

**Polio Eradication Initiative, Afghanistan**

**Annual Report**

**2009**

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## 1. Executive Summary:

Afghanistan is administratively divided into 7 regions and 34 provinces which are subdivided into 329 districts, the lowest administrative units. Although South and West are the largest regions area-wise but Central, Eastern and parts of Western & Northern regions are among the most densely populated areas of the country. Population estimate used for vaccination campaigns for children below 5 years is almost 7.5 million.

Total of 38 confirmed polio cases were reported during 2009 of which 22 are of P3 (NSL3) type, 15 are of P1 (NSL1) type while one case had mix isolation of both NSL1 and NSL3 type. In addition, Vaccine Derived Poliovirus (VDPV) of P2 type was also isolated from specimens of one AFP case. Of the total, 34 cases (almost 90%) were reported from three provinces of Southern region; Kandahar, Helmand and Uruzgan. The case with isolation of VDPV was also reported from Kandahar. Three of the confirmed cases with isolation of NSL1 type were reported from Nuristan province of Eastern Region, Kapisa province of Central region and Ghor province of Western region. One case with isolation of mix NSL1 and NSL3 was reported from Nangarhar province of Eastern region. Main reason for continued transmission during 2009 is the prevailing immunity gap in the Southern region due to low quality of campaigns compounded with very low routine EPI coverage, mainly due to security situation and management issues. Program has been successful in protecting almost 84% of the country's population from this dreadful disease and also occurrence of confirmed cases in non transmission zone did not follow with established circulation indicating presence of adequate level of population immunity. Afghanistan has an excellent opportunity and outstanding chance of stopping polio virus transmission by the end of 2010.

**Security affected** areas in the country expanded from the Southern region to the Western and South-eastern regions in 2008. This further involved North-Eastern (Kunduz) region where an abrupt deterioration in the situation was noticed with sharp increase in number and severity of security incidents after the start of ISAF/NATO supplies arranged through the Northern border of the country. The situation became worst in the second half of 2009 when the International UN Staff was not allowed to stay at Kunduz and WHO Polio Medical Officer was deployed to Badakhshan province. Also there was a complex attack on a UN guest house in Kabul in October 2009. Five UN staff killed in this incident and this lead to relocation of all WHO international staff from Afghanistan.

Six rounds of House to House **National Immunization Days (NIDs)** were held, targeting almost 7.7 million children below 5 years of age in the country. Vitamin A was also administered during May and November rounds to children of eligible age (6-59 months). Trivalent OPV (tOPV) was used country wide in all NIDs. Three additional vaccination rounds of Sub NIDs, were conducted in Southern, Farah province of Western, South eastern and Eastern regions of the country during months of April, June and November 2009

Overall **quality of campaign** in various parts of the country is achieving coverage above 90% and has shown consistency to maintain quality in 2009 except Southern region including Farah province of Western region which did not show any significant improvement despite extra efforts in 2009 rather has shown a gradual increase in proportion of low performing clusters (coverage < 90%). The proportion of low performing clusters (coverage <90%) also has increased in North-Eastern Region, probably indicating impact of security situation on campaign quality.

**AFP surveillance** indicators, reporting and distribution of AFP cases, analysis of AFP characteristics of AFP cases and detection of wild virus in some of the difficult security affected areas reflects the presence of an overall satisfactory performing system in the country. Also the genetic sequencing data of the confirmed cases in 2009 shows that surveillance system remains sensitive in 2009 without any significant evidence of an undetected circulation going on for long time.

**Cross-border coordination** between Afghanistan & Pakistan is exemplary and several key steps have been instituted to further strengthen the coordination. These include synchronizing campaign dates, data sharing, regular meetings, establishment of permanent vaccination posts at crossing points on the border and immediate cross notification of AFP cases. There were 34 Afghan AFP cases cross notified by Pakistan while one AFP case was notified by Afghanistan to Pakistan

**Interventions in 2009** include involvement of BPHS NGOs as NIDs implementer in 8 selected districts of Kandahar and Helmand provinces. Close coordination maintained with ICRC and local level negotiations were done to increase the access and safety of vaccination teams. Liaison with ISAF/NATO was maintained to inform dates and areas included in the vaccination campaigns, particularly in context of Southern region. In districts of regular conflict in South, transit vaccination teams were posted to vaccinate children of displaced population. Enough buffer stock of mOPV was kept for preparedness and response of poliovirus infection and mop ups were implemented within two weeks of receiving the laboratory results of a confirmed case in areas outside transmission zone. Communication strategies focused on community awareness and mobilization through involvement of various categories of community influencers. Also KAP2 study was completed in 2009.

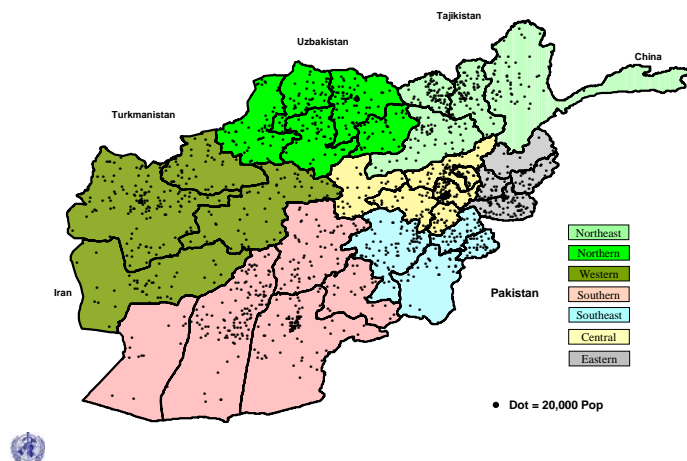
**Important priorities** during 2010 is to ensure high campaign quality in the 13 high risk districts of Southern region and ultimately interrupt the transmission in the country through strengthening district level management capacity by appointing and training district managers, expanding areas for SIAS implementation by BPHS NGOs. Also to develop and implement comprehensive communication plan focused on demand creation rather than community awareness/acceptance. Second priority is to maintain high immunity level in rest of the country through campaign quality and strengthening routine EPI services.

## 2. Introduction:

Afghanistan is administratively divided into 7 regions and 34 provinces which are subdivided into 329 districts, the lowest administrative units. There are 5 provinces (Kandahar, Hilmand, Uruzgan, Zabul, Nimroz) in Southern region, 4 provinces in South East (Ghazni, Paktika, Paktiya, Khost), 4 provinces in East (Nangarhar, Kunar, Nuristan, Laghman), 4 provinces in West (Hirat, Badghis, Farah, Ghor), 5 provinces in North (Jawzjan, Faryab, Balkh, Saripul, Samangan), 4 provinces in North East (Baghlan, Kunduz, Takhar, Badakhshan) and 8 provinces in Central Region (Kabul, Kapisa, Parwan, Wardak, Logar, Panjsher, Bamyan, Daikundi). Although South and West are the largest regions area-wise but Central, Eastern and parts of Western & Northern regions are among the most densely populated areas of the country (Fig 1). Population estimate used for vaccination campaigns for children below 5 years is almost 7.5 million while the population below 15 years of age used for AFP surveillance is almost 17 million.

**Figure 1**

**Population density map by Province and by Region Afghanistan 2009**



### 2.1 Polio Eradication Initiative (PEI) Service Delivery Structure Afghanistan

National, Provincial, District and Sub-district level PEI service delivery structure is designed with well defined roles and responsibilities. National and provincial EPI management teams are present at country and provincial levels having representation from EPI, WHO, UNICEF and NGOs. These teams lead the program at country and provincial level. Country team is mainly responsible for policy, planning, vaccine procurement and supply while provincial teams responsible for implementation, supervision and monitoring all EPI activities including Polio Eradication Initiative.

Routine EPI services are accessible to almost 80% of Afghanistan population through a wide net of 1257 vaccination sites established at district and sub-district levels and are served by almost 2600 vaccinators.

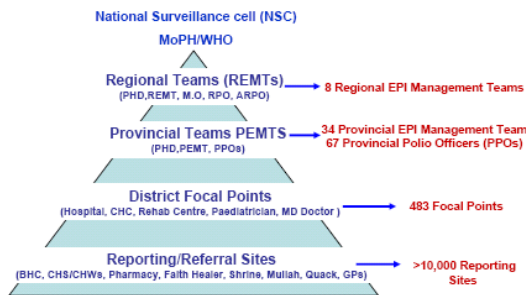
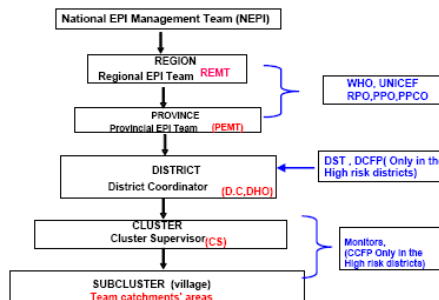
For Supplemental immunization activities (SIAs) which include National Immunization Days (NIDs), Sub-NIDs and mop-up, micro-plans are developed by dividing districts into Clusters which are small geographic areas with well demarcated and mapped areas. Each Cluster is managed by a Cluster Supervisor, supervising 5-6 vaccination teams; each team consists of two members, termed as volunteers. There are 4057 clusters and almost 44800 volunteers to approach house to house to administer Oral Polio Vaccine (OPV) to children below 5 years of age, in each vaccination campaign. At district level, there are district coordinators (on average there are 1

coordinator per 6-7 supervisors) and campaign monitors. There are 744 district coordinators and 1617 monitors to monitor the activities during campaign and assess the coverage after the campaign. In summary, more than 50,000 workers are involved to deliver vaccination services during NIDs (Fig 2).

For AFP Surveillance, there is a country wide network of AFP Focal Points (FP) linked with community-based reporting volunteers. Each district has at least one Focal Point who is usually a Doctor (preferably a pediatrician) in the District Headquarter Hospital and is responsible for AFP case notification, investigation, sample collection and its shipment to provincial office. Each focal point is linked with a network of community-based reporting volunteers (RV) including pharmacists, traditional healers, Shrine keepers, General Practitioners and Mullahs. The RVs are responsible for case notification and their referral to the concerned FP. There are 483 focal points and over 10,000 community-based reporting volunteers all over the country.

**Figure 2**

Supplemental Immunization Activities (SIAs) in Afghanistan  
Service Delivery Structure

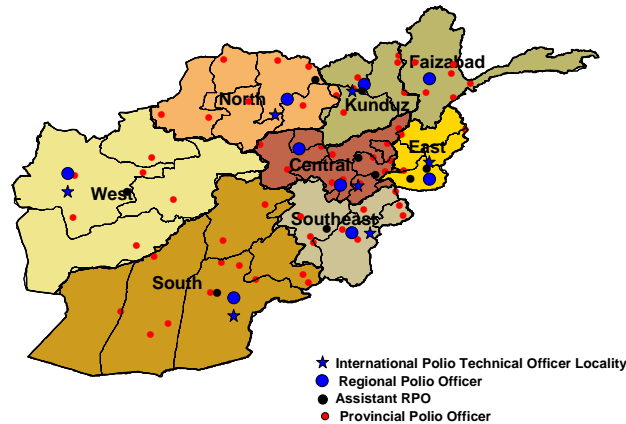


**2.2 PEI WHO Staff Network:**

In each region MoPH is supported by team of International and National Staff. Each regional team consists of International Medical Officer, Regional Polio Officer (RPO), Assistant Regional Polio Officers (ARPO) and Provincial Polio Officers (PPO). RPOs and ARPOs are mainly responsible for supervisory support while PPOs carry out the field activities related to AFP Surveillance and SIAs in their assigned provinces/districts. WHO PPOs are placed at the provincial level and have their assigned districts to facilitate vaccination and AFP Surveillance activities (Fig 2). There are 7 Medical Officers, 9 RPOs, 9 ARPOs and 67 PPOs distributed in various parts of the country to carry out polio eradication activities (Fig 3).

Figure 3

WHO Polio Eradication Staff, Afghanistan 2009



**3. Polio Epidemiology Afghanistan:**

Total of 38 confirmed polio cases were reported during 2009 of which 22 are of P3 (NSL3) type, 15 are of P1 (NSL1) type while one case had mix isolation of both NSL1 and NSL3 type. In addition, Vaccine Derived Poliovirus (VDPV) of P2 type was also isolated from specimens of one AFP case.

Of the total, 34 cases (almost 90%) were reported from three provinces of Southern region; Kandahar, Helmand and Uruzgan. The case with isolation of VDPV was also reported from Kandahar. Three of the confirmed cases with isolation of NSL1 type were reported from Nuristan province of Eastern Region, Kapisa province of Central region and Ghor province of Western region. One case with isolation of mix NSL1 and NSL3 was reported from Nangarhar province of Eastern region (Fig 4). The number of polio cases has increased compared to 17 in 2007 and 31 in 2008. Although number of districts which reported confirmed cases has gone up to 16 from 13 in 2007 and 15 in 2008 but the area of poliovirus circulation remains localized and is the same; more or less 13 security compromised districts of Kandahar, Helmand and Uruzgan (Fig 4).

Thirty of the confirmed polio cases (79%) were young children of age up to 3 years. Median age of the cases was 23 months with range of 5-84 months. Proportion of male cases was higher (58%) than the females (M:F = 22:16). Most of the confirmed cases (68%) were not adequately vaccinated and either did not receive any dose of OPV (9 cases), received 1-2 doses (9 cases) or received less than expected number of OPV doses (8 cases) according to their age.

Median number of OPV doses received by the cases is 2.5. Median age and median doses show persistent low vaccination coverage among young children, mainly in South, and needs extra measures to focus on this age group to minimize the risk and stop the circulation.

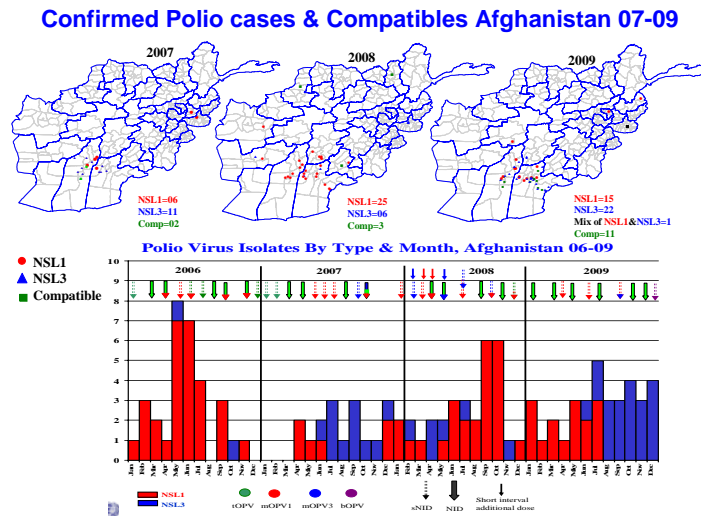
Analysis of confirmed polio cases by type of strain and by month of onset reflects that unlike 2008, NSL3 is the predominant strain in 2009 and was isolated after regular intervals (Fig 4); an evidence of continued circulation. However, it is important to mention that isolation of wild poliovirus in regions other than South did not follow with occurrence of any further cases indicating presence of certain levels of population immunity in rest of the country that prevented the establishment of circulation in these regions.

**Southern region** continues to be the sole reservoir of poliovirus in the country. Distribution of the 34 confirmed cases in South by province shows that most of the cases were reported from Kandahar (21 cases), followed by Helmand (11 cases) and Uruzgan (2 cases). Twenty two cases were of NSL3 type while 12 were of NSL1 type.

In fact, it's only a block of 13 serious conflict affected districts (Fig 8, Annex 1) of Kandahar, Helmand and Uruzgan province which constitute the main circulation/transmission zone in the region. The program has been able to contain and restrict the circulation of wild poliovirus (WPV) within this block of 13 districts from where 31 out of 34 cases of Southern region are reported.

Although there is no change in the geographic area of circulation but there was a shift from NSL1 to NSL3 type in the second half of 2009 due to occurrence of NSL3 outbreak. This outbreak was mostly evident in Kandahar city, from where 5 cases of NSL3 type were reported from an urban slum. Although this urban slum (Loya Wala) has security problems but compared to other parts of province this area is relatively accessible and less insecure. This clearly indicates that besides security, management problem also persist in Southern region. In addition, number of families displaced from the conflict affected areas of the region, area of transmission, also settled in slum areas of Kandahar city. The decline in campaign quality and routine EPI coverage in Kandahar city during 2008 and 2009 may be attributed to management and IDPs factor. Presence of virus in densely populated urban slums with low population immunity can lead to ongoing circulation and serve as reservoir with occurrence of more cases in future.

**Figure 4**



The pattern of occurrence of NSL1 and NSL3 over period of last 3 years (Fig 4) with biennial predominance of these strains indicates that the interventions done during this period of time were probably not effective enough to change the natural course of the virus occurrence.

Recent isolation of P2 strain from specimens of an AFP case reported from Maiwand district of Kandahar province was of serious concern as WPV of type P2 is not isolated since last more than a decade in Afghanistan. Nucleotide sequencing data clearly indicated that compared VP1 Sequence (903ntd) with Prototype Sabin type 2 strain the percentage of homology is 98.65% (12 ntd Difference) which means that the changes belong to VDPV. An immediate response plan was designed and launched including field investigation, clinical evaluation; follow up on laboratory protocol including repeated sampling from contacts and mass vaccination campaign. According to clinical evaluation by a team of pediatricians of Kandahar provincial hospital, the child does

not look like suffering from any immune deficiency while the field investigation revealed that the area of residence of this child was missed during number of vaccination campaigns in last 3 years and the routine EPI coverage was also non existent. One of the eight contacts of this child was also found positive for VDPV of P2 type by lab. No other case of VDPV was detected from the province and also continued sampling of the index case and close contacts were negative excluding the probability of circulating VDPV (cVDPV). VDPV may occur in populations with very low vaccination coverage persistent over a long period of time as probably happened due to presence of inaccessible pockets in parts of Kandahar province.

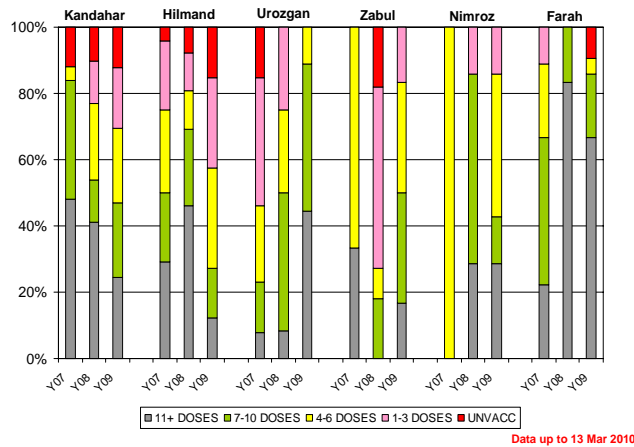
In addition to the confirmed polio cases, there were 11 AFP cases in 2009 which were labeled as Polio Compatible by National Expert Review committee (ERC). All these compatibles were from Kandahar and Helmand province of Southern region. ERC is an independent and voluntary group of Pediatricians, Neurologist, epidemiologist and microbiologist. ERC meets every month to review and classify all AFP cases who had inadequate specimens.

Persistent isolation of NSL1 and NSL3 strains of poliovirus during 2008-2009 (Fig 4) and presence of polio compatible cases, shows continued uninterrupted circulation of both types of poliovirus in the localized areas of the region where the quality of campaigns, despite number of efforts, remain far below the desired level. Ever deteriorating and life threatening security situation seriously affected the quality of campaigns. The average number of children not accessed in each round of 2009, due to insecurity in the conflict zone remains above 100,000 and ranges between 5-16% of the total target in Southern region. Moreover, the environment of fear and harassment prevail in some of those areas accessed by local vaccination teams that impede the optimal performance resulting in low coverage. Second important impeding factor is poor management in areas of relatively less insecurity like Kandahar city. Vaccination status of reported non polio AFP cases from different provinces of Southern region and Farah Province (Fig 5) and post campaign household survey, finger mark coverage surveys for out of house children (Fig 7) shows that despite continued innovative efforts to address challenge of insecurity, management and introduction of new interventions, the quality of campaign remain compromised in most of the vaccination rounds held, mainly in Kandahar, Helmand and Uruzgan provinces of South. Also routine vaccination status of AFP from these provinces shows coverage of less than 20% (Fig 6). All these factors lead to large enough pool of susceptible children that allows ongoing transmission.

There were four confirmed cases in 2009 which were reported from areas outside the main transmission zone of Southern region and were reported from 4 different districts; Bargimatal (Nuristan province), Nijrab (Kapisa province), Taywara (Ghor province) and Rodat district of Nangarhar province. Three of the districts except Rodat did not ever report any confirm case of polio since start of the program. Genetic sequencing of the 4 cases clearly indicate occurrence of new infection having linkage with circulation in NWFP and Punjab province of Paksitan except case from Taywara which was linked with circulation in Helmand province. It is important to mention that none of these cases followed by occurrence of more cases, perhaps indicating presence of certain level of population immunity which did not allow any further spread in these areas.

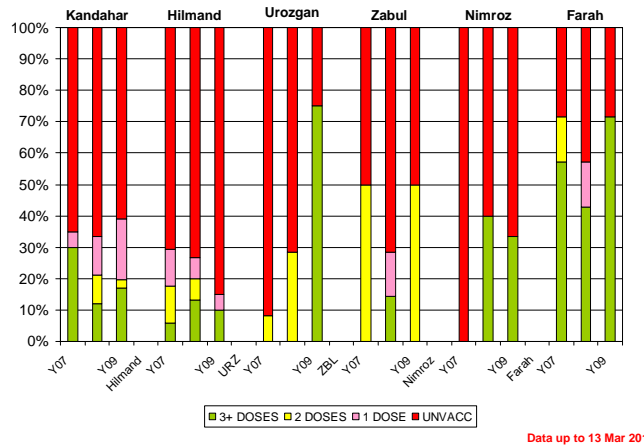
**Figure 5**

**Vaccination status of Non Polio AFP cases 6-35 Months in high priority province 07- 09 Afghanistan**



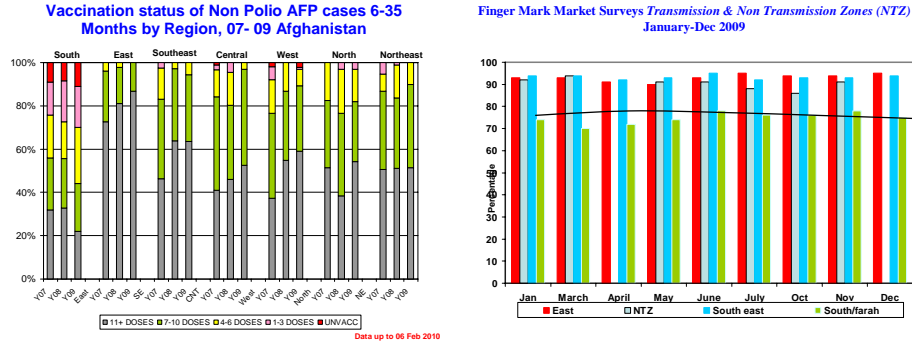
**Figure 6**

**Routine Vaccination of Non Polio AFP cases 6-23 Months in high priority province, 07-09 Afghanistan**



One of the key successes of the program is that despite the continued circulation in South most of the country, in the presence of a sensitive surveillance system (Section 7) did not have any evidence of polio virus circulation. Finger mark surveys for out of house children (Markets, Hospitals, Bus Stations and other public places), and vaccination status of AFP cases (Fig 7) are indicating presence of, most probably, adequate immunity levels that prevails in most part of the country and may prevent the establishment of poliovirus circulation. This also shows that in areas of lesser security threats, the program has made significant progress and quality of campaign is consistently of satisfactory levels.

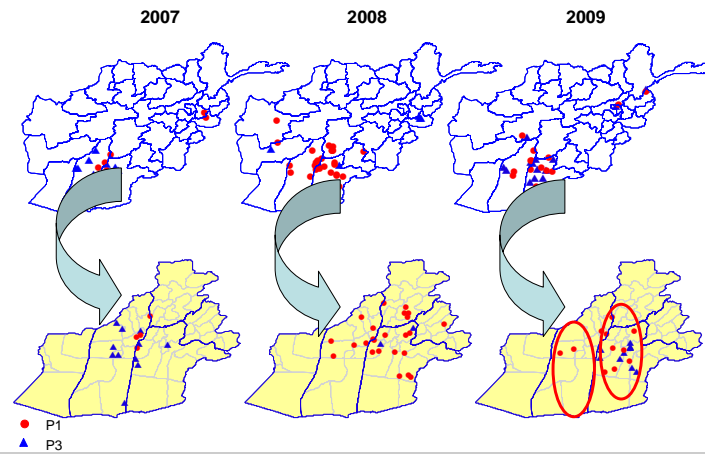
**Figure 7**



**In Summary,** main reason for continued transmission during 2009 is the prevailing immunity gap in the Southern region due to consistent compromised quality of campaigns compounded with very low routine EPI coverage, mainly due to precarious security situation. This points towards the possibility of occurrence of more cases with risk of geographic extension towards neighboring areas and underscore the need of immediate adequate measures but more importantly work to overcome security challenges to improve quality of campaign. At the same time and more importantly, distribution of confirmed cases by district for the last three years shows that even within the Southern Region the circulation is confined to only a block of few high population density districts (Fig 8) which shows that if continued extra efforts are made, Afghanistan has an excellent opportunity and outstanding chance of stopping polio virus transmission. It is estimated that program has been successful in protecting almost 84% of the country’s population from this dreadful disease.

**Figure 8**

Polio virus circulation is localized in the Southern Region  
*84% population is free of any established circulation*



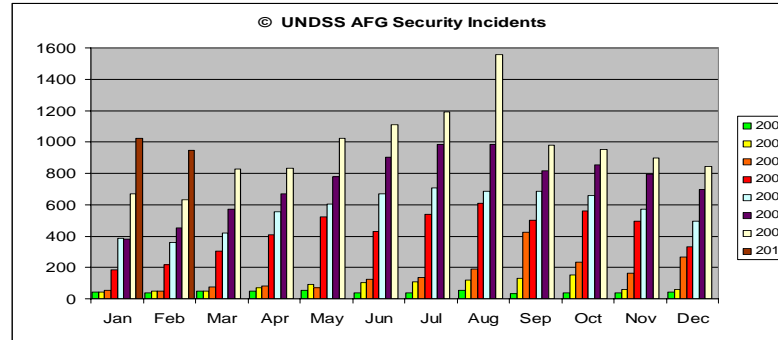
#### 4. Security Situation: Impact on Program

The security affected areas in the country expanded from the Southern region to the Western and South-eastern regions in 2008. This further involved North-Eastern (Kunduz) region where an abrupt deterioration in the situation was noticed with sharp increase in number and severity of security incidents. The situation became worst in the second half of 2009 when the International UN Staff was not allowed to stay at Kunduz and WHO Polio Medical Officer was deployed to Badakhshan province. In addition, there is restricted staff movement in Wardak, Logar and parts of Kapisa provinces of Central region. Also there was a complex attack on a UN guest house in

Kabul in October 2009. Five UN staff killed in this incident and this led to relocation of all WHO international staff from Afghanistan

The announcement and deployment of more International military troops resulted in increased incidents and deterioration particularly in Helmand, Farah, Kandahar and Uruzgan provinces where situation changes on almost day to day basis with frequent eruption of active fighting. The life threatening security situation adversely affected the quality of campaign particularly access by vaccination teams, supervision and monitoring by external monitors. It is projected that in 2010 there the number of incidents may increase with more armed clashes and IED attacks.

**Figure 9: Frequency of Security incidents by year, Afghanistan**



## 5. Priorities, Challenges and Interventions in 2009

At the start of 2009, epidemiological situation was reviewed; measures taken and their degree of success and failures were considered by the program to outline the priorities, set targets and plan future activities. Based on these factors, it was identified that there are three epidemiologically important areas in the country; a main transmission zone which largely comprises selected areas within Southern region and its neighboring Farah province of Western Region, a “high risk” zone of Eastern and South Eastern regions which borders with areas of Pakistan where poliovirus circulation is ongoing and has resulted in occurrence of sporadic cases in these areas, mainly Eastern region but these introduction did not result in established circulation while rest of the country was considered as non transmission zone. Program priorities for each these epidemiologically categorized areas were outlined.

“Transmission Zone” Priorities:

- Take measures to continue to contain the circulation in the localized areas and prevent its spill over to neighboring areas.
- Increase access, improve campaign quality and ensure staff safety in the insecure areas with the aim to completely interrupt circulation.

“High-risk Zone” Priorities

- Maintain high immunity to prevent establishment of any poliovirus circulation through high quality SIAs, administering additional rounds (SNIDs) and strengthening routine EPI.
- Monitor and vaccinate any population moving in from across the border like children traveling with their families, returnees, internally displaced population (IDPs) from bordering areas of Pakistan and seasonal migrants like nomads. The later is more significant in South-East while rest are more important for Eastern Region

“Non Transmission Zone” Priorities

- Maintain high immunity by strengthening routine and NIDs
- Preparedness and response to poliovirus infection in areas outside the transmission zone.

- Maintaining highly sensitive AFP surveillance system.

Keeping in view the importance of transmission and high risk zones following important activities were carried out, particularly in transmission areas.

- Six rounds of NIDs were implemented using trivalent OPV (tOPV); Three additional rounds of Sub-NIDs using monovalent OPV1 (mOPV1) in South (including Farah province) and South-East regions while mOPV3 was used in Eastern region. NIDs were held in January (11-13), March (15-17), May (23-25), July (26-28), October (11-13) and November (15-17). SNIDs were implemented in April (12-14), June (21-23) and December (13-15).
- Involvement of BPHS NGOs as NIDs implementers was one major step taken during 2009. Main aim was to increase the access and improve campaign quality in insecure areas of Kandahar and Helmand provinces. This was based on the realization that these NGOs have better and visible service delivery structure in these areas of complex security situation. There are two NGOs AHDS and Ibn-e-Sina (later replaced by BRAC) serving in these provinces and as first step 4 districts in each Kandahar and Helmand provinces were taken over by these NGOs during second half of 2009.
- Important feature of the MoU with NGOs was provision of flexibility in microplanning, particularly planning related to increasing access. This includes enrolment of local “access negotiators” to be identified through NGOs links with communities. Also was the provision of additional managerial capacity as hiring of district managers.
- Additional step to improve access and safety of vaccinators was maintenance of close coordination with ICRC to approach and negotiate with Talibans to allow the access for vaccination teams. As result letter of support was continuously issued before the each campaign to encourage support for vaccination campaigns. Effectiveness of these letters varied from area to area but appeared more effective in East and South-Eastern regions.
- Continued efforts were made to achieve some degree of de-conflict environment during campaign days by coordinating with ISAF/NATO offices at national and regional level and providing prior information on the dates and areas of immunization.
- The other initiative in Southern region was the establishment of transit vaccination teams at the entry and exit points of the security compromised districts, particularly those where population was displaced due to active fighting like Nadali/Marja. These vaccination teams vaccinated almost 238,000 children over period of 12 months since May 2009. Most of these children (almost 174,000) were vaccinated by transit vaccination teams of NadAli, Musa Qala and Nuzad of Helmand province while rest were vaccinated by teams of Maywand, Panjwai and Shahawalikot districts of Kandahar province
- Program also continued the strategy of “window of opportunity” in areas of active conflict and vaccination was started as soon as the environment was favorable to access, irrespective of the dates of NIDs/SNIDs
- Special communication strategy designed in 2008 was continued in 2009 for the selected districts of Eastern, Southern and South-Eastern regions through involvement of community influencers including Mullahs, Teachers, Health Workers, Elders and Courtyard Women. This intervention is working well in East and South east and program is achieving coverage

above 95% in the districts of East and South-East but coverage in intervention areas of South is still far below the desired levels.

Important steps taken in the “non transmission” zone of the country include

- Number of NIDs increased from 04 rounds in 2008 to 06 rounds of **NIDs** in 2009 using trivalent OPV (tOPV) in all the rounds.
- For preparedness and response to poliovirus infection in areas outside transmission zone, buffer stock of mOPV was kept available. In response of isolation of NSL1, large scale mop ups were implemented within two weeks of receipt of lab results in Kapisa, Ghor and Nuristan provinces. mOPV1 type of vaccine was used in these mop ups. Mop-up in Kapisa was held in June and target almost 1.3 million children of Kapisa and its neighboring province. Likewise, mop-up in Ghor included all the province and its bordering province of Farah was included with total target of 0.32 million children. Vaccination response to Nuristan case was merged with NIDs as the dates were too close.
- To strengthen routine EPI services, WHO PPO assisted in microplanning, implementation of outreach sessions and monitoring during their active surveillance visits.
- In order to maintain highly sensitive surveillance system, most of the recommendations of International Surveillance review of 2008, were implemented.

Despite all these efforts, the quality of vaccination campaigns is still not reaching satisfactory levels in the Southern region, particularly in the province of Kandahar, Helmand and Uruzgan (Section 8). In spite of considerable efforts and financial inputs, the southern region did not achieve desired result of interrupting wild poliovirus transmission. Issues pertaining to security, staff selection, management and coordination persisted and hampered the progress in the south.

#### **6. Independent evaluation of major barrier to stopping Polio transmission:**

In response to the request from Executive Board of WHO, a mission of independent reviewers visited Afghanistan to identify major barrier to stopping poliovirus transmission. This section describes summary and important recommendations (Detail report available on [www.polioeradication.org](http://www.polioeradication.org) )

The polio eradication initiative (PEI) has achieved remarkable success in an increasingly challenging environment. For the majority of the Afghan population (84%), ongoing polio transmission has ceased. There is a very high level of political commitment, coordination by partners, and technical quality of PEI team work. The high level of planning, review, and analysis of supplementary immunization activities (SIAs) is impressive. There is regular coordination with the PEI in Pakistan. The high quality and coverage of acute flaccid paralysis (AFP) surveillance is being maintained, even in security-compromised areas. An independent evaluation of AFP surveillance system in 2008 found that it is highly unlikely that polio cases are missed in the four regions assessed (Central, Western, Northern and North-Eastern Regions).

Despite the contraction of the area of polio transmission, the annual number of confirmed polio cases is not diminishing and appears to have remained static for the last four years: 18 cases reported during 2009 up until mid-August is consistent with the reported incidence in 2008. The reasons for this include *non-health sector barriers, health system and service delivery barriers, community issues and potential technical barriers.*

Insecurity poses the most significant **non-health sector barrier** to achieving high polio vaccination coverage throughout the country. The security situation is unstable, unpredictable, and threatened by a range of armed factions. Conflict-related and customary movements of large populations between Pakistan and Afghanistan and between provinces within the country have the potential to introduce WPV into areas where it has long been absent. Supplementary immunization activities (SIAs) should be de-linked from events that risk aligning the PEI with real or perceived political agendas. Neutrality of the program must be protected and promoted.

The main **health system and service delivery barriers** to achieving polio eradication include significant disruption of routine EPI services by the high number of SIAs; under-resourced health facilities, especially sub-centres; low salaries and incentives for vaccinators; inconsistent engagement in SIAs by NGOs contracted to implement the Basic Package of Health Services (BPHS); inability to conduct adequate supervision, monitoring and evaluation in insecure areas; inadequate EPI outreach; and lack of involvement of private practitioners in routine EPI services and SIAs.

The main **community barriers** include inadequate flexibility in accessing children safely. A number of examples of negotiation through different local intermediaries, including NGO district staff, hired negotiators, mullahs, and tribal elders, points to the success of discrete, local negotiations with anti-government elements through a flexible range of intermediaries. These examples also highlight that there is no single “right way” to engage with communities in security-compromised areas.

While there appears to be high community awareness and acceptance, polio vaccination is not perceived to be a high priority by most communities. Although male elders, mullahs, and teachers have been engaged to mobilise communities, greater efforts are needed to engage with individual male household heads to improve coverage of birth dose OPV and to ensure that mothers make all their children, including newborns, sleeping and sick children, available for SIAs. Excellent innovative strategies have been developed to mobilise women, however, their application may be confined to narrow geographic areas.

## **RECOMMENDATIONS**

### **Short Term/Immediate**

1. Promote neutrality of the PEI Program through reducing visible involvement of high-profile political figures in vaccination campaigns and de-link the SIAs from associated events that might be used by anti government elements to politicise PEI. Focus on discrete, local negotiations with anti-government elements through a flexible range of intermediaries.
2. Devolve responsibility for detailed district-by-district, cluster by cluster planning of SNIDs with flexible dates and flexible local strategies to improve access to communities.
3. Strengthen program management by reconsidering the criteria for selection of BPHS NGOs based on their experience, particularly in Helmand province. Tightening procedures for selecting cluster supervisors, volunteer vaccinator teams, mobilisers, and campaign monitors to strengthen the ability of the program to assess and validate performance at the community level. Also to clarify the roles and responsibilities of health posts and CHWs in routine EPI and SIAs.

### **Medium Term**

4. Adjust the strategy of the polio program from regular, frequent national immunization days to focused SNIDs in high-risk areas. The current high frequency of NIDs and SNIDs is leading to fatigue, inability to conduct detailed strategic planning in high-risk areas, disruption to routine EPI services in some fixed sites. Reduce the number of NIDs starting in 2010 after a

rigorous technical analysis, which includes modelling of likely immunity in each province, based on routine EPI coverage, SIA access and coverage, and exposure to migrants from areas where WPV is circulating. The six NIDs planned for 2009 should be conducted as scheduled. Continue to pilot and evaluate innovative methods of community mobilisation, such as “women’s courtyards”, while recognising that such strategies may only be acceptable within relatively narrow geographic areas. While men, such as mullahs, tribal elders and teachers, are already being engaged by the PEI to mobilise community support for SIAs, more attention should be targeted at individual male heads of households.

5. Increase base level of immunity in children through strengthened routine EPI services. All parts of the country to achieve 90% coverage by OPV4 through better resource at health centres at all levels, accelerated outreach (mini-SIAs), and more mobile teams.
6. Maintain the high quality of AFP surveillance in areas with no WPV transmission and expand surveillance in districts reporting fewer than 2 AFP cases per 100,000 per year by recruiting new community informants, such as Basic Veterinary Workers (BVW). More generally, there is a need for feedback mechanisms on other nationally notifiable vaccine preventable diseases (VPD).
7. Strengthen Program Management on routine EPI, SIAs, communication, monitoring and evaluation. Address human resources constraints, such as low salaries of vaccinators and low incentives of volunteers. Consider involvement of private practitioners and non health service providers in both routine EPI and SIAs.

#### **7. AFP Surveillance:**

Health care services in Afghanistan are delivered through public and private sectors. Most of the health care services in public sector are provided by NGOs, in accordance to Basic Package of Health Services (BPHS), through Provincial hospitals, Comprehensive Health Centers (CHC) and Basic Health Centers (BHC). Private medical practitioners, Quacks, Faith healers and Shrine keepers are the main service provider in private sector. AFP surveillance network includes most of the main health care providers and is spread all over the country. Besides this, network also includes community based Reporting Volunteers including pharmacies, teachers, Mullahs and community notables (Fig 10).

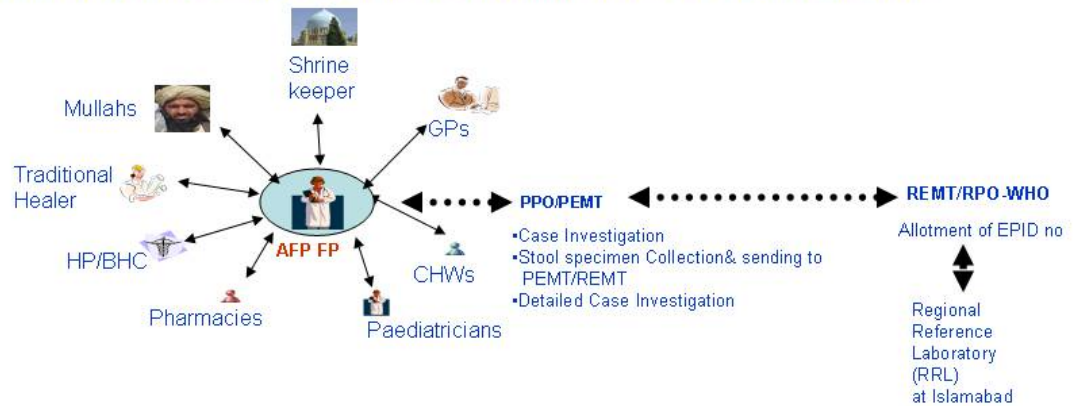
Each district have at least one AFP surveillance Focal Point (FP), who is usually the in-charge of Health facility or a pediatrician and is responsible for case notification, investigation, facilitating specimen collection and shipment process and submission of zero reports. AFP cases detected by health facilities, private practitioners or community based reporting volunteers (pharmacies, faith healers etc) are referred to concerned focal point in their district. Tertiary care hospitals and Provincial Hospitals usually have more than one focal point. Focal points are also responsible for timely notification of AFP cases to Provincial EPI Team including WHO PPO, who carries out the field visit in the area of residence of reported case for detailed investigation and to ensure that all steps of investigation are carried out by the focal points.

**Figure 10**

**AFP Surveillance Structure Afghanistan**



**Network of Reporting Categories at district level and Process of Case Investigation.**



**7.1 Characteristics of AFP cases**

Expected annual number of AFP cases for Afghanistan was at least 336 @ of 2/100000 children below 15 years of age. Total of 1477 AFP cases are reported during 2009, compared to 1383 AFP cases reported in 2008. Out of total 1477 cases, there were 38 confirmed, 11 compatibles, 1426 are discarded as non polio while 01 was labeled as VDPV of P2 type.

The characteristics of AFP cases show (Table 1) that all age groups were reported with range of 0-178 months. Comparison of median age for confirmed/compatible cases with non polio AFP cases shows that the confirm cases were significantly younger than the non polio and received considerably lower number of doses (Median Doses 2) compared to non polio AFP cases (Median Dose 12) in 2008. Analysis by gender reflects that male and female AFP cases were reported with predominance of male cases (55%) among the non Polio AFP cases but among the confirmed cases the proportion of male is 58% than female (42%).

**Table 1**

## Characteristics of Confirmed, Compatible & NP AFP cases Afghanistan 07- 09

Criteria	Confirmed			Compatible			Non Polio AFP			
	Y07 n=17	Y08 n=31	Y09 n=38	Y07 n=2	Y08 n=3	Y09 n=8	Y07 n=1097	Y08 n=1348	Y09 n=1426	
Age in month	Mean	20	26	26	40	34	17	51	49	51
	Median	18	18	23	40	36	15	36	36	36
	Range	3-96	9-96	5-84	30-50	18-48	7-42	0-179	0-180	0-178
Gender	M%	71	64	58	50	33	75	56	55	55
	F%	29	36	42	50	67	25	44	45	45
OPV Doses	Mean	5	5	6	13	12	7	12	13	13
	Median	2	3	2	13	13	4	12	12	12
	Range	0-16	0-17	0-27	10-15	9-14	0-23	0-32	0-36	0-37

### 7.2 AFP Surveillance Indicators:

Analysis of AFP surveillance indicators at national and regional levels shows the system is achieving the desired level of targets for **Non Polio AFP rate** per 100,000 children below 15 years of age and percent of **adequate specimens** (Table 2).

**Percent of specimens with Entero Virus** is well above the required level of 10% in each region (Table 3). Sabin like (SL) is also isolated from at least 5% of specimens from most of the regions except Central and South East where it was 4% and 2% respectively. Both these indicators show that the technique and process of stool specimen collection and shipment is of satisfactory level, in general. Overall early case detection rate (Cases detected within 7 days of onset of paralysis) has improved from 81% in 2008 to 83 % in 2009 and more than 80% cases reported within 7 days of onset in each region except South where it was 66%. This indicates the integrity of community based referral system in most part of the country.

**Table 2**

**AFP Surveillance Key Indicators, by Region Afghanistan 2008- 2009**

Region	AFP Exp @ 2	NP AFP rate	Stool Adequacy Rate		Detection Rate within 7 days		No of M/F		NP AFP Median OPV & range <60 months		NP AFP Median Age & range		EV %		SL %	
			08	09	08	09	08	09	08	09	08	09	08	09	08	09
			South	58	6.7	85	81	71	66	123/72	131/105	8	6	(24) 2-168	(24) 2-168	23
East	30	8.6	90	96	78	85	86/94	80/50	18	19	(32) 0-168	(36) 1-178	29	22	7	6
Southeast	34	7.5	96	93	87	88	45/44	74/56	17	16	(36) 0-168	(42) 0-156	25	25	10	2
Central	63	8.6	96	97	87	91	175/115	149/124	12	12	(39) 1-178	(44) 2-168	18	16	4	4
West	55	6.9	97	97	87	86	81/82	111/79	12	12	(33) 2-168	(30) 1-177	22	22	5	7
North	47	9.7	93	93	81	83	113/100	129/100	12	13	(36) 1-180	(42) 2-168	22	24	6	4
Northeast	39	12	91	94	76	83	123/94	109/125	12	12	(36) 1-174	(36) 1-174	24	21	8	6
Badakhshan	10	11	89	87	86	80	13/23	28/27	12	16	(36) 10-156	(50) 15-156	31	22	14	4
National	336	8.5	92	93	81	83	759/624	811/666	12	12	(36) 0-180	(36) 0-178	23	21	6	5

Moreover, and in-depth analysis of surveillance indicators by province for Southern region (Table 3) shows a decline in the stool adequacy % of Helmand province which has gone down from 91% in 2008 to 78% in 2009. Also there is a significant decline in number of median OPV doses received by AFP cases reported from Helmand province. There is no appreciable change in stool adequacy rate in Kandahar for last 2 years and remains below 80%. It is also important to mention that most of the confirmed cases are detected and reported from some of the worst

security affected districts indicating that surveillance network is functional even in those difficult districts.

**Table 3**  
**AFP Surveillance Key Indicators, by Province Southern region Afghanistan 2008- 2009**

Province	Exp @ 2	NP Polio AFP rate	Stool Adequacy Rate		No of M/F		Median OPV <60m		NP AFP Age range		EV %	
			08	09	08	09	08	09	08	09	08	09
HILMAND	21	4.2	91	78	31/14	34/24	8	3	(24) 2-157	(24) 6-144	36	23
KANDAHAR	17	10.4	78	77	44/33	62/54	8	7	(20) 2-168	(23) 2-156	25	23
URUZGAN	12	4.9	90	93	27/14	19/11	8	12	(45) 7-156	(48) 4-156	15	20
ZABUL	5	8	81	86	15/6	9/12	2	4	(24) 2-144	(59) 3-144	25	10
REGION	58	6.7	85	81	123/72	131/104	8	6	(24) 2-168	(26) 2-156	23	21

Total might not equal to provinces as Nimroz is excluded

Data up to 06 Feb 2010

Also the genetic sequencing data for most of the confirmed cases shows that the surveillance system remains sensitive in 2009 and were detected timely (Annex 2). However dendograms for few of the cases with NSLI isolation shows divergence of over 1% (Table 4) indicating the presence of gaps in the system (Annex 2).

### 7.3 Contact Sampling:

Program policy is to collect samples from 5 close contacts for each AFP case for whom samples are collected after 14 days (Inadequate samples). In addition to this, samples from close contacts of AFP cases reported from areas of difficult terrain and access are also collected irrespective of specimen adequacy. These areas include Farah and Ghor provinces of Western Region. There were 839 samples collected from close contacts during 2009. Close contacts are usually those living in same household or neighbor and preferably less than 5 years. Out of the total 839, there were 8 specimens which were positive for poliovirus. It is important to mention that for 6 of these 8 specimens, the index AFP case was negative for poliovirus but was confirmed only because of isolation of virus from specimens of contacts (Table 5). This reflects the additional sensitivity which is being achieved through contact sampling and also minimizing possibility of missing any transmission.

**Table 5**

**Contacts having Polio Virus Isolates with their Index Cases,  
Afghanistan 2009**

S/N	EPID	DONSET	PROVINCE	DISTRICT	SEX	AGE	PROGRE	FEVER	ASYM	DOSES	DSTOOL	HCASE	LAB RESULT
1	AFG/08/09/017	21-01-09	Panjwai	Kandahar	F	8	YES	YES	NO	01	15-02-09	NO	EV
	AFG/08/09/017-C5	.	Panjwai	Kandahar	M	18				0	17-02-09		NSL1
2	AFG/05/09/098	21-05-09	Kapisa	Nijrab	F	30	YES	YES	YES	13	23-05-09	YES	NSL1
	AFG/05/09/098-C3		Kapisa	Nijrab	F	42				15	04-06-09		NSL1
3	AFG/08/09/110	06-06-09	Kandahar	Kandahar	F	48	YES	NO	YES	20	30-06-09	NO	NVI
	AFG/08/09/110-C1		Kandahar	Kandahar	F	58				22	21-06-09		NSL1
4	AFG/03/09/127	25-07-09	GHOR	Taywara	F	54	YES	YES	NO	1	30-07-09	NO	EV
	AFG/08/09/127-C4		GHOR	Taywara	M	13				9	29-07-09		NSL1
5	AFG/08/09/174	01-10-09	Kandahar	Kandahar	M	30	YES	YES	YES	20	17-10-09	YES	EV
	AFG/08/09/174-C1		Kandahar	Kandahar	M	05				3	17-10-09		NSL3
6	AFG/08/09/168	16-09-09	Hilmand	Nadali	M	48	YES	YES	NO	2	09-10-09	NO	NVI
	AFG/08/09/168-C5		Hilmand	Nadali	F	48				0	-		NSL3
7	AFG/08/09/199	11-10-09	Kandahar	Spinboldak	M	23	YES	YES	YES	8	08-11-09	NO	NVI
	AFG/08/09/199-C5		Kandahar	Spinboldak	M	30				12	17-11-09		NSL3
8	AFG/08/09/223	04-12-09	Kandahar	Maywand	F	36	YES	YES	YES	8	21-12-09	YES	NSL3
	AFG/08/09/223-C1		Kandahar	Maywand	M	59				7+	24-11-08		NSL3



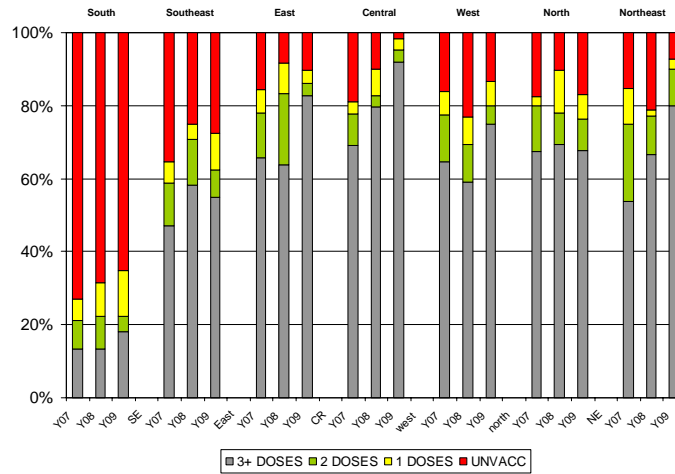
Data up to 27 Feb 2010

**7.4 Routine Immunization Status of AFP Cases:**

Overall vaccination status of AFP cases discussed in Section 3 (Figure 5, 6) which shows inconsistent quality of campaigns in South but rest of the country is maintaining high campaign quality. The analysis of routine immunization status of AFP cases and comparison over period of years shows that overall routine immunization coverage has steady improvement but no significant change is observed in South where percent of AFP cases between 6-23 months who has received at least 3 doses of OPV remains below 20% (Fig 11). The estimated routine coverage through reported AFP cases for South is also much lower than the reported coverage of 64% (OPV3) for children below 1 year of age.

**Figure 11**

**Routine OPV Vaccination Status Non Polio AFP cases 6-23 Months  
by Region, 2007- 2009 Afghanistan**

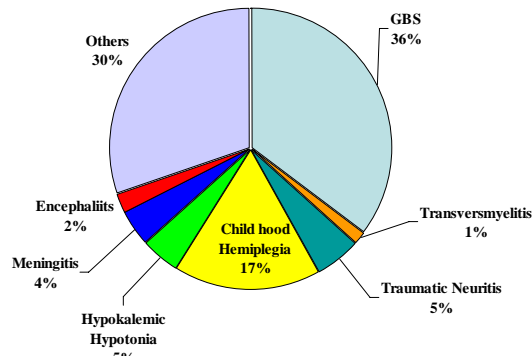


**7.5 Diagnosis of Non polio AFP cases:**

Thirty six percent of discarded AFP cases were labeled as GBS during 2009 which gives GBS rate of almost 1.7 per 100, 000 among children below 15 years of age (Figure 12). Other important diagnosis of discarded cases is Hemiplegic (17%), Traumatic neuritis (5%), Transverse Myelitis (1%), Meningitis (6%), Hypokalemic hypotonia (5%) and “Other” 30%. Although rate of GBS remain around 30% during last 3 years but due to lack of expertise at district and provincial level, the quality of diagnosis remain a challenge in Afghanistan.

**Figure 12**

## AFP Cases by Diagnosis 2009



Others: Acute viral infection, CP, Arthritis, Trauma, Congenital

### 7.6 Quality of Active Surveillance and Zero Reporting:

Completeness of Active surveillance and Zero reporting was above 80% for most of the regions but the field reviews shows that quality Active Surveillance visits, documentation of active surveillance and Zero reports need further improvement. Moreover it was also observed that the linkage between the focal points and community based reporting sites needs further strengthening.

**In summary**, reporting and distribution of AFP cases, analysis of AFP surveillance indicators, characteristics of AFP cases and detection of wild virus in some of the difficult security affected areas reflects the presence of an overall satisfactory performing system in the country.

### 7.7 Measles and NNT case Reporting through AFP surveillance network:

Total of 3359 suspected cases were reported and 2861 of them were labeled as confirmed for Measles (1227 were confirmed by lab, while rest confirmed on the basis of having epi link or clinically diagnosed). It is important to mention that about 2600 (77%) of the reported measles were detected through AFP surveillance network. Measles cases were reported from all the regions and were of all age groups but most of them (44%) were children up to 4 years of age. A total of 35 cases of NNT were also reported by AFP surveillance network in the country. Occurrence of measles and NNT cases points towards strengthening of Routine EPI services, particularly in areas of low coverage and higher incidence of measles.

## 8. Supplemental Immunization Days:

Campaign activities are monitored in three phases; first, before the campaign looking at the preparedness like reviewing the micro-plans and the trainings of the vaccination staff, second, during the campaign to monitor and assess the ongoing process of campaign and take action in the field, third, monitoring after the campaign to assess the coverage estimates, identify low performing areas and take immediate corrective measures. Post campaign surveys include household coverage surveys and finger mark surveys for out of house children (Market Survey).

During 2009, six rounds (January, March, May, July, October and November) of House to House National Immunization Days (NIDs) were held, targeting almost 7.5 million children below 5 years of age in the country. Vitamin A was also administered during May and November rounds to children of eligible age (6-59 months). Trivalent OPV (tOPV) was used country wide in all NIDs. Three additional vaccination rounds of Sub NIDs were conducted in April, June and December 2009 (Table 5) while a mop-up round was held in September. Bivalent OPV (bOPV) was used for the first time in the country during December SNIDs.

**Table 5**  
**Sub-National Immunization Days (SNIDs) mop-up 2009, Afghanistan: Areas included and Type of Vaccine used**

Type of the round	Date / Month of implementation	No. of Days	Target	Areas and vaccine type
SNIDs	12-14 April	3	2,867,129	<b>mOPV1 South, SE, East+ Farah province of West</b>
SNIDs	21-23 Jun	3	3,931,549	<b>mOPV1 South, SE, East + Farah province of West+ Parwan, Kapisa, Kabul of Central</b>
Mopup	13-15 Sep	3	1,189,237	<b>mOPV1</b> Farah &Ghor Provinces+6 districts in Khost and <b>mOPV3</b> in 5 Dist Kandahar, 5 Dist Hilmand, 3 Dist Urozgan)+ 4 Dist nangarhar, 6 Dist Kunar).
SNIDs	13-15 Dec	3	2,867,129	<b>bOPV South, SE, East+ Farah province of West First time to use bOPV 13 Dec 2009</b>

### 8.1 Post Campaign Coverage Assessment (PCA):

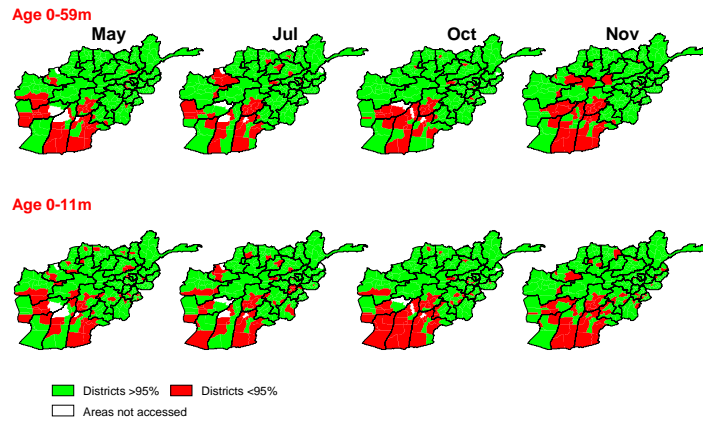
Independent monitors (University, Medical Schools Students, Teachers, and NGOs Staff) are trained according to guidelines to carry out PCA. All the districts are subjected to PCA and 25-50 % clusters are sampled in each district while 100% clusters are sampled in districts labeled as “high-risk”. At least three team areas (Sub-clusters) are sampled within the selected cluster. Ten houses with eligible children are sampled in each team areas to assess the coverage.

Analysis of PCA data for the last four NIDs rounds from May to December 2009 is carried out by District and by age group which shows that overall quality of campaign in the country was of satisfactory level with most of the districts achieving coverage above 95% among children of both age groups (0-11 and 12-59 months). However, the proportion of districts with PCA coverage less than 95% was higher in Southern, and parts of Farah province. Generally the coverage among very young (0-11 m) children was lower compared to children of 12-59 months of age, particularly in Southern region (Fig 13), reflecting that this age group has higher probability for being missed by the teams due to different reasons mainly because of the teams performance at household level where information about very young children is not inquired

properly and secondly also the attitude of some of the parents not to disturb their sleeping and newborns for vaccination. Another important reason can be the male teams who did not have access inside the house thereby missing young infants.

**Figure 13**

**Post SIAs Independent Coverage Assessment- District coverage during May-November NIDs Afghanistan 2009**

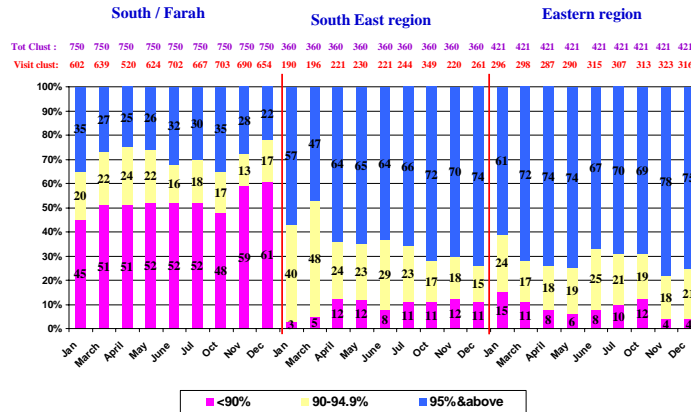


An in-depth analysis of SIAs data by cluster for the last six rounds was carried out to assess the degree of homogeneity and coverage at sub-district (cluster) levels. Coverage of clusters are divided into three categories (<90%, 90-94.9%,  $\geq$ 95%) and comparison of transmission zone (South including Farah) with other bordering regions of East and South East as well as with regions in non transmission zone (Fig 14, Fig 15). The analysis indicates that most of the clusters in the transmission zone of South and Farah had compromised campaign quality and 50-60% of the clusters had coverage below 90%. In contrast, the bordering regions of East and South East are showing consistent campaign quality with more homogenous coverage maintained over period of time (Fig14).

Proportion of clusters in Central, North, West excluding Farah most of the clusters had coverage above 90%. However, the same analysis for North Eastern region shows a slight increase in clusters having coverage less than 90%. This is more evident in the second half of the year when there was a serious decline in the security situation in Kunduz region (Fig15).

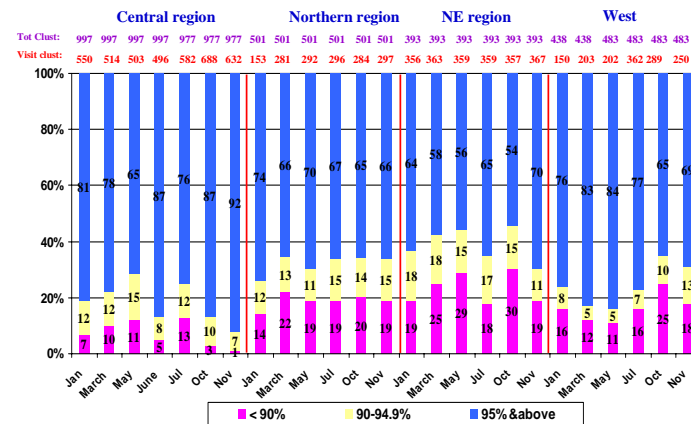
**Figure 14**

**Proportion of Clusters monitored and results by FM, Jan –Dec 2009 (South, S.East and Eastern Region Afghanistan)**



**Figure 15**

**Proportion of Clusters monitored and results by FM, Jan –Dec 2009 (Central, Northern and N.Eastern Region Afghanistan)**



**8.2 SIAs Challenges:**

- Quality of campaign is consistent and reaching the desired level in most of the country but is not achieving satisfactory levels in Southern region including Farah province. Compared to 2008, the security in 2009 further deteriorated with more incidents and operations and is the main challenge hampering the progress in South. Program is constantly taking on various approaches to overcome the situation but the impact still remains to be achieved.
- The second important challenge is related to management issues, particularly in relatively accessible areas of South like Kandahar city, Spin boldak and some of nearby areas. These management issues include proper selection of service providers, quality of training, supervision and monitoring.
- Population movement due to various reasons but more importantly displacement due to military operations and active fighting. This resulted in establishment of number of formal and informal settlements in various parts of the country, particularly in Kunar, Kabul, Kandahar and Helmand provinces. Program is paying special attention to these IDPs and regularly updating the plans.

- Maintaining and expanding role of BPHS NGOS as implementer is a challenge for the program as this was a pilot in 2009. Program is trying to incorporate the lesson learned through this experience to make it more effective.
- Political commitment at the highest level is excellent but currently not being transformed into action at the implementation level.

**In Summary**, the overall quality of campaign in Southern region did not show any significant improvement despite extra efforts in 2009 rather has shown a gradual increase in proportion of low performing clusters (coverage < 90%). The proportion of missed children is much higher among young infants of 0-11 months in general and in South in particular. Campaign quality in rest of the country is maintained to a level that prevented the poliovirus circulation. Security and management issues pose the biggest challenge and continuous innovative efforts are being carried out to overcome these issues to improve quality of campaign.

### **9. Cross Border Coordination**

Afghanistan & Pakistan, being considered as one epidemiological block, are maintaining high level of coordination by holding regular meetings at various levels, data sharing, synchronization of campaigns and sharing microplans. More importantly are maintaining permanent cross border vaccination posts at points crossed by families traveling across both the countries. Main aim is to ensure that populations living in villages/areas on both sides of the border are vaccinated during each campaign and secondly, because of high population movement back and forth across the Afghanistan-Pakistan border, programs of both the countries administer additional OPV dose to children traveling with their families. Approximately, 1 million children were vaccinated by Afghan teams at 11 cross border vaccination posts. Torkham border is the busiest point and most of the crossing children (0.8 million) were vaccinated at this point. The Afghan vaccination posts between Southern Region and Balochistan, vaccinated 236,854 children and most of them (218,776) were vaccinated at Friendship Gate between Pakistan and Afghanistan.

Regular cross border meetings are held between bordering district teams to share the plans before each campaign: Peshawar and Jalalabad teams meet at Torkham border while Spinboldak and Killa Abdullah team hold their meeting at Friendship Gate. Teams of both countries also met in February 2009 at Islamabad.

Standardized procedure for cross-notification of acute flaccid paralysis cases are being observed by both the countries as agreed during last cross border meetings. There were 34 Afghan AFP cases cross notified by Pakistan while one AFP case was notified by Afghanistan to Pakistan in 2009. In addition, analysis of AFP cases reported from Afghan refugees camps in Pakistan, UNHCR repatriation centres in Afghanistan are being shared between the two countries.

### **10. Communication Initiative**

- Household decision-makers in the high risk areas were targeted through a network of social mobilisers (mullah, village elders, teachers and CHWs) leading to reduction of refusals in Kandahar's Spin-boldak district from 1384 in May to less than 500 in Dec, 2009. Local level initiatives such as the Women Courtyards in Kandahar, Laghman and Jalalabad districts engaged women more closely in the polio immunization campaigns. All areas of intervention where courtyard women were involved, reported an increase in OPV coverage.

- KAP 2 Study was commissioned in 6 provinces of the country in 2009. The study was conducted in the high risk provinces of Kandahar, Helmand, Farah, Ningarhar, Laghman and Baghlan provinces with focus on knowledge and information gaps, sources of information, perception, traditional beliefs and community influencers. The findings from the KAP showed improvements in the general knowledge of communities in regard to polio, however knowledge about polio specifics are still less.
- Programmatic engagement of the mass media using popular national and private TV/radios in every round targeting children not at home, newborn and children asleep, focusing especially on HRAs as well as at the national level. Popular channels such as BBC Pashto, Radio Azadi, RTA, TOLO, Shamshad, Arina, Nawa, Araman, Sharq radio, Spin-boldak and Samoon radios, were used.
- Revision and production of IEC/training materials: Based on data coming from the field and need assessment carried out, all training/IEC material for polio communication/social mobilisation such as training guides, flipcharts, booklets, brochures etc. were revised and used during social mobilization and volunteers' training. More than 17060 booklets, 3540 social mobilisation guides, 4420 flipcharts and 2780 volunteers' guide focusing on effective IPC skills printed and distributed during 2009.
- Cross border social mapping in eastern region was carried out for identifying the local influential people to gain access in hard to reach border areas. Micro-surveys regarding reason for absent children and evaluating the performance of community mobilisers in eastern region were conducted.

## **11. Goals for 2010**

There are two important priorities for the program to reach the target of stopping poliovirus circulation by end of 2010. First priority is to improve quality of campaign in 13 “high-risk” districts (Annex 1) of Southern region. These districts are labeled as “high-risk” because epidemiological data for the last 3 years shows that most of the confirmed cases were from these districts (Fig 8). In fact, 31 out of 34 confirmed cases of Southern region in 2009 are also from these 13 districts (Fig 8). Five of these districts are from Kandahar province (Kandahar, Spin Boldak, Panjwai, Maywand/Zari and ShahWalikot), five are from Helmand province (Lashkargah/Bust, Nadali/Marja, Sangeen, Nauzad and Musa Qala) and three districts of Uruzgan province (Trinkot, Dehrawood, Shaheed Hassas).

Second goal is to maintain high immunity level in rest of the country to prevent establishment of any poliovirus circulation.

### **Using Additional tools:**

During 2009, the program used type specific monovalent oral polio vaccine (mOPV) and choice of mOPV type was based on the epidemiological situation. The affect remains variable because of mainly the compromised campaign quality but with more frequent mOPV1 rounds in 2009, there was a significant decline in number of type 1 polio cases. At the same time the number of P3 type increased resulting in epidemic in Southern region. With the recent development of bi-valent oral

polio vaccine (bOPV) which is more effective against both type 1 and type 3 of poliovirus, Afghanistan program is introducing bOPV with start of 2010.

**Ensuring high quality campaign in 13 “high-risk” districts of South:**

One important program priority is to ensure high campaign quality in the 13 high risk districts of Southern region and ultimately interrupt the transmission in the country. Steps will be taken in the light of recommendations of independent review mission on “major barrier towards achieving goal of Polio Eradication in Afghanistan”. This will include

- Strengthen district level planning to improve quality
- Strengthen district level management capacity by appointing and training district managers
- Improve accessibility by coordinating with parties of conflict at Country level and also providing flexibility at district/cluster level negotiations

**Expanding areas for SIAs implementation by BPHS NGOs**

The NGOs (AHDS and BRAC) are contracted out by MoPH to deliver the health care services and have network of service providers at district level in Kandahar and Helmand provinces. These NGOs implemented SIAs for the first time in 2009 in 8 districts (4 districts in Kandahar and 4 districts in Helmand) and campaign quality has shown, though not significant, but a little improvement. Program aims to expand and increase the number of districts for each of the NGO in these two provinces to at least take over the responsibilities of 13 “high-risk” districts or may be all the province of Kandahar and Helmand.

**Develop and implement comprehensive communication plan** focused on community awareness and demand creation. This will also be done in the light of suggestions made in the report of independent review mission.

**Expanding role of potential partners to facilitate improving access and safety of vaccination teams:**

Program will continue to coordinate with ICRC to seek the support of AGE in accessing the children in conflict affected districts and trying to improving safety of vaccination teams. Also their district based contacts be used to identify local persons to improve access, monitor campaign to ensure quality. At the same time close coordination will be maintained with NATO, ISAF before each campaigns to achieve de-conflict situation during vaccination days.

**Capacity building through trainings of Provincial and District Managers**

The need of training to build the capacity of supervisory staff on micro planning, training skills, IPC, monitoring & supervision will be contracted out to training Consultant Company. The plan is to hold cascade of trainings starting from with a pilot training sessions for provincial teams and will be followed by trainings of district and sub-district level staff.

**Planning Workshops focusing 13 “high-risk” districts**

Workshops with district and sub-district level field staff and community notables are planned to carry out focus group discussions on improving campaign planning, quality and ways and means to increase access and ensure safety of vaccinators. The ultimate goal is to develop district specific plans.

**Additional Measures to improve immunity level.**

Any AFP case of less than 5 years and did not receive any OPV dose will be labeled as “Zero Dose”. Guidelines on “Zero Dose” cases are being developed and will be applied in the field to

identify areas of low campaign quality, reasons and take appropriate actions, including vaccination in that area.

**Sub-National Immunization Days :**

In addition to NIDs, there will be 4 rounds of SNIDs during February (14-16), June (7-9), July (25-27) and December (12-14). All rounds of SNIDs will use bOPV and planned for Southern, S.Eastern, Eastern and Farah province of Western region).

**Physical and social rehabilitation of polio cases** having different degrees of disability was started through ICRC physiotherapy center at Kandahar.

**Maintaining Immunity level in “Polio free” non transmission areas of country:**

**National Immunization Days:** Based on the recommendations of International Review mission (Section 6), a gradual and planned decrease in frequency of NIDs is considered and four rounds of NIDs are planned for 2010 (two rounds with bOPV and two rounds with tOPV). These are planned in March 14-17 (bOPV), May 2-4 (tOPV), September 26-28 (bOPV) and October 31-November 2 (tOPV). During May and October round, Vitamin A will also planned to be administered to children of 6-59 months.

With reduction in number of NIDs rounds from 06 in 2009 to 04 in 2010, additional efforts will be made to maintain and further improve quality of campaigns in areas without evidence of poliovirus circulation. Training sessions will focus to improve overall coverage, particularly in very young children below 1 year of age. The use of bOPV will be added advantage to improve immunity level.

**Immediate Preparedness Response:**

Based on the 2009 experience in the event of occurrence of poliovirus in areas outside the main “transmission zone”, the program has to maintain a preparedness level to response to such events within two weeks with type specific monovalent (mOPV) vaccine. At least two successive rounds of large scale mop-up (>1000,000 children of below 5 years) will be targeted in such activity. Guidelines on criteria to select type of vaccine, area and number of children to be immunized in a mop up round are being updated

**Strengthen routine immunization** to improve and sustain coverage above 80% will be critical to maintain the immunity level in the non transmission zone of the country. NIDs volunteer will be encouraged to pass message on routine vaccination of children in each house they visit during NIDs. AFP surveillance data will be constantly used to identify areas of low or no routine coverage. PPOs will monitor fixed centers while visiting health facilities and will also encourage minimizing “missed opportunities” reducing the drop-out.

**Maintaining highly sensitive surveillance system:**

Trainings of AFP focal points and orientation seminars for their community-based reporting volunteers are planned in 2010. The aim is to strengthen linkages, AFP case referral from community, sensitization to notify AFP case and ultimately maintain highly sensitive system.

**Annex 1**

**High Priority Districts of Southern region**

<b>Province</b>	<b>Districts</b>
<b>Kandahar</b>	Kandahar
	Spin Boldak
	Panjwai
	Maiwand/Ziarai
	Shah wali kot
<b>Helmand</b>	Musa Qilla
	Nade Ali
	Sangeen
	Nauzad
	Lashkargah
<b>Urozgan</b>	Dehrawod
	Tirinkot
	Shahid Hasas

Annex 2

CONFIRMED POLIO CASES, GENETIC CLUSTERS AND HMOLOGUS ISOLATE IN AFGHANISTAN FOR THE YEAR 2009\*

PROVINCE	DISTRICT	EPID	SEX	AGE	DONSET	PV TYPE	Cluster	Sub-Cluster	Homologous isolates
KANDAHAR	SHAHWALI KOT	AFG/08/09/007	M	18	1/16/2009	NSL1	A3	A	96.48% with AFG07-1660 AFG/08/07/759 Helmand PAK07-5623 PAK/BN/14/07/012 Killa Abdullah
KANDAHAR	DAMAN	AFG/08/09/010	M	12	1/27/2009	NSL1	A3	A	98.23% with AFG09-84 AFG/08/09/007 Kandhar, Cluster A-3A 96.69% with AFG07-1660 AFG/08/07/759 HELMAND, Cluster A-3A
KANDAHAR	PANJWAYI	AFG/08/09/017	F	8	1/21/2009	NSL1	A3	A	98.32% with AFG09-84 AFG/08/09/007 Kandhar, Cluster A-3A 98.32% with AFG09-122 AFG/08/09/010 Kandhar, Cluster A-3A
HILMAND	NAD ALI	AFG/08/09/020	M	11	2/6/2009	NSL1	A3	A	99% with AFG08-1647 AFG/08/08/138 Kandhar, Cluster A-3A 99% with AFG08-1153 AFG/08/08/087 Spin Boldak Kandhar, Cluster A-3A
HILMAND	KAJAKI	AFG/08/09/027	M	9	3/2/2009	NSL1	A3	A	97.52% with AFG08-069 AFG/08/08/005 Helmand, Cluster A-3A 97.51% with PAK07-6327 PAK/SD/42/07/049 Ghotki, Cluster A-3A
NURISTAN	BARGI MATAL	AFG/06/09/040	F	24	3/30/2009	NSL1	B4	A	98.68% with PAK08-5312 PAK/NW/34/08/051 KHYBER, Cluster B-4A 98.12% with PAK08-5124 PAK/NW/11/08/012 Batagram, Cluster B-4A
KANDAHAR	PANJWAYI	AFG/08/09/063	M	36	4/19/2009	NSL1	A3	A	99.2% with AFG08-1848 AFG/08/08/164 Spin boldak Kandhar, Cluster A-3A 98.9% with AFG08-1647 AFG/08/08/138 Kandhar, Cluster A-3A
KAPSIA	NIJRAB	AFG/05/09/098	F	30	5/21/2009	NSL1	B4	A	98.77% with PAK08-6322 PAK/PB/53/08/066 Jhang, Cluster B-4A 98.66% with PAK08-7427 PAK/PB/65/08/053-C2 Sahiwal, Cluster B-4A
KANDAHAR	MAYWAND	AFG/08/09/097	F	18	5/26/2009	NSL1	A3	A	98.5% with AFG08-2107 AFG /08/08/188-C 1 Helmand, Cluster A3-A 98% with AFG08-1765 AFG/08/08/157 URUZGAN, Cluster A3-A 98% with AFG08-1501 AFG/08/08/120 Helmand, Cluster A3-A
HILMAND	SANGIN	AFG/08/09/102	F	14	5/23/2009	NSL1	A3	A	99.1% with AFG08-1647 AFG/08/08/138 Kandhar, A3-A 99% with AFG08-1864 AFG/08/08/167 NAHRI SIRAJ, A3-A
HILMAND	SANGIN	AFG/08/09/100	M	18	6/5/2009	NSL1	A3	A	98.3% with AFG08-1153 AFG/08/08/087 Kandhar, Cluster A-3A 98% with PAK09-398 PAK/SD/63/09/003 KhiGadap, Cluster A-3A
KANDAHAR	SPIN BOLDAK	AFG/08/09/107	F	30	6/23/2009	NSL3	B1	C	98.65% with PAK08-7234 PAK/SD/21/08/038 Hyderabad, Cluster B-1C 98.54% with PAK09-895 PAK/SD/61/09/006 KHIBaldia, Cluster B-1C
KANDAHAR	KANDHAR **	AFG/08/09/110	F	48	6/6/2009	NSL1	A3	A	98.7% with PAK08-6583 PAK/BN/11/08/029 Quetta, Cluster A-3A 98% with PAK08-5952 PAK/BN/11/08/024-C2 Quetta, Cluster A-3A
KANDAHAR	MAYWAND	AFG/08/09/125	M	13	7/5/2009	NSL1	A3	A	98.2% with PAK08-6583 PAK/BN/11/08/029 Quetta, Cluster A-3A 98.1% with PAK08-5952 PAK/BN/11/08/024-C2 Quetta, Cluster A-3A
HILMAND	NAD ALI	AFG/08/09/126	M	8	7/18/2009	NSL1	A3	A	99.45% with AFG08-1647 AFG/08/08/138 Kandhar, Cluster A-3A 99.22% with AFG08-1153 AFG/08/08/087 SPIN BOLDAK KANDAHAR A-3A
KANDAHAR	KANDHAR	AFG/08/09/131	M	36	7/22/2009	NSL3	B1	C	98.19% with AFG09-1108 AFG/08/09/107 Kandahar, Cluster B1-C 97.96% with PAK08-7234 PAK/SD/21/08/038 Hyderabad, Cluster B1-C
KANDAHAR	KANDHAR	AFG/08/09/139	M	48	7/27/2009	NSL3	B1	C	99.8% with AFG09-1285 AFG/08/09/125-C4 Kandahar, Cluster B-1C 99.1% with AFG09-1387 AFG/08/09/139 Kandahar, Cluster B-1C
GHOR	TAYWARA **	AFG/03/09/127	F	54	7/25/2009	NSL1	A3	A	99% with AFG08-1647 AFG/08/08/138 Kandhar, Cluster A-3A 98.8% with AFG08-1153 AFG/08/08/087 Kandahar, Cluster A-3A
KANDAHAR	KANDHAR	AFG/08/09/150	F	10	8/18/2009	NSL3	B1	C	99.2% with AFG09-1285 AFG/08/09/125-C4 Kandahar, Cluster B-1C 99.2% with AFG09-1286 AFG/08/09/125-C5 Kandahar, Cluster B-1C 99% with AFG09-1387 AFG/08/09/139 Kandahar, Cluster B-1C
KANDAHAR	KANDHAR	AFG/08/09/152	F	12	8/25/2009	NSL3	B1	C	99.3% with AFG09-1452 AFG/08/09/150 Kandahar, Cluster B-1C 99.2% with AFG09-1285 AFG/08/09/125-C4 Kandahar, Cluster B-1C 99.2% with AFG09-1387 AFG/08/09/139 Kandahar, Cluster B-1C
KANDAHAR	KANDAHAR	AFG/08/09/158	F	36	8/29/2009	NSL3	B1	C 5	99.4% with AFG09-1285 AFG/08/09/125-C4 Kandahar, Cluster B-1C5 99.4% with AFG09-1286 AFG/08/09/125-C5 Kandahar, Cluster B-1C5 99.3% with AFG09-1501 AFG/08/09/152 Kandahar, Cluster B-1C5
KANDAHAR	KANDAHAR	AFG/08/09/159	F	24	9/5/2009	NSL3	B1	C 5	99.6% with AFG09-1285 AFG/08/09/125-C4 Kandahar, Cluster B-1C5 99.6% with AFG09-1286 AFG/08/09/125-C5 Kandahar, Cluster B-1C5 99.4% with AFG09-1501 AFG/08/09/152 Kandahar, Cluster B-1C5

KANDAHAR	KANDAHAR	AFG/08/09/162	F	10	9/20/2009	NSL3	B1	C 5	99.7% with AFG09-1592 AFG/08/09/159 Kandahar, Cluster B1C5 99.6% with AFG09-1590 AFG/08/09/158 Kandahar, Cluster B1-C5 99.3% with PAK09-4555 PAK/BN/11/09/018 Quetta, Cluster B1C5
KANDAHAR	SPIN BOLDAK	AFG/08/09/199	M	30	10/11/200 9	NSL3	B1	C 5	99.4% with AFG09-1592 AFG/08/09/159 Kandahar, Cluster B1C5 99.3% with AFG09-1671 AFG/08/09/162 Kandahar, Cluster B1C5 99.3% with AFG09-1590 AFG/08/09/158 Kandahar, Cluster B1C5
KANDAHAR	SPIN BOLDAK	AFG/08/09/209	M	11	11/14/200 9	NSL3	B1	C 5	99.1% with PAK09-5512 PAK/BN/14/09/013 Killa Abdullah, Cluster B1C5 99.3% with AFG09-1671 AFG/08/09/162 Kandahar, Cluster B1C5 99.3% with PAK09-4956 PAK/BN/14/09/011 Killa Abdullah, Cluster B1C5
HILMAND	MUSAKALA	AFG/08/09/215	M	12	12/13/200 9	NSL3	B1	C 5	98.3% with AFG09-1592 AFG/08/09/159 Kandahar, Cluster B1C5 98.2% with AFG09-1590 AFG/08/09/158 Kandahar, Cluster B1C5
URUZGAN	DIHRAWUD	AFG/08/09/224	F	30	12/13/200 9	NSL3			98.9% with AFG09-1592 AFG/08/09/159 Kandahar, Cluster B1C5 98.8% with AFG09-1590 AFG/08/09/158 Kandahar, Cluster B1C5
HILMAND	KAJAKI	AFG/08/09/226	F	38	12/15/200 9	NSL3	B1	C 5	98.5% with AFG09-1592 AFG/08/09/159 Kandahar, Cluster B1C5 98.4% with AFG09-1590 AFG/08/09/158 Kandahar, Cluster B1C5
KANDAHAR	SPIN BOLDAK	AFG/08/09/227	M	60	12/10/200 9	NSL3	B2	C 6	99.8% with PAK09-5512 PAK/BN/14/09/013 Killa Abdullah, Cluster B1C5 99.8% with PAK09-4956 PAK/BN/14/09/011 Killa Abdullah, Cluster B1C5 99.4% with AFG09-1671 AFG/08/09/162 Kandahar, Cluster B1C5
URUZGAN	DIHRAWUD	AFG/08/09/231	M	24	12/14/200 9	NSL3	B1	C 5	99.6% with AFG09-2170 AFG/08/09/224 Uruzgan, Cluster B1C5 99.3% with AFG09-1592 AFG/08/09/159 Kandahar, Cluster B1C5
KANDAHAR	MAYWAND	AFG/08/09/223	F	36	12/4/2009	NSL3	B1	C 5	98.5% with AFG09-1501 AFG/08/09/152 Kandahar, Cluster B1C5 98.5% with AFG09-1452 AFG/08/09/150 Kandahar, Cluster B1C5 98.4% with AFG09-1592 AFG/08/09/159 Kandahar, Cluster B1C5

Orphan Virus