
- Genetically stable
- **Challenges:**
 - Highly infectious (>93-95% population immunity needed)
 - Population growth and density, migration and international travel
 - HIV epidemic

Measles eradication is *technically* feasible (*properties of tools for control*)

- Measles vaccines are safe and effective
- Vaccines provide long-term protection against all known genotypes
- Accurate diagnostic tests
- Current vaccines have eliminated measles in the Americas
- **Challenges:**
 - Vaccine needs cold chain and sterile injection
 - Not effective in early infancy
 - 2 doses needed

International Task Force on Disease Eradication

Carter Center, June 4, 2009

"measles eradication is biologically feasible using tools that are currently available, as already demonstrated in the Americas, although implementation challenges remain in each of the remaining five regions"



Impact on Health Systems

- **What might be the impact of measles eradication on health systems and routine immunization programmes?**
- **If any, how could any negative impact be avoided/mitigated?**
- **How can measles eradication activities be used to further strengthen health systems?**
- **What specific actions would be needed to ensure a positive impact?**



Objectives of the Economic Analysis

How much will it cost to eradicate measles?

Is measles eradication C/E? Globally and for the 6 countries?

How do eradication costs/ CE compare to the costs/ CE of achieving and sustaining the current global goal?

How do eradication costs/CE compare to the costs/ CE of achieving and sustaining an intermediate global goal of x% mortality reduction?

What would be the impact if donor support declines and the poorest countries do not carry out follow-up SIAs from 2010?

What impact do post eradication vaccination options have on the cost/ CE of measles eradication?

What impact could new technology have on the costs/ CE of each level of control?



Vaccine Market analysis

Project Objectives:

In the event of an eradication goal by 2020:

- Is the aggregate level of manufacturing capacity by vaccine type (M, MR, and MMR) sufficient to meet the expected demand
- What are the risks associated with the manufacturing capacity?
- Identify potential supply strategies to ensure that a sustainable and affordable supply of pre-qualified vaccine will exist for developing world populations



Vaccine Market analysis

- During 2010-2020 total MCV demand would increase from ~3.5 to ~4.2 billion)
- In aggregate, projected near-term M, MR, and MMR manufacturing capacity would be sufficient to meet this increase in demand.
- The concentration of manufacturing capacity represents a low to moderate risk.
- This risk can be mitigated through specific strategies (e.g. stockpiles or long-term supply contracts)



Programmatic Feasibility

- AMRO: eliminated measles in 2002
- Important challenges for each of the regions.
- EMRO, AFRO, EURO, WPRO have elimination goals. Elimination feasible but time line differs for each region. All before 2020.
- SEARO RC will reconsider establishing an elimination goal by 2020 at its 63rd session in 2010.



Global context and political feasibility

- Lessons learnt from the regional measles elimination efforts/other public health eradication/elimination efforts
- Potential sources of funds needed
 - advocacy and broad consultation needed to address funding crisis
- Political will (country perspectives, – Regional Committees of AFR and SEAR, partners)
- Need to build true alliance/synergies with other programmes going forward



Risk analysis for post-measles Era

What transmission risks would exist in a post eradication era?

- Carry out an analysis of risks of measles virus introduction from lab accidents, vaccine manufacturing, bioterrorism etc.
- Assess options for vaccination.
- Assess containment policies in a post-measles era.



Global Eradication of Measles

EB Paper

- Progress towards the current global goal of 90% measles mortality reduction by 2010
- Global requirements for measles eradication
- Feasibility and requirements for achieving regional measles elimination.
- Conclusion:
 - Measles eradication is a worthy PH goal which can be achieved.
 - A global target for 2015 is proposed as a milestone towards ME:
 - Achieve >90% coverage with MCV1 nationally and >80% in every district
 - Reduce annual measles incidence <5 per million
 - Reduce measles mortality by $\geq 95\%$ compared to 2000 estimates.

Next Key Steps and Timeline

- **Oct 2009: Report to the SAGE**
- **Jan 2010: Present report of progress to the EB-**
- **May 2010 milestones/intermediate goal set??**
- **Jun 2010: Global consultation meeting**
- **Jan 2011: ??Jan EB depends on outcome of Jan 2010 EB**
- **May 2011: ?? Depends on outcome of Jan 2010 EB**

Summary

- Measles eradication is biologically/technically feasible
 - Crucial role for ongoing research
- There is enough vaccine to meet the projected demand
- Eradication is programmatically feasible by 2020
 - ? India
- 5/6 regions have elimination goals
- A 2015 intermediate goal a possibility?

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Thank You!

