The Polio Endgame
2013-2018
• context

• the *Endgame Plan*

• implications for DCVMN
Context
Polio-paralyzed children, 1988-2011

Type 2 polio eradicated
Bivalent OPV (1&3)
Last type 2 wild poliovirus: 1999

however.....
250-500 VAPP cases/year

(40% due to Sabin type 2)
circulating Vaccine-Derived Poliovirus Outbreaks (cVDPVs), 2000-2011

Type 2 (478 cases)
Type 1 (79 cases)
Type 3 (9 cases)

14 countries have had a type 2 cVDPV
"DECLARERES polio eradication an emergency...

...urges DG/WHO rapidly finalize a polio endgame plan".
World Health Assembly:

2008  synchronize OPV cessation

2012  begin with OPV 2 cessation
The key to the endgame:

'Affordable' IPV

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### Study Summary

<table>
<thead>
<tr>
<th>PV type 2</th>
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<tbody>
<tr>
<td>1/5th dose seroconversion</td>
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<tr>
<td>63%</td>
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<tr>
<td>1/5th dose seroconversion + priming</td>
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<tr>
<td>99%</td>
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</table>
Meeting of the Strategic Advisory Group of Experts on immunization, November 2012 – conclusions and recommendations

Réunion du Groupe stratégique consultatif d’experts sur la vaccination, novembre 2012 – conclusions et recommandations

SAGE recommended that all countries should introduce at least 1 dose of IPV in their routine immunization programme to mitigate the risks associated with the withdrawal of OPV2. SAGE accepted the detailed scientific review provided by the Independent Expert Group.
The Polio Endgame
**Goal:** complete the eradication & containment of all wild, vaccine-related and Sabin polioviruses.
Endgame Plan, 2013-8

• Polio detection & interruption

• EPI strengthening, IPV intro. & OPV withdrawal

• Containment & Certification

• Legacy Planning
Endemic Polio Cases, last 6 months

- no type 3 virus globally
- 45% decline in endemic virus
Polio-paralyzed children

- Nigeria: 100 (Jan-Sep 2012), 50 (Jan-Sep 2013)
- Pakistan: 30 (Jan-Sep 2012), 20 (Jan-Sep 2013)
- Afghanistan: 10 (Jan-Sep 2012), 5 (Jan-Sep 2013)
Polio, type 3 cases

* onset of most recent case was 10 Nov 2012
Polio-paralyzed children, last 6 months

- EGY, ISR, oPT +ve sewage
- Horn of Africa re-infected
Islamic Advisory Group (IAG)

H.E. President of Somalia
Vaccine virus outbreaks

last 6 months
The challenge: 125 'OPV-only' countries

- IPV ONLY (47 countries)
- IPV/OPV (18 countries)
- OPV ONLY (127 countries)
Challenge: outpacing new vaccine uptake
'Tiered' IPV introduction based on risk

<table>
<thead>
<tr>
<th>Tier</th>
<th>Criteria</th>
<th># countries</th>
<th>% OPV cohort</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier 1</td>
<td>Endemic OR cVDPV2 since 2000</td>
<td>14</td>
<td>61%</td>
</tr>
<tr>
<td>Tier 2</td>
<td>cVDPV1/3 OR large/medium size &amp; DTP3 &lt;80%, 2009-11</td>
<td>19</td>
<td>11%</td>
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<tr>
<td>Tier 3</td>
<td>Large/medium, next to Tier 1 OR WPV import since 2011</td>
<td>14</td>
<td>11%</td>
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<tr>
<td>Tier 4</td>
<td>All other OPV only using countries</td>
<td>77</td>
<td>17%</td>
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SAGE Working Group:

By October 2013, IPV supply, financing & introduction strategy for each Tier 1 & 2 country.

(strategy for all countries within 12 months)
**Major Objectives**

<table>
<thead>
<tr>
<th>Year</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Virus detection &amp; interruption</td>
<td></td>
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<tr>
<td>Last wild polio case</td>
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<tr>
<td>RI strengthening &amp; OPV withdrawal</td>
<td>Strengthen RI &amp; prep. OPV2 withdrawal</td>
<td>Introduce IPV</td>
<td>Prepare bOPV withdrawal</td>
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<tr>
<td>Containment &amp; certification</td>
<td>Finalize long-term containment plans</td>
<td>Complete containment &amp; certification globally</td>
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<tr>
<td>Legacy Planning</td>
<td>Consultation</td>
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<td>Certification</td>
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Objectives:
- **Virus detection & interruption**: Wild virus interruption, Outbreak response (esp. cVDPVs)
- **RI strengthening & OPV withdrawal**: Strengthen RI & prep. OPV2 withdrawal, Introduce IPV, Prepare bOPV withdrawal
- **Containment & certification**: Finalize long-term containment plans, Complete containment & certification globally
- **Legacy Planning**: Consultation, Mainstream polio functions, infrastructure & learnings
- robust mOPV1, bOPV & tOPV supply
- bOPV licensed for routine immunization
- low-cost IPV for low-income settings
'Affordable' IPV Target

Current Price: 2.25 - 2.50

Volume purchase: 0.99 - 1.25

Gap: 0.5 - 0.6

Post-endgame Target: 0.5 - 0.6
Approaches

- adjuvants
- fractional dosing
Sabin-IPV for safer production

Under development

Technology transfer
Summary
DCVMN & the Endgame:

- continue supply of high quality OPV products
- engage in global planning for OPV2 withdrawal
- explore affordable options for the 'post-endgame'
Timelines are very tight...

...the target for global readiness to withdraw OPV2 is **early 2016**
The Polio Endgame still has substantial uncertainty & risk – very close collaboration is more essential than ever.
Thank you
Extra Slides
Criteria: *global readiness for OPV2 withdrawal*

- all countries can access **bOPV** for routine
- all countries can introduce at least 1 **IPV** dose
- **mOPV2** stockpile & response strategy
- appropriate **containment** of type 2 polioviruses
- 'certification' of wild type 2 eradication
SAGE Rationale for > 1 IPV dose:

• prevent polio if exposed to a VDPV2 or WPV2
• improve response to mOPV2 in an outbreak
• reduce transmission of a reintroduced type 2
• boost immunity to WPV1 & 3
GAVI Board:

- play lead role for IPV intro in 73 GAVI countries
- immediately communicate importance of IPV
- establish finance/supply strategy w GPEI by Nov
- request donors ensure financing
Progress: 1988-2011

> 40 countries became re-infected
Risks to Polio Interruption

- 1.5 m children inaccessible
- insecurity, attacks
- OPV campaign gaps
- slow response to importations