Polio Eradication;
Update on Situation in Pakistan

Meeting of the independent Monitoring Board for GPEI
1st October 2013
Confirmed Polio Cases By Poliovirus Type, 2011-2013*

- **Vaccine Type**
  - mOPV1
  - mOPV3
  - Trivalent
  - Bivalent

- **Virus Type**
  - NSL3
  - NSL1
  - NSL1 & NSL3

- **Months / Years**
  ^ Data incomplete

* Data as of 30th Sep, 2013
Confirmed Polio and Compatible Cases

2012

Total no. of polio infected districts = 28

- P1 = 55
- P3 = 2
- P1+P3 = 1
- WPVs = 58
- Compatible = 6

Last date of onset of P3 = 18/04/2012

Cases randomly placed in districts

2013*

Total no. of polio infected districts = 14

- P1 = 36
- Compatible = 2

Last date of onset of last case of P3 = 27/09/2012

<table>
<thead>
<tr>
<th>PROVINCE</th>
<th>WILD POLIO CASES</th>
<th>n</th>
<th>ONSET OF LAST CASE</th>
</tr>
</thead>
<tbody>
<tr>
<td>KP</td>
<td>27</td>
<td>30-Nov-12</td>
<td></td>
</tr>
<tr>
<td>FATA</td>
<td>20</td>
<td>03-Nov-12</td>
<td></td>
</tr>
<tr>
<td>BALOCHISTAN</td>
<td>4</td>
<td>02-Oct-12</td>
<td></td>
</tr>
<tr>
<td>SINDH</td>
<td>4</td>
<td>09-Sep-12</td>
<td></td>
</tr>
<tr>
<td>GBALTISTAN</td>
<td>1</td>
<td>06-Aug-12</td>
<td></td>
</tr>
<tr>
<td>PUNJAB</td>
<td>2</td>
<td>21-May-12</td>
<td></td>
</tr>
<tr>
<td>Pakistan</td>
<td>58</td>
<td>30-Nov-12</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PROVINCE</th>
<th>WILD POLIO CASES</th>
<th>n</th>
<th>ONSET OF LAST CASE</th>
</tr>
</thead>
<tbody>
<tr>
<td>FATA</td>
<td>24</td>
<td>09-Sep-13</td>
<td></td>
</tr>
<tr>
<td>KP</td>
<td>7</td>
<td>30-Aug-13</td>
<td></td>
</tr>
<tr>
<td>PUNJAB</td>
<td>2</td>
<td>26-May-13</td>
<td></td>
</tr>
<tr>
<td>SINDH</td>
<td>3</td>
<td>09-Jul-13</td>
<td></td>
</tr>
<tr>
<td>PAKISTAN</td>
<td>36</td>
<td>09-Sep-13</td>
<td></td>
</tr>
</tbody>
</table>

* Data as of 27th Sep, 2013
Improvements under the NEAP
1. More children reached

Trend of LQAS Lots not rejected for 95%

7/39 (18%)

71/97 (73%)

Improving monitoring results

Note: No LQAS conducted all over Pakistan in Dec 2012
Improvements under the NEAP
2. No type-3 polio case since April 2012

* Data as of 17th Jul. 2013
Improvements under the NEAP
Environmental surveillance (Positive Samples) by month 2010-2013

3. Extensive circulation during high-season reversed in 2012

* Data source AFP/LAB 16/07/2013
Improvements under the NEAP
4. Polio restricted to focal areas

Polio cases in the last four months*

<table>
<thead>
<tr>
<th>PROVINCE</th>
<th>WILD POLIO CASES</th>
<th>ONSET OF LAST CASE</th>
</tr>
</thead>
<tbody>
<tr>
<td>BALOCHISTAN</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>FATA</td>
<td>15</td>
<td>09-Sep-13</td>
</tr>
<tr>
<td>KP</td>
<td>3</td>
<td>30-Aug-13</td>
</tr>
<tr>
<td>PUNJAB</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>SINDH</td>
<td>1</td>
<td>09-Jul-13</td>
</tr>
<tr>
<td>PAKISTAN</td>
<td>19</td>
<td>05-Sep-13</td>
</tr>
</tbody>
</table>

Cases randomly placed in districts
* Data source AFP 01/02/2013
Key Challenges

1. **Barriers between vaccinators and children**
   - *Ban in North & South Waziristan*
   - *Military operations Bara (Khyber agency)*
   - *Continued direct security threat to polio workers*
     - *Peshawar & Karachi (Gaddap)*

2. Misconceptions about program (post Abbottabad Incident)

3. Management, oversight & accountability issues
   - *Peshawar, Hyderabad, Quetta Block*

3. Maintaining progress in areas without polio cases
   - southern Punjab, northern Sindh, Rawalpindi, Islamabad etc.
Current Core
Problem Areas of Pakistan

- North Waziristan
- South Waziristan
- Bara (Khyber agency)
- Peshawar
- Gadap
- UC-4
WPV cases by month, 2013*

<table>
<thead>
<tr>
<th>Cases</th>
<th>WPV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessible</td>
<td>9</td>
</tr>
<tr>
<td>Inaccessible</td>
<td>27</td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
</tr>
</tbody>
</table>

^Inaccessible: Bara, Waziristan, FR Areas, Peshawar, Gaddap

*Data as of 27-09-2013
Substantial Immunity Gap in North Waziristan; specially among young children (born after the ban)

Age distribution & vaccination status of AFP Cases from North Waziristan, 2013 (n=56)

Age in months

- 0-5: 0%
- 6-11: 13%
- 12-23: 41%
- 24-35: 41%
- 36+: 5%

- 0 dose: 68%
- 1-3 doses: 18%
- 4-6 doses: 9%
- 7+ doses: 5%
Missed SIAs in 2013*

* Jan to Aug
Trend of Environmental Surveillance by month, 2010-2013 – Concerning 2013 high season

Specimens collected

Positive

* Data as of 27th Sep, 2013
Environmental Surveillance by Province

Balochistan

Khyber Pakhtunkhwa

Punjab

Sindh

* Data source AFP/LAB 27/08/2013

* Data as of 27th Sep, 2013
### cVDPV2 cases, 2012 and 2013

#### 2012

<table>
<thead>
<tr>
<th>PROVINCE</th>
<th>DISTRICT</th>
<th>2012</th>
<th>2013</th>
<th>TOTAL</th>
<th>Last case</th>
</tr>
</thead>
<tbody>
<tr>
<td>BALOCHISTAN</td>
<td>KABDULAH</td>
<td>15</td>
<td>15</td>
<td>14-Dec-12</td>
<td></td>
</tr>
<tr>
<td>BALOCHISTAN</td>
<td>JAFFARABAD</td>
<td>1</td>
<td>1</td>
<td>11-Jan-13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MASTUNG</td>
<td>1</td>
<td>1</td>
<td>27-Jun-13</td>
<td></td>
</tr>
<tr>
<td>SINDH</td>
<td>KHIGADAP</td>
<td>1</td>
<td>4</td>
<td>5</td>
<td>03-Jul-13</td>
</tr>
<tr>
<td>FATA</td>
<td>Waziristan (n)</td>
<td>19</td>
<td>18</td>
<td>08-Sep-13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MOHMAND</td>
<td>1</td>
<td>1</td>
<td>13-Jul-13</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>16</td>
<td>26</td>
<td>41</td>
<td>08-Sep-13</td>
</tr>
</tbody>
</table>

#### 2013

<table>
<thead>
<tr>
<th>PROVINCE</th>
<th>DISTRICT</th>
<th>2012</th>
<th>2013</th>
<th>TOTAL</th>
<th>Last case</th>
</tr>
</thead>
<tbody>
<tr>
<td>BALOCHISTAN</td>
<td>KABDULAH</td>
<td>15</td>
<td>15</td>
<td>14-Dec-12</td>
<td></td>
</tr>
<tr>
<td>BALOCHISTAN</td>
<td>JAFFARABAD</td>
<td>1</td>
<td>1</td>
<td>11-Jan-13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MASTUNG</td>
<td>1</td>
<td>1</td>
<td>27-Jun-13</td>
<td></td>
</tr>
<tr>
<td>SINDH</td>
<td>KHIGADAP</td>
<td>1</td>
<td>4</td>
<td>5</td>
<td>03-Jul-13</td>
</tr>
<tr>
<td>FATA</td>
<td>Waziristan (n)</td>
<td>19</td>
<td>18</td>
<td>08-Sep-13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MOHMAND</td>
<td>1</td>
<td>1</td>
<td>13-Jul-13</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>16</td>
<td>26</td>
<td>41</td>
<td>08-Sep-13</td>
</tr>
</tbody>
</table>

* Data as of 25th Sep. 2013

^ 1 cVDPV included from Karachi Gaddap
Environmental surveillance in 2013
Basic Framework for the Way-Forward

1. Removing barriers between children and vaccinators
   a) Negotiated access
   b) Protected campaign
   c) Transit and mobile population strategies

2. Maintaining progress in polio free areas
   a) Vigorous oversight and accountability at all levels
      - Federal and Provincial Task Forces, District and UC Committees
   b) Central Ministry for Health strengthened for core functions
   c) Aggressive case response immunization strategy
   d) Monitoring and evaluation

3. Improved oversight and operational problems
   a) Establishment of Special District Task Teams
   b) Deployment of Emergency Rapid Response Team, led by PMPMC
Way Forward – N & S Waziristan

1. Negotiated access
   a) Government led negotiation to reverse the ban through Jirga to convince the Shura
   b) Engagement of key national and international religious leaders led by International Islamic University & Al-Azhar Egypt
      • National Islamic Advisory Group & Provincial Task Forces

2. Protected campaign
   a) High level Civil Military Coordination

3. Transit and Mobile Strategy
   a) Mapping and immunizing population moving out of the Agencies
   b) Robust intra/inter Agency/Province permanent transit points
Way Forward – Khyber (Bara) and FR Areas

1. Protected house-to-house campaign
   a) High level Civil Military Coordination
   b) Access to be provided through army and FC support

2. Closed monitoring of missed areas after every campaign

3. Implementation of Polio Plus interventions
   a) All antigens
   b) Hygiene Kit

4. Transit and Mobile Strategy
   a) Mapping and immunizing population moving out of the Agencies
   b) Vaccination in IDP camps
   c) Robust intra/inter Agency/Province permanent transit points

5. Ensuring high quality activity in accessible areas of the Agency
Way Forward – Peshawar and Karachi

1. Management, oversight, and accountability
   a) Special Task Teams (headed by Secretary-level officer)
   b) Strong District Polio Control Room led by DCs
   c) Deployment of Emergency Rapid Response Team, led by PMPMC

2. Protected campaign (continuous threat and fear factor)
   a) Provincial Security Coordination Committees chaired by Home Sec
   b) Engagement of police & security forces in DPECs
   c) Complement the police force to protect vaccinators and conduct quality campaign
      i. Support from Rangers and FC
      ii. Raise designate security force

3. Negotiated access
   a) Engagement with local religious and community leaders, civil societies, and notables at UC level (UPEC)
   b) Polio Plus activities
The Program aims to be fully prepared by end October to capitalize on the next low transmission season (Dec 2013 – May 2014)
## Proposed SIAs schedule till June 2014

### 2013

<table>
<thead>
<tr>
<th>Month</th>
<th>Dates</th>
<th>Campaign</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep/Oct</td>
<td>30th Sep.-2nd Oct.</td>
<td>NIDs</td>
</tr>
<tr>
<td>October</td>
<td>21 - 23</td>
<td>SIADS</td>
</tr>
<tr>
<td>November</td>
<td>11- 13</td>
<td>NIDs</td>
</tr>
<tr>
<td>December</td>
<td>02 - 04</td>
<td>SNIDs</td>
</tr>
<tr>
<td>December</td>
<td>09 - 11</td>
<td>SIADS</td>
</tr>
</tbody>
</table>

### 2014

<table>
<thead>
<tr>
<th>Month</th>
<th>Dates</th>
<th>Campaign</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>06 - 08</td>
<td>SIADs</td>
</tr>
<tr>
<td>January</td>
<td>20 - 22</td>
<td>NIDs</td>
</tr>
<tr>
<td>February</td>
<td>10 - 12</td>
<td>SIADs</td>
</tr>
<tr>
<td>February</td>
<td>24 - 26</td>
<td>SNIDs</td>
</tr>
<tr>
<td>March</td>
<td>10 - 12</td>
<td>SIADs</td>
</tr>
<tr>
<td>March</td>
<td>24 - 26</td>
<td>SIADs</td>
</tr>
<tr>
<td>April</td>
<td>14 - 16</td>
<td>NIDs</td>
</tr>
<tr>
<td>April</td>
<td>28 - 30</td>
<td>SIADs</td>
</tr>
<tr>
<td>May</td>
<td>26 - 28</td>
<td>SNIDs</td>
</tr>
<tr>
<td>June</td>
<td>09 -11</td>
<td>SIADs</td>
</tr>
</tbody>
</table>
Public Health Initiatives must not be used for any other purpose (including intelligence) to have confidence of all stakeholders & community.
Thank You
Comparison of polio cases by province/region 2011 - 2013*

<table>
<thead>
<tr>
<th>Region/Province</th>
<th>No. of polio cases</th>
<th>Decline in 2013 as compared to 2012 %</th>
<th>Last polio case</th>
</tr>
</thead>
<tbody>
<tr>
<td>BALOCHISTAN</td>
<td>3</td>
<td>100%</td>
<td>02-Oct-12</td>
</tr>
<tr>
<td>FATA</td>
<td>17</td>
<td>18%</td>
<td>05-Sep-13</td>
</tr>
<tr>
<td>SINDH</td>
<td>4</td>
<td>25%</td>
<td>09-Jul-13</td>
</tr>
<tr>
<td>K. PAKHTUNKHWA</td>
<td>19</td>
<td>68%</td>
<td>19-Aug-13</td>
</tr>
<tr>
<td>PUNJAB</td>
<td>2</td>
<td>0%</td>
<td>26-May-13</td>
</tr>
<tr>
<td>Gilgit-Baltistan</td>
<td>1</td>
<td>100%</td>
<td>06-Aug-12</td>
</tr>
<tr>
<td>PAKISTAN</td>
<td>46</td>
<td>33%</td>
<td>05-Sep-13</td>
</tr>
</tbody>
</table>

* Data as of 27th Sep, 2013
Routine Vaccination status of Non-Polio AFP Cases Aged 06-23 months; 2010 to 2013*

* Afp.rec Data as of 23-09-2013  € As per recall of parents
Non-Polio AFP Rate by District 2013*

Percent AFP Cases with Adequate Specimens, By District – 2013*

Non Polio AFP rate Up to Week No. 37 ended on 14th September, 2013

* Data source AFP 19/09/2013

2000 children under 15 years of age
AFP Cases reporting by Month, 2009-2013*

@ Non-polio AFP rate of 2/100,000 children < 15 years

*Afp.rec Data as of 19-09-2013
Key AFP Surveillance Indicators by Region / Province
Environmental Surveillance Network

- 28 collection sites in 11 large cities/towns
- 10 more sites planned (4 new cities)
- Most extensive globally
- Covers all the provincial capitals and regional hubs
- Sampling sites selected strategically, biased to towards detecting polio viruses

<table>
<thead>
<tr>
<th>Province</th>
<th>District</th>
<th>No. of Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BALOCHISTAN</td>
<td>QUETTA</td>
<td>3</td>
</tr>
<tr>
<td>KP</td>
<td>PESHAWAR</td>
<td>2</td>
</tr>
<tr>
<td>PUNJAB</td>
<td>FAISALABAD</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>LAHORE</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>MULTAN</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>RAWALPINDI</td>
<td>1</td>
</tr>
<tr>
<td>SINDH</td>
<td>HYDERABAD</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>KARACHI</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>SUKKUR</td>
<td>2</td>
</tr>
<tr>
<td>PAKISTAN</td>
<td></td>
<td>28</td>
</tr>
</tbody>
</table>

● Existing sites (28)
● Newly identified sites (9)
Update on Surveillance Plans

• NEAP addendum on AFP Surveillance; prepared and ready to be launched

• Cascade trainings of the Government & WHO Surveillance Staff in progress
  – 184 trained so far since last July 2013

• Intensified orientation activities for Healthcare Providers (including informal & faith healers)
  – More than 6000 reportedly oriented since July 2013

• **Further expansion of environmental surveillance**
  – Ten new sites identified; sampling to initiate over next quarter
  – Four new cities; Killa Abdullah (Balochistan), D.I.Khan (KP), Jacobabad (Sindh) & Islamabad
Poliovirus Isolates During last Six Months

28th Mar to 27th Sep, 2013
Back up - 1
<table>
<thead>
<tr>
<th>Province</th>
<th>No. of districts</th>
<th>No. of children screened</th>
<th>Proportion of districts &lt;95%</th>
<th>Proportion of districts &lt;90%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>AJK</td>
<td>10</td>
<td>3,037</td>
<td>4</td>
<td>40%</td>
</tr>
<tr>
<td>BALOCHISTAN</td>
<td>20</td>
<td>3,343</td>
<td>17</td>
<td>85%</td>
</tr>
<tr>
<td>FATA</td>
<td>8</td>
<td>2,364</td>
<td>5</td>
<td>63%</td>
</tr>
<tr>
<td>GBALTISTAN</td>
<td>6</td>
<td>693</td>
<td>3</td>
<td>50%</td>
</tr>
<tr>
<td>ISLAMABAD</td>
<td>2</td>
<td>772</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>KP</td>
<td>23</td>
<td>9,306</td>
<td>17</td>
<td>74%</td>
</tr>
<tr>
<td>PUNJAB</td>
<td>36</td>
<td>15,333</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>SINDH</td>
<td>40</td>
<td>12,317</td>
<td>17</td>
<td>43%</td>
</tr>
<tr>
<td>Grand Total</td>
<td>145</td>
<td>47,165</td>
<td>63</td>
<td>43%</td>
</tr>
</tbody>
</table>
# Planned Vaccination Rounds; Jan – Aug 2013

<table>
<thead>
<tr>
<th>Priority</th>
<th>Months / Number of planned vaccination rounds</th>
<th>Total Number of planned Vaccination Rounds</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jan</td>
<td>Feb</td>
</tr>
<tr>
<td>Priority- 1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Priority- 2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Priority- 3</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Priority- 4</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

\(^\wedge\) In selected districts
LQAS Results; August 2013 NIDs

New LQAS Methodology introduced; with sample size of 60 and classification of pass (0-3 unvaccinated children), intermediate (4-8 unvaccinated children) and fail (>8 unvaccinated children)

LQAS not conducted in Karachi since December 2012
LQAS Results in Priority-1 Areas; August 2013 NIDs

**Only Accessible Areas

LQAS not conducted in Karachi since December 2012
Outline

• Current Epidemiology
• Immunization Activities *(Supplementary & Routine)*
• Key Challenges and Risks
• Recent Developments / Steps
• Way Forward
• Surveillance for Polioviruses