Polio Strategy Review Meeting
Feb 15-16, 2012

- Provide input into the Emergency Action Plan (EAP) to overcome remaining hurdles in polio-affected countries

- Technical review of some key components in the EAP, including vaccine strategies, immunity thresholds, and surveillance issues

- Focus on strategies and innovations that can be implemented in the next two years (2012-2013).
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Areas covered

- SIA Innovations
- SIA Monitoring
- SIA Strategy
- Role of IPV
- Environmental Sampling
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- SIA Innovations

  - Management and accountability
    - Primary importance
    - WHO program of work for improving WHO management capacity and personnel accountability
    - Strongly support this, but EAP needs expansion on how to bridge gap to government and drive improvement down to the vaccinator/supervisor level
SIA Innovations

- GIS/GPS capacity for SIA quality improvement in Nigeria
  - Improved microplans
Satellite imagery provides base map to locate settlements and hamlets.

- **Basemap Service:**
  - Ikonos 1-meter resolution color imagery
  - Published to Esri’s ArcGIS Online

- **Supplemental Imagery:**
  - GeoEye 0.5-meter panchromatic
  - Provides better definition of urban streets and small hamlets

Denge Shuni LGA, East of Sokoto City
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**SIA Innovations**

- GIS/GPS capacity for SIA quality improvement in Nigeria
  - Improved microplans
  - Capacity to track vaccinators
  - Aggressive plan to introduce in northern Nigeria by end of year
  - *Important technology to be implemented immediately to facilitate improvement in SIA quality – important to gauge introduction to capacity of program to implement for maximum impact*
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- **SIA Innovations**
  - Mobile phone technology – potential applications
    - Improved contact with vaccinators
    - Rapid LQAS data transfer
    - Surveillance contacts
    - *Important technology which can potentially be used to enhance SIA and surveillance quality*
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- SIA Monitoring
  - Independent monitoring vs LQAS – coverage estimates

Nigeria SIA coverage, Nov 09 - Jul 11

- Courtesy Guillame Chabot-Couture (Global Good)
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SIA Monitoring

- Independent monitoring
  - Important for local team activity management but data quality poor
  - *Improved independent monitoring data important for SIA quality activity*
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### SIA Monitoring

- **LQAS**
  - Provide more accurate estimate of vaccination coverage
  - Misinterpretation of results
  - Heterogeneity of lot
  - *LQAS as currently practiced provides a reasonable tool for assessment of SIA activity and identifying areas where further work is needed to improve SIA quality.*
  - *Additional work is necessary to assess utility of LQAS for evaluating EAP programme performance targets.*
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- **SIA strategy**
  - Herd immunity thresholds
    - Several factors make it difficult to identify a precise level of population immunity that will guarantee elimination of WPV transmission. These include:
      - Heterogeneity of access to immunization
      - Variable vaccine efficacy by area
      - Waning immunity patterns
      - Variations in intensity of transmission
    - However, it is possible to identify immunity levels which country programs LIKELY must reach to stop WPV transmission (ie, coverage should be at least “X.”)
    - The further one exceeds the critical immunity level, the faster WPV will be eliminated.
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- SIA strategy
  - Herd immunity thresholds
    - *Modeling efforts should be pursued to estimate levels likely to be necessary to eliminate transmission in northern Nigeria and Pakistan*
    - *The EAP program target of 2 of 4 SIA’s reaching 80% coverage in the first half of 2012 is too low.*
    - *GPEI should consider the target level for coverage per SIA in Pakistan to be >95%; similarly, GPEI should consider the target level in Nigeria to be >90%.*
SIA strategy

- **Age range**
  - Anecdotal experience and modeling data suggest including populations older than 5 years of age in SIA’s for outbreak response is effective in rapidly stopping outbreaks.
  - Limited modeling suggests including older persons in SIA’s in endemic areas may be effective.
  - **GPEI should consider routinely including populations from 0-10 or 0-15 (or older if indicated by the epidemiology) in initial outbreak response SIAs**
  - **Modeling of impact of including older age groups in SIA’s in endemic areas should be urgently performed.**
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- Role of IPV in the next two years
  - Combined IPV(IM,Salk)/OPV campaigns
    - Advantages
      ◊ Increases seroconversion in OPV-primed populations
      ◊ Enhances oropharyngeal mucosal immunity
      ◊ Does not decrease proportion shedding, but may reduce duration and quantity shed
    - Concerns about introduction of IPV campaigns in populations relying primarily on OPV
      ◊ Operations
      ◊ Coverage
      ◊ Communications
    - **GPEI should initiate pilot studies to evaluate operational and immunologic impact of combined IPV/OPV campaigns in several high risk areas and then assess potential broader utility.**
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- **Environmental Surveillance**
  - Utility as AFP surveillance supplement, or early detection of imports
  - Specific population/waste requirements, technically labor intensive, relatively expensive and time consuming to initiate
  - Several innovative options which may increase ease of performance may be evaluated within 6 months
  - *GPEI should proceed with expansion of environmental sampling prioritized in order of programmatic importance including sites mentioned in EAP, and expanding to other potential importation areas. A rough timeline for potential expansion sites through 2013 should be prepared.*