Acute Flaccid Paralysis (AFP): Surveillance Standard for Certification

Situation Analysis in the European Region

November 1999
In addition to finding poliovirus if it is circulating, the BIG Question answered by AFP surveillance is:

How can we be certain that there is no wild poliovirus in a country which reports ‘zero’ cases of polio?
New Infections

PARALYTIC

NON-PARALYTIC

"Reinfections"

AFP SURVEILLANCE raises the "iceberg"
**AFP SURVEILLANCE**

**The Process**

**Onset of paralysis**

- \(< 7 \text{ days of onset}\)

**Detection & notification**

- \(< 14 \text{ days of onset}\)

**Case investigation & specimen collection**

- \(<3 \text{ days of being sent}\)

**Follow-up exam**

- \(\geq 60 \text{ days of onset}\)

**Specimens arrive at national lab**

- \(<28 \text{ days}\)

**Primary culture results reported to EPI**

**Isolates sent to regional lab for intra-typic differentiation**

**Intra-typic differentiation results reported to EPI**

**Classification of case**

- \((\leq 12 \text{ weeks of onset})\)

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WHAT?
AFP Case Definition

AFP:

*Any* case of flaccid paralysis of acute onset in a child aged less than 15 years of age;

Clinically suspected polio at any age
Acute flaccid paralysis

- Guillain-Barre Syndrome
- Poliovirus
- Enterovirus 71
- traumatic neuritis
- transverse myelitis
- other viruses
- other (toxins, etc.)
Estimates of GBS incidence rates per 100 000 children <15 years

- Canada, USA: 1.2 by hospital diagnosis
- PAHO: 0.91 subset with neurologist review
- various: 0.6-2.4 total population
AFP Surveillance Performance Indicators

System Sensitivity

- Non-polio AFP rate in children < 15 years of age
  
  Objective: $\geq 1 / 100,000$

- Geographic areas representative of population
  
  Objective: $\geq$ ALL
AFP Surveillance Performance Indicators

**Reporting and Investigation Operations**

1. **Completeness**: % of all expected AFP weekly reports received
   - **Objective**: 90%

2. **Timeliness**: % of all expected AFP weekly reports received by deadline
   - **Objective**: 90%

3. **Investigation**: ≤ 48 hours of report
   - **Objective**: ≥ 80%

4. **2 stools collected**: ≤ 14 days of paralysis onset (≥ 24 hrs apart)
   - **Objective**: ≥ 80%

5. **Living patient with follow-up**: at 60 days for residual paralysis
   - **Objective**: ≥ 80%

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Performance Indicators of AFP surveillance in the European Region of WHO: all reporting countries and recently endemic

- %Non-polio AFP rate ≥1.0
- %Two specimens ≥80%
- %Non-polio AFP rate ≥1.0
- %Two specimens ≥80%

All countries

Recently endemic

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<th>Year</th>
<th>1997</th>
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Percent of AFP cases with 2 Faecal Specimens within 14 days, MECACAR Plus Countries, 1999

- Russian Federation: 90%
- Ukraine: 92%
- Kazakhstan: 80%
- Armenia: 70%
- Tajikistan: 70%
- Uzbekistan: 80%
- Turkey: 80%
- Azerbaijan: 90%
- Turkmenistan: 80%
- Georgia: 70%
- Kyrgyzstan: 70%
- Albania: 70%

Percentage
Calculation of Index of non-polio AFP among Member States conducting AFP surveillance in the European Region of WHO

**Index** = non-polio AFP incidence per 100 000

\[
\text{maximum of 1.0}
\]

\[
\times
\]

proportion with 2 faecal specimens*

\(< 14 \text{ days of onset and } \geq 24 \text{ hours apart}\)

For example: 0.8 x 70% = 0.56

1.2 x 80% = 0.80

*for non-endemic countries, at least one specimen within 14 days
AFP Surveillance Index in the European Region of WHO: Non-endemic and Recently Endemic Countries
1997-1999 to date

Non-endemic
Recently endemic

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<td>% AFP Index ≥0.65</td>
<td>7</td>
<td>14</td>
<td>14</td>
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<tr>
<td>% AFP Index ≥0.65</td>
<td>35</td>
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<td>47</td>
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AFP Surveillance Index by MECACARP Plus
Country, 1999

Surveillance Index

Ukraine
Armenia
Tajikistan
Uzbekistan
Turkmenistan
Russian Federation
Kyrgyzstan
Turkey
Kazakhstan
Azerbaijan
Georgia
Albania
AFP Surveillance Index, EUR Recently Endemic Countries, 1997-1999

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AFP Surveillance Index, EUR Recently Endemic Countries, 1997-1999
Index rates of non-polio AFP among Member States conducting AFP surveillance in the European Region of WHO, 1998*

*index=(incidence [max 1.0] x proportion with faecal specimens); AFP includes facial paralysis for Russia; as of 29 Jul 1999.
Index rates of non-polio AFP among Member States conducting AFP surveillance in the European Region of WHO, 1999*

*index=(incidence [max 1.0] x proportion with faecal specimens); as of 13 July 1999.
Index rates of non-polio AFP among Member States conducting AFP surveillance in the European Region of WHO, 1999*

*index=(incidence [max 1.0] x proportion with appropriate faecal specimens); as of 22 Nov 1999.