

Introduction

AFP surveillance up to 1999 was passive surveillance. The activities were depending only on cases referred from clinical units passively, for lab investigation. At the beginning of the year 2000 WHO made tremendous inputs to establish an efficient system and thus provided transport means, communication, supplies & equipment's, staff and running costs.

AFP surveillance in Sudan has reached and maintained certification level quality indicators since the beginning of 2001, and shifted to the virological classification by the end of 2001. Different reviewers confirmed that the AFP surveillance system is sensitive enough to detect any transmission or importation of wild poliovirus in Sudan. This was proved when the system efficiently picked the imported Nigerian/ Chad virus in Forbrunga; a remote and insecure town in West Darfur state, in May 2004.

This is the annual technical report for the year 2005. The contents of the report includes results, analysis, and interpretations of the AFP surveillance data for Sudan including OLS areas. It also include background information about the surveillance system in and the main activities conducted by the central unit.

The improvement of the system as reflected by the high quality performance indicators is very clear. The first draft certification document was accepted by the RCC in Oct. 2003. Also annual updates were prepared and forwarded to EMRO for consideration by the RCC. This is discontinued after the importation mentioned above and instead report in the consequent epidemic was written and disseminated.

During 2005 and 2006 the system is implementing community surveillance and expanding the zero reporting sites aiming to more perfection particularly for remote population groups and nomads.

POLIO ERADICATION IN SUDAN

Sudan started its efforts to eradicate poliomyelitis in 1994. EPI is the responsible body to carry out the activities of the program in the country. In areas of the country under SPLA, the activities were conducted by the WHO under the umbrella of the Operation Life-line Sudan (OLS). After peace arrangements have to be done yet.

The program has adopted 4 strategies:

- Boosting the routine immunization.
- Conducting supplementary immunization activities (SIAs).
- Conducting of AFP surveillance, to the required certification level.
- Effectively respond to and contain importation of wild poliovirus.

BACKGROUND INFORMATION

Sudan lies in central Africa and has borders with nine countries namely Egypt, Libya, Chad, Central Africa, Uganda, Zaire, Kenya, Ethiopia and Eritrea. The border tribes often have the same families and other ties that there is a continuous movement across the borders. This movement had affected the health situation through a long history and currently is having a great impact on the spread of diseases in the country.

The area of Sudan is 2.5 million square kilometers, making it the largest country in

Africa The climate ranges from desert in the north, extending south through semi desert, poor savannah, savannah, rich savannah and ending into rainy equatorial forests in the south. This affects type and persistence of diseases in the country.

The population is estimated to be 34 512 000 for the year 2004 with an under 15 year population of about 14 769 566. About 35% of the population are urban, 63% rural and 2% nomads.

Administratively, the country is divided into 26 states and these are divided into 134 localities.

For AFP surveillance purposes the table below shows the name of each state, the code used for AFP surveillance purpose, the number of localities in that state and the under 15 years population.

Sudan by States

(Map - 1)



AFP SURVEILLANCE IN 2005

ORGANIZATION:

Diagram No. 1; shows the organization of AFP surveillance at national and states level. It also indicates the relation between the program, WHO, UNICEF and different committees

STAFF:

26 surveillance officers are posted through out the country assisted by 7 WHO/Sacs and 9 NMO holding SSA/WHO to oversee a surveillance network involving 366 reporting sites including health care institutions, private clinics and traditional healers.

TRANSPORT & COMMUNICATION:

46 cars, 68 motorcycles, 45 bicycles, and one motor boat (Malakal) provide an efficient net work for Tran potion. In each states fax and telephone services were made available. Some cars were provided with radio sets. The 19 Nissan cars provided in 2000 are now often outofroad and needed continuous expensive maintenances.

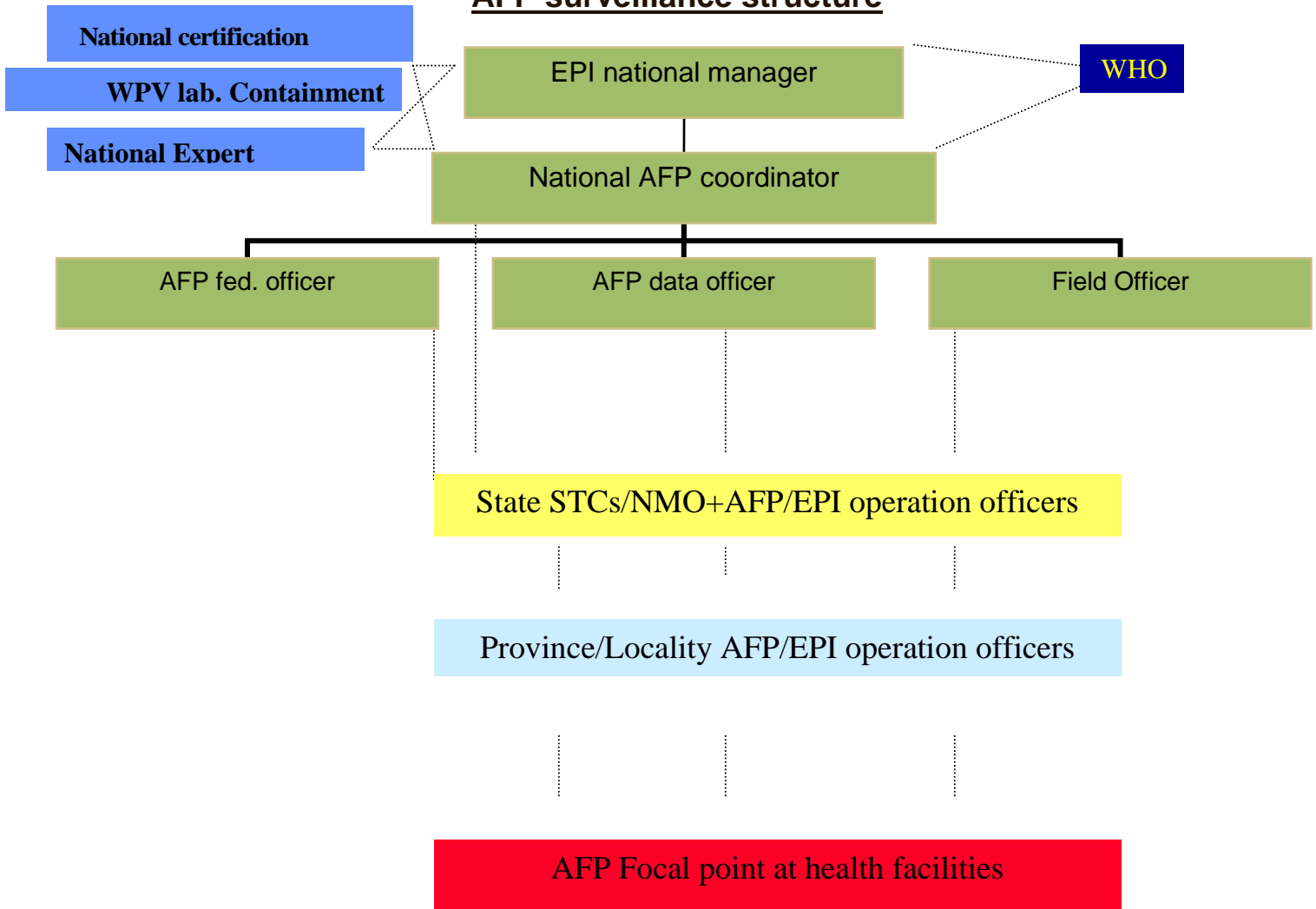
REPORTING SITES:

Reporting sites in the government-controlled areas during 2005 were :

- 143 high priority sites – mainly paediatric and specialized hospitals
- 123 medium priority sites – busy hospital and health centre
- 100 low priority sites – other less busy facilities and traditional healers

The 366 sites involve ; 346 public Institutions , 16 private clinics, and 4 traditional healers places.

AFP surveillance structure



AFP SURVEILLANCE MAIN INDICATORS IN 2005

NON-POLIO AFP RATE:

The global standard for any population the Non-polio AFP rate is one per 100 000 under 15 years children. For Sudan it was suggested by the TAG to aim at 2 or more because of the high occurrence of malaria and meningitis.

The expected number of AFP cases for 2005 was 149, and during the year 388 cases had been reported among which 23 cases were wild polio virus. This gives a rate of 2.4 cases per 100 000 under 15 years children. Compatible cases were 11 (see table 2).

When looking to the data from the whole country (table 16) twenty five states reported a rate of 2 and more, and one state (West Darfur) reported a rate of 1.5 (table 3 & map 2).

ADEQUATE STOOL SAMPLES:

Adequate specimens are defined as " two stool specimens collected from a case, at least 24 hours apart within 14 days of paralysis onset: each specimen must be of adequate volume (8 – 10 grams) and arrive in the National Polio Laboratory in "good" condition". Good condition; is defined as no desiccation, no leakage, adequate documentation and evidence that the reverse cold chain was maintained. The global standard is that 80% of AFP cases should have adequate stool samples.

88.4% of the 388 cases had adequate adequate stool specimens. All stool samples arriving at the lab. in good condition (100%).

Stool samples adequacy rate was 100% in five states, between 80% - 99% in 112 states, the rest of the states with adequacy rate 79% or less (Table 4 & Map 3)

REPORTING AND INVESTIGATION:

The objective of the AF surveillance is to investigate 80% of AFP cases within 48 hours of being notified and 80% of Stool specimens arriving at the lab < 3 days of being sent.

The percentage of AFP cases investigated within 48 hours of being notified was 99%. Stool samples arriving the laboratory within 3 days of being sent was 96% (table 9).

NON-POLIO ENTEROVIRUS:

The non-polio entero-viruses detection rate among all stool samples was 14% with random distribution over the country (Table 9)

SPECIMENS RESULTS TURN ROUND TIME:

The specimens results received from the National Polio Lab. by the EPI within 28 days from samples being received is 96% of specimens, while the required standard is 80%. (Table 9).

WEEKLY (ZERO) REPORTING:

The completeness of weekly (zero) reporting from all reporting sites was 86%, and out of that the timeliness was 93%. The completeness of weekly (zero) reporting was 86% from high priority sites, 88% from medium priority sites and 82% from low priority sites. Table No.: 16 and Figure No.: 9 show the completeness and timeliness of reporting from the states.

ACTIVE SURVEILLANCE VISITS:

The completeness of active AFP surveillance visits for the high priority sites was 95 and the timeliness was 88% (table 15 & figure 8).

DIAGNOSIS OF AFP CASES

A list of 30 diseases and conditions were classified as causes of AFP. GBS was one of the main

causes of AFP cases (35%). Complicated malaria cases were 18%. Traumatic neuritis 12%, meningo encephalitis 10% and Child hoodhemiplegia caused 12%, 11.1% and 4.9% respectively of AFP cases in Sudan . Others (27.1%) included acute rhumatic fever, artheritis, brain abcess, CVA, contex of congenital dis., degenerating neuritis, dehydration , diarrhoea, diphtheria, dysatry, external deg.of cns, h.p.joint arthritis, hypo kalamia, lymphoma, pneumonia, potts diseases, rheumatic chorea, sickle cell anemia, typhoid, viral causes, etc (Table No.: 15) (Figure No.: 8)

SUMMARY OF AFP SURVEILLANCE CENTRAL UNIT ACTIVITIES

Here are the main activities conducted by the Central unit regarding supervisory visits, IEC materials, meetings and workshops, training and orientation. ect.

SUPERVISORY VISITS:

Nineteen supervisory visits were conducted from the CU to the peripheral levels; the National coordinator participate in 15 of them, field officer (FO) 5 visits 2 of them with the national coordinator (the FO was appointed in September 2003).

The states visited were Gezira (3 visits), Red Sea (3 visits), Gedarif (2 visits), Kassala (2 visits), Sennar (2 visits), one visit to River Nile, Khartoum, North Kordofan, White Nile, West Kordofan, and West Darfur states.

MEETINGS AND WORKSHOPS:

During the year 2003 AFP surveillance Central Unit had participate actively in so many meetings and workshops. The main meetings were:

- Four AFP surveillance national expert committee meetings. The committee had review 22 cases, all of them were discarded except one compatible case from Upper Nile state.
- Three National Certification Committee meetings.
- WPV Containment committee in laboratories (plus tow field visits to lab. In Wad Medani and Khartoum)
- Three meetings of WHO/STC and polio NMO.
- Three EPI states operational officers evaluation and planning meetings.
- Tow planning meetings for measles catch-up campaign in Red Sea, Kassala, River Nile and Northern states.
- Participate in the weekly (Monday) EPI academic sessions and the weekly EPI administrative meetings.

ORIENTATION AND TRAINING:

- Training of all newly appointed NMO, AFP surveillance Officers, and orientation STCs and STOP teams members. In all workshops and meetings orientation on the AFP surveillance activities and performance was done.

IEC MATERIALS:

- Four issues of (Sharh) were produced, 750 copies of each distributed timely to partners and states level as feed back.
- Reprinting of boosters and working forms.
- Distribution of the IEC materials to the states. A total of 4700 copy of the investigation form, 4700 copy of the lab. Request form, 1500 copy of Form 6, 1790 copy of the AFP case files, 1200 copy of the monthly reporting form, 3750 copy of the weekly reporting form, 1720 copy of the immediate reporting form, 470 copy of the line list booster, 213 copy of the weekly reporting monitoring booster, 350 copy of the Out Patient Department registration books, 1225 copy of an education booster, and 213 copy of the active visits monitoring booster were distributed.

OTHERS:

- Development of the measles surveillance guidelines (3rd draft).
- Integration of Measles surveillance with the AFP surveillance system.
- Distribution of 22 bicycle, 10 motor cycle, 7 faxes, 7 electricity stabilizer.
- The National AFP surveillance coordinator participate in the review of the Yemen AFP surveillance system mission.
- Updating the importation preparedness plan.

AFP surveillance: Notification sites by states in Sudan year 2005

STATES	STATE CODE	Hihg priority	Medium priority	Low priority
Bahr Elgabal	BAH	4	5	5
Blue Nile	BNI	5	4	4
East Equatoria	EEQ	2	0	2
Elbohyrat	LAK	0	0	0
Gedarif	GED	7	9	4
Gezira	GEZ	12	7	11
Jongli	LON	3	3	4
Kassala	KAS	5	5	6
Khartoum	KHA	20	15	0
North Bahr ElGazal	NBA	1	4	0
North Darfur	NDA	3	6	5
North Kordofan	NKO	5	1	6
Northern	NOR	6	7	9
Red Sea	RED	3	13	6
River Nile	RNI	5	7	7
Sennar	SEN	5	2	6
South Darfur	SDA	8	6	2
South West Kordofan	SWKO	4	2	3
South East Kordofan	SEKO	5	0	3
Unity	UNI	7	3	0
Upper Nile	UPP	4	6	4
Warap	WAR	0	0	0
West Bahr Elgazal	WBA	5	5	4
West Darfur	WDA	3	3	8
West Equatoria	WEQ	0	0	0
West Kordofan	WKO	7	4	2
White Nile	WNI	5	6	7
SUDAN	SUD	134	123	108

(Table – 1)

SUDAN / States code, Localities, Population < 15 years ,Expected AFP Cases 2005

STATES	STATE CODE	Localities	Population <15 year	Expected NO. OF AFP CASES
Bahr Elgabal	BAH	4	207737	2
Blue Nile	BNI	5	311605	3
East Equatoria	EEQ	4	207737	2
Elbohyrat	LAK	4	207737	2
Gedarif	GED	5	727082	7
Gezira	GEZ	7	1558033	16
Jongli	LON	7	415475	4
Kassala	KAS	5	727082	7
Khartoum	KHA	7	1973510	20
North Bahr ElGazal	NBA	4	311605	2
North Darfur	NDA	7	727082	8
North Kordofan	NKO	5	727082	8
Northern	NOR	4	207737	3
Red Sea	RED	4	311605	3
River Nile	RNI	6	415477	4
Sennar	SEN	3	623212	6
South Darfur	SDA	9	1454166	14
South Kordofan	SKO	5	623212	6
Unity	UNI	4	103868	1
Upper Nile	UPP	8	207737	2
Warap	WAR	4	415478	4
West Bahr Elgazal	WBA	3	103868	2
West Darfur	WDA	7	830950	8
West Equatoria	WEQ	4	103868	2
West Kordofan	WKO	5	623212	6
White Nile	WNI	4	727083	7
SUDAN	SUD	134	14,853,243	149

(Table – 2)

AFP Surveillance Summary in Sudan for year 2005 (OLS not included)

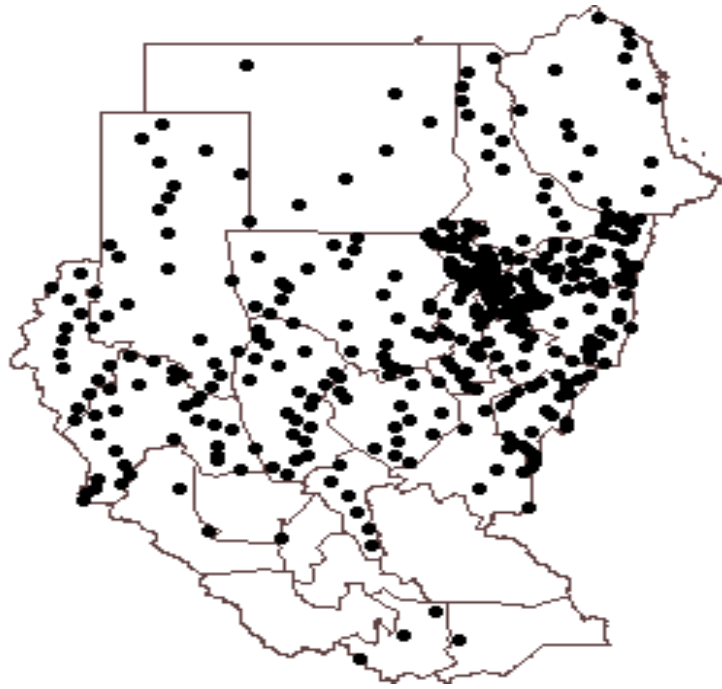
	GOV. AREA	ALL SUDAN (INCLUDED OLS)
EXPECTED AFP CASES	149	
REPORTED AFP CASES	388	
CONFIRMED POLIO CASES	23 (6%)	
COMPATIBLE CASES	11 (3%)	
DISCARDED CASES	354 (91%)	
CASES WITH 2 SPECIMENS	376 (97%)	
CASES WITH 1 SPECIMENS	5 (1%)	
CASES WITH NO SPECIMENS	7 (2%)	
TOTAL SPECIMENS COLLECTED	757 (100%)	
SPECIMENS IN GOOD CONDITION	757(100%)	
SPECIMENS IN POOR CONDITION	0	
AFP CASES WITH ADEQUATE SPECIMENS	88.%	
SPECIMENS WITH POSITIVE RESULTS	39 (5%)	
SPECIMENS WITH NEGATIVE RESULTS	718 (95%)	
AFP CASES INVESTIGATED <=48 HOURS	99%	
SPECIMENS ARRIVED LABORATORY <= 3 DAYS OF BEING SEND	96%	
SPECIMENS ARRIVED LABORATORY 3 DAYS OF BEING COLLECTED	88%	
SPECIMENS RESULTS TURN ROUND <= 28 DAYS	96%	
SPECIMENS WITH ENTERO-VIRUS	14%	
CASES WITH RES WEEKNESS	36%	
CASES WITHOUT RES WEEKNESS	48%	
CASES LOST FOLLOW-UP	7%	
CASES DIED BEFORE FOLLOW-UP	8%	
NON-POLIO AFP RATE	2.4	

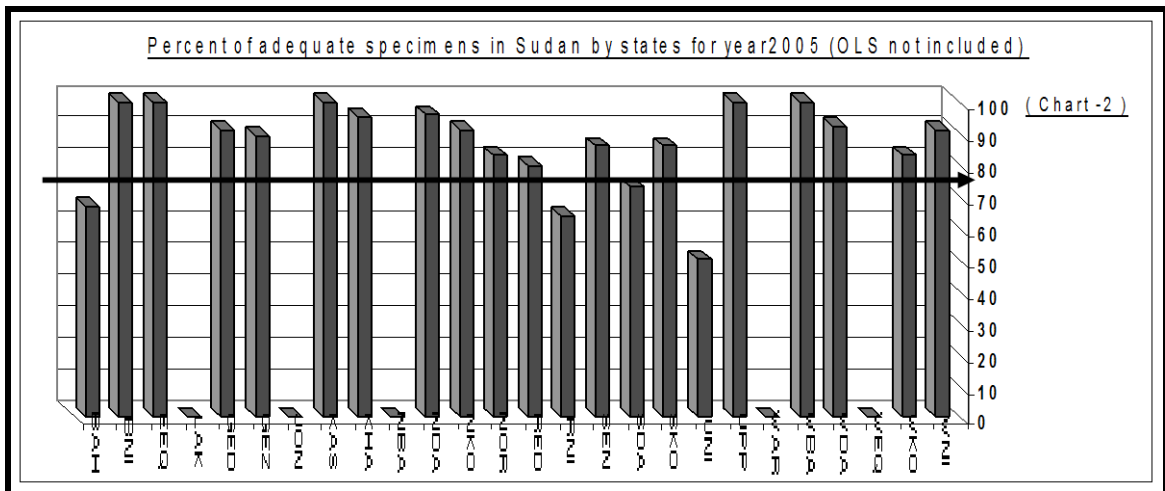
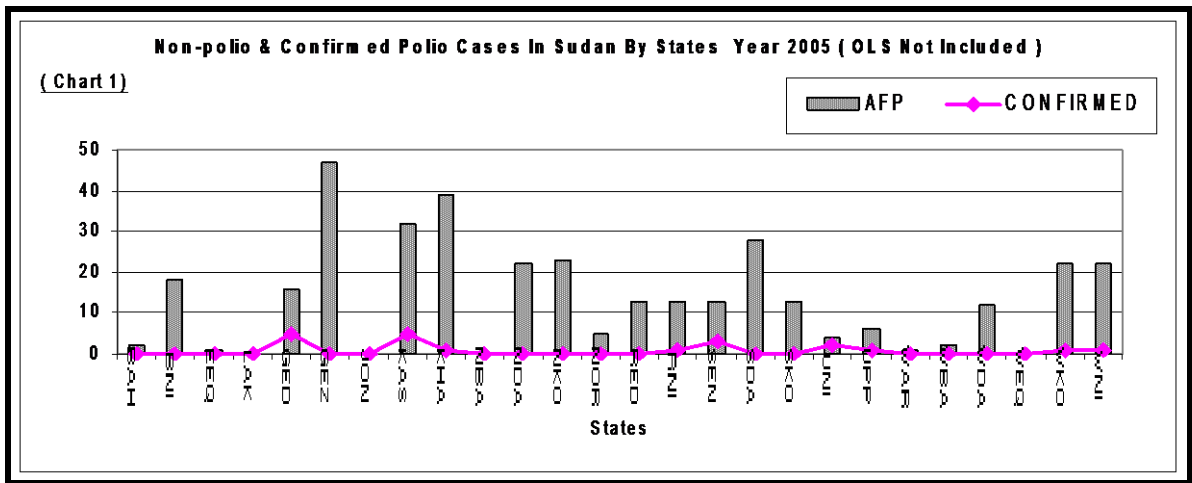
Expected number of AFP and reported AFP cases and final classification
 For year 2005 (OLS not included)

STATES	EXP	AFP	CLASSIFICATION			NON-POLIO AFP RATE
			Confirmed (Wild)	Compatible	Discarded	
BAHR ELGABAL	2	3	1	0	2	1.0
BLUE NILE	3	20	2	0	18	6.0
EAST EQUATORIA	2	1	0	0	1	0.5
ELBOHYRAT	2	0	0	0	0	0.0
GEDARIF	7	23	5	2	16	2.6
GEZIRA	16	49	0	2	47	3.1
JONGLAI	4	0	0	0	0	0.0
KASSALA	7	37	5	0	32	4.6
KHARTOUM	20	40	1	0	39	2.0
NORTH BAHR ELGAZAL	2	0	0	0	0	0.0
NORTH DARFUR	8	23	0	1	22	2.9
NORTH KORDOFAN	8	23	0	0	23	2.9
NORTHERN	3	6	0	1	5	2.0
RED SEA	3	15	0	2	13	4.3
RIVER NILE	4	14	1	0	13	3.3
SENNAR	6	16	3	0	13	2.2
SOUTH DARFUR	14	30	0	2	28	2.0
SOUTH KORDOFAN	6	14	0	1	13	2.2
UNITY	1	6	2	0	4	4.0
UPPER NILE	2	7	1	0	6	3.0
WARAP	4	0	0	0	0	0.0
WEST BAHR ELGAZAL	2	3	0	0	3	1.5
WEST DARFUR	8	12	0	0	12	1.5
WEST EQUATORIA	2	0	0	0	0	0.0
WEST KORDOFAN	6	23	1	0	22	3.7
WHITE NILE	7	23	1	0	22	3.1
TOTAL SUDAN	149	388	23	11	354	2.4

(Map -2)

Distribution of AFP cases reported in Sudan by states
 For year 2005 (OLS not included)





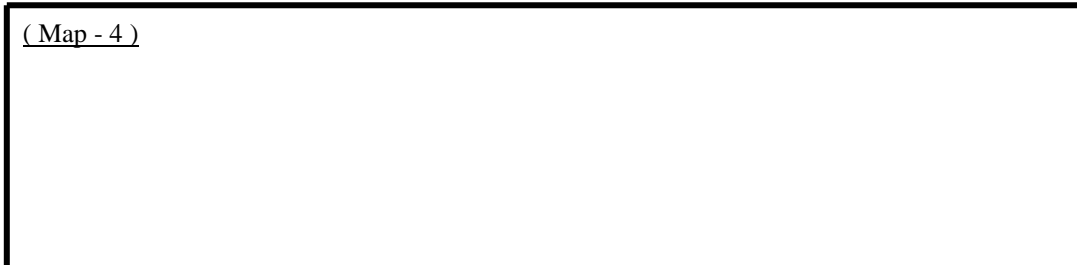
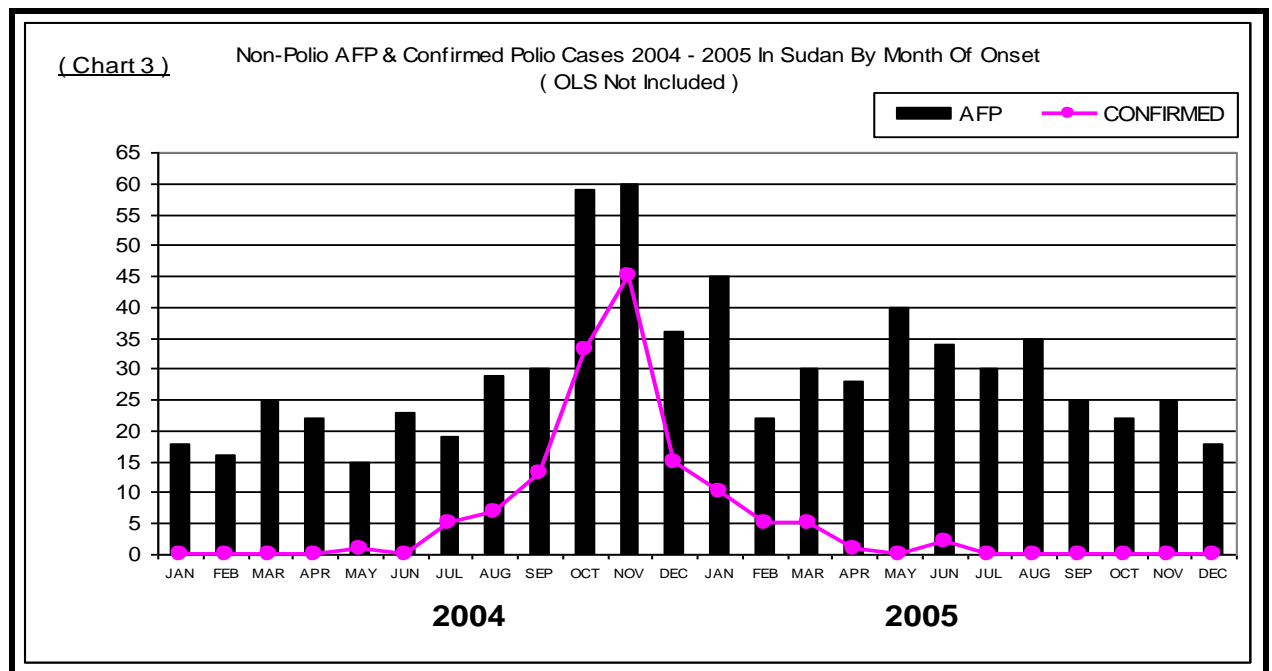
(Table - 4)

**LABORATORY INVESTIGATION FOR AFP CASES BY STATES
IN SUDAN FOR YEAR 2005 (OLS not included)**

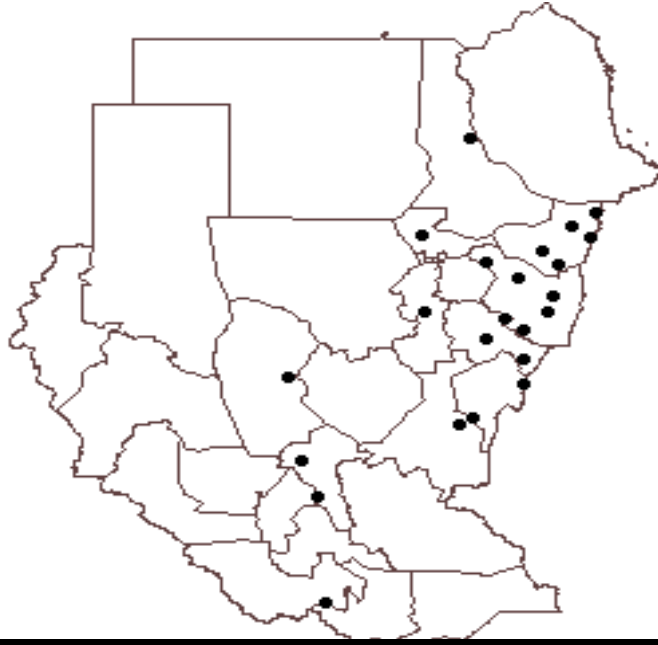
STATES	AFP Cases Reported	Cases With Adequate Specimens %	SPECIMENS By cases			Stool Condition		LAB. RESULTS		Entero virus %
			With 2 Specimen	With 1 Specimen	No Specimen	Good	Poor	Posi-Tive	Nega-Tive	
BAHR ELGABAL	3	66.7%	2	1	0	5	0	2	3	0
BLUE NILE	20	100%	20	0	0	40	0	3	37	10%
EAST EQUATORIA	1	100%	1	0	0	2	0	0	2	0
ELBOHYRAT	0	0.0	0	0	0	0	0	0	0	0
GEDARIF	23	91.3%	23	0	0	46	0	7	39	13%
GEZIRA	49	87.8%	48	1	0	97	0	0	97	13%
JONGALI	0	0.0	0	0	0	0	0	0	0	0
KASSALA	37	100%	37	0	0	74	0	10	64	9%
KHARTOUM	40	95%	38	1	1	77	0	2	75	17%
N. BAHR ELGAZAL	0	0.0	0	0	0	0	0	0	0	0
NORTH DARFUR	23	95.7%	23	0	0	46	0	0	46	9%
N .KORDOFAN	23	91.3%	22	0	1	44	0	0	44	20%
NORTHERN	6	83.3%	6	0	0	12	0	0	12	0
RED SEA	15	80%	14	1	0	29	0	0	29	28%
RIVER NILE	14	64.3%	11	1	2	23	0	2	21	26%
SENNAR	16	87.5%	16	0	0	32	0	4	28	13%
SOUTH DARFUR	30	73.3%	28	0	0	56	0	0	56	13%
S . KORDOFAN	14	85.7%	14	0	0	28	0	1	27	11%
UNITY	6	50%	6	0	0	12	0	3	9	17%
UPPER NILE	7	100%	7	0	0	14	0	2	12	21%
WARAP	0	0.0	0	0	0	0	0	0	0	0
W.BAHR ELGAZAL	3	100%	3	0	0	6	0	0	6	0
WEST DARFUR	12	91.7%	12	0	0	24	0	0	24	8%
WEST EQUATORIA	0	0.0	0	0	0	0	0	0	0	0
WEST KORDOFAN	23	82.6%	22	0	1	44	0	1	43	14%
WHITE NILE	23	91.3%	23	0	0	46	0	2	44	26%
SUDAN	388	88.4%	376	5	7	757	0	39	718	14%

AFP CASES AND CONFIRMED POLIO For year 2005 (OLS not included)

MONTHS	AFP	CLASSIFICATION		
		Confirmed (Wild)	Compatible	Discarded
JANUARY	58	10	3	45
FEBRUARY	29	5	2	22
MARC	37	5	2	30
APRIL	29	1	0	28
MAY	41	0	1	40
JUNE	36	2	0	34
JULY	31	0	1	30
AUGUST	35	0	0	35
SEPTEMBER	26	0	1	25
OCTOBER	22	0	0	22
NOVEMBER	26	0	1	25
DECEMBER	18	0	0	18
TOTAL	388	23	11	354

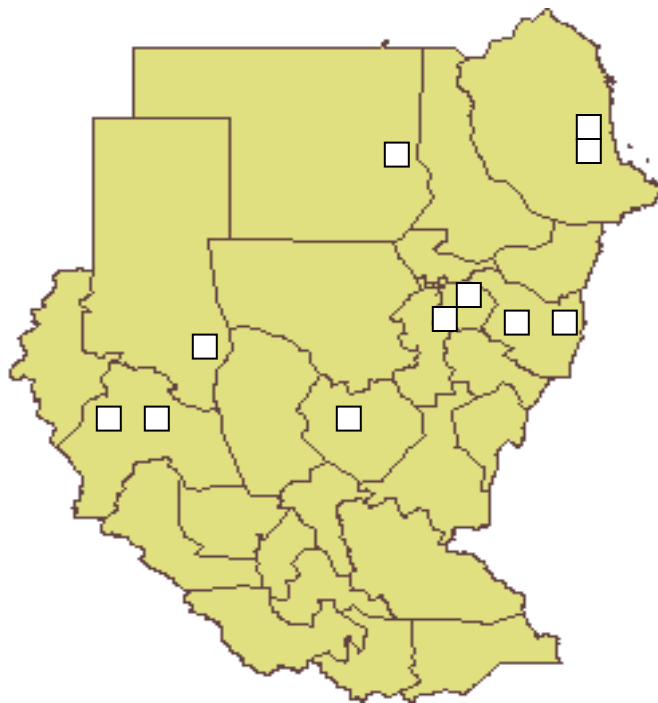


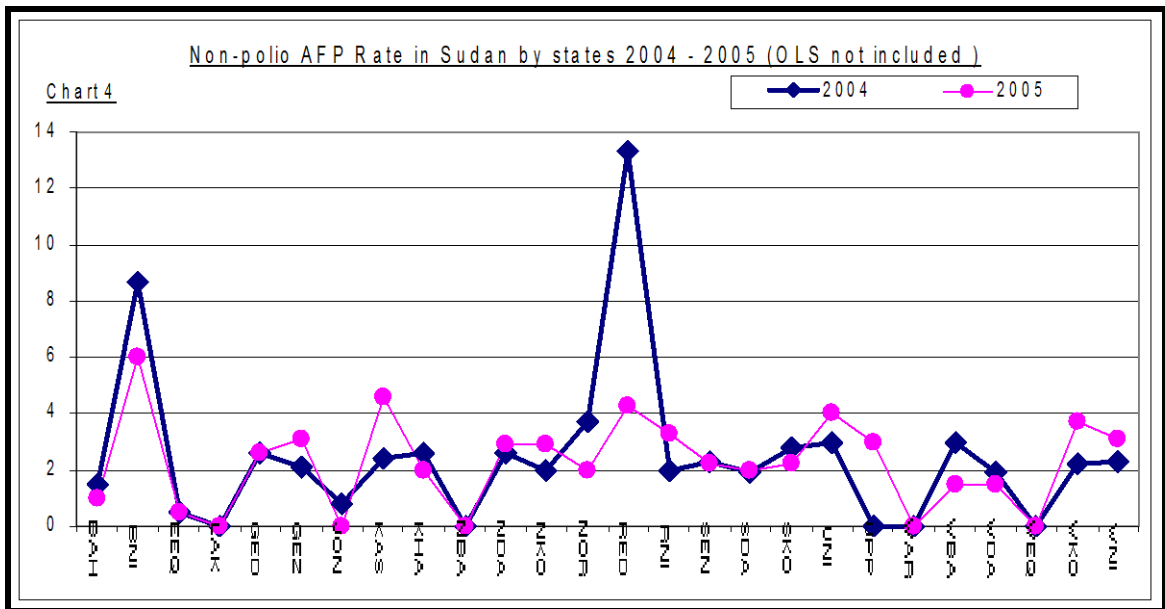
Distribution of Confirmed Polio Cases In Sudan By States
For Year 2005(OLS Not Included)



(Map -5)

Distribution of Compatible Polio Cases In Sudan By States
Year 2005 (OLS not included)

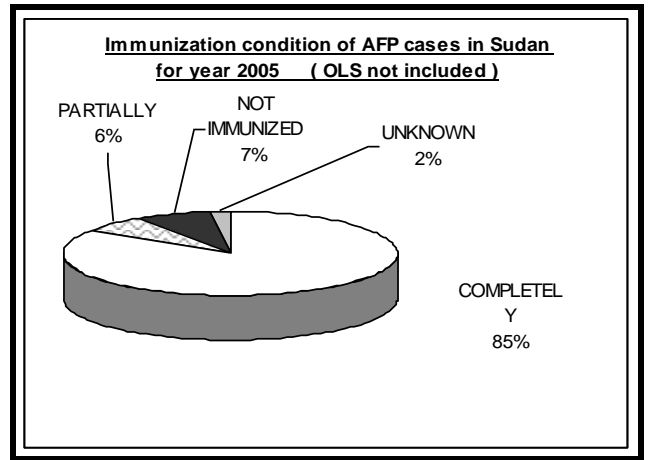




(Table – 6)
 IMMUNIZATION STATUS OF AFP CASES BY AGE IN MONTHS
 FOR YEAR 2005 (OLS NOTINCLUDED)

(Chart 5)

AGE BY MONTHS	AFP	Completely	Partially	Not immunized	Unknown
0 – 11	39	90%	5%	5%	0
12 – 23	73	85%	10%	5%	0
24 – 35	81	84%	6%	6%	4%
36 – 47	44	88%	5%	7%	0
48 – 59	30	97%	0	3%	0
60 +	121	78%	7%	11%	4%
TOTAL	388	85%	6%	7%	2%

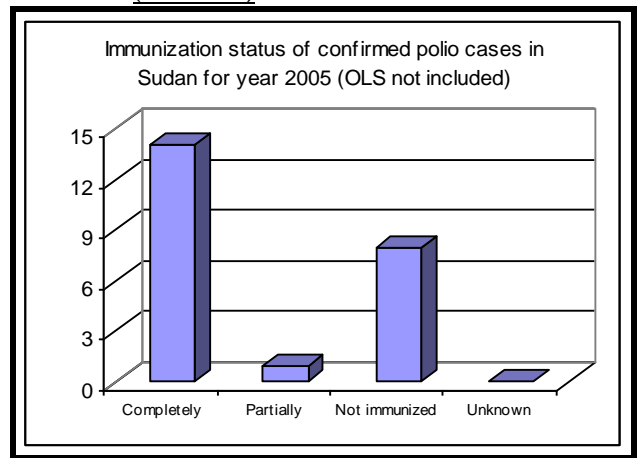


(Table – 7)

Immunization condition of confirmed Polio cases in Sudan
For year 2005 (OLS not included)

AGE BY MONTHS	Confirmed Polio Cases	Completely	Partially	Not immunized	Unknown
0 – 11	0	0	0	0	0
12 – 23	7	86%	0	14%	0
24 – 35	6	67%	0	33%	0
36 – 47	2	50%	0	50%	0
48 – 59	1	100%	0	0	0
60 +	7	29%	14%	57%	0
TOTAL	23	61%	4%	35%	0.0

(Chart 6)

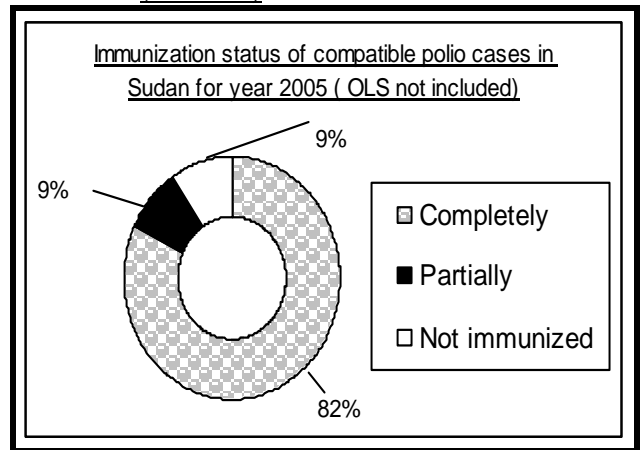


(Table – 8)

Immunization condition of compatible Polio cases in Sudan
For year 2005 (OLS not included)

AGE BY MONTHS	AFP	Partially	Partially	Not immunized	Unknown
0 – 11	2	50%	0	50%	0
12 – 23	4	75%	25%	0	0
24 – 35	2	100%	0	0	0
36 – 47	1	100%	0	0	0
48 – 59	0	0	0	0	0
60	2	100%	0	0	0
Total	11	72%	9%	9%	0.0

(Chart 7)



(Table – 9)

TIME TABLE OF SPECIMENS IN SUDAN FOR YEAR 2005 (OLS NOT INCLUDED)

STATES	AFP	Cases With Adequate Specimens	I*	2*	3*	4*	6*
BAHR ELGABAL	3	68%	100%	100%	100%	100%	0.0
BLUE NILE	20	100%	100%	80%	90%	100%	10%
EAST EQUATORIA	1	100%	100%	0.0	100%	0.0	0.0
ELBOHYRAT	0	0.0	0.0	0.0	0.0	0.0	0.0
GEDARIF	23	91%	100%	74%	96%	100%	13%
GEZIRA	49	89%	98%	88%	97%	96%	13%
JONGALI	0	0.0	0.0	0.0	0.0	0.0	0.0
KASSALA	37	100%	100%	86%	93%	100%	9%
KHARTOUM	40	95%	100%	100%	100%	95%	17%
NORTH BAHR ELGAZAL	0	0.0	0.0	0.0%	0.0	100%	0.0
NORTH DARFUR	23	96%	96%	43%	87%	100%	9%
NORTH KORDOFAN	23	91%	100%	96%	100%	100%	20%
NORTHERN	6	83%	100%	100%	100%	100%	0.0
RED SEA	15	80%	100%	93%	100%	100%	28%
RIVER NILE	14	64%	100%	93%	100%	100%	26%
SENNAR	16	88%	94%	81%	100%	94%	13%
SOUTH DARFUR	30	73%	97%	50%	96%	100%	13%
SOUTH KORDOFAN	14	86%	100%	79%	100%	100%	11%
UNITY	6	50%	100%	33%	67%	100%	17%
UPPER NILE	7	100%	100%	100%	100%	100%	21%
WARAP	1	0.0	0.0	0.0	100%	0.0	0.0
WEST BAHR ELGAZAL	2	100%	100%	100%	100%	100%	0.0
WEST DARFUR	12	92%	100%	17%	100%	100%	8%
WEST EQUATORIA	0	0.0	0.0	0.0	0.0	0.0	0.0
WEST KORDOFAN	23	83%	100%	65%	100%	100%	14%
WHITE NILE	23	91%	100%	96%	100%	96%	26%
SUDAN	388	88%	99%	80%	96%	96%	14%

1* AFP cases investigated within 48 hours

2* Specimens received LAB. 3 days of being collected

3* Specimens received LAB. 3 days of being sent

4* specimens results received EPI 28 days of being received to the LAB.

CONFIRMED POLIO CASES IN SUDAN BY LOCALITIES FOR YEAR 2005
(OLS NOT INCLUDED)

LOCALITIES	STATE	NUMBER OF CASES	PERCENT %
BAHR ELGABAL	BAHR ELGABAL	1	4.3%
ELGALABAT	GEDARIF	1	4.3%
ELRAHAD	GEDARIF	4	17%
UM DURMAN	KHARTOUM	1	4.3%
ELRUSAIRIS	BLUE NILE	1	4.3%
BAW	BLUE NILE	1	4.3%
GIBAISH	WEST KORDOFAN	1	4.3%
KASSALA	KASSALA	4	17%
HAMSHKOREEP	KASSALA	1	4.3%
ELDAMER	RIVER NILE	1	4.3%
ELDINDIR	SENNAR	1	4.3%
SENIGA	SENNAR	2	9%
REBKONA	UNITY	1	4.3%
KOSTI	WHITE NILE	1	4.3%
LEIRE	UNITY	1	4.3%
RANK	UPPER NILE	1	4.3%
TOTAL SUDAN		23	100

(Table – 11)

COMBATIBLE CASES IN SUDAN BY LOCALITIES FOR YEAR 2005
(OLS NOT INCLUDED)

(

LOCALITIES	STATES	NUMBER OF ACESS	PERCENT %
ELGALABAT	GEDARIF	1	9.1%
ELRAHAD	GEDARIF	1	9.1%
SOUTH GEZIRA	GEZIRA	2	18%
RED SEA	RED SEA	2	18%
DONGOLA	NORTHERN	1	9.1%
KAPKAIBYA	NORTH DARFUR	1	9.1%
NIYALA	SOUTH DARFUR	1	9.1%
SHIARIYA	SOUTH DARFUR	1	9.1%
TALODI	SOUTH ORDOFAN	1	9.1%
TOTAL SUDAN		11	100%

Page - 22

(Table 12)

Finding at follow-up for AFP cases in Sudan for year 2005 (OLS not included)

Res Weakness	No res. Weakness	Lost follow-up	Died before follow-up
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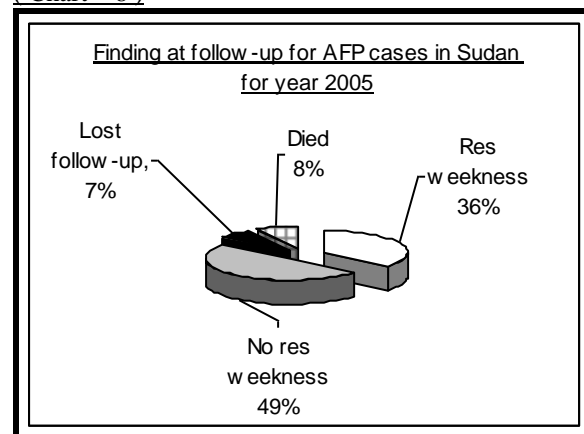
36%	49%	7%	8%
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(Table – 13)

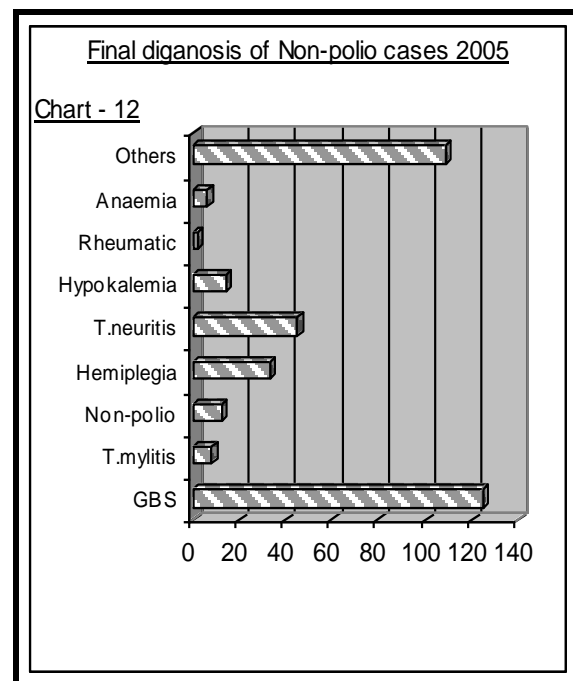
FINAL DIGANOSIS OF DISCARDED AFP CASES IN SUDAN
FOR YEAR 2005(OLS not included)

DIAGNOSIS	NO. OF CASES	PERCENT %
Guillan barre syndrome	125	35%
Transvere mylitis	8	2%
Non-polio enterovirus	10	3%
Ataxia	2	0.6%
Chlorine boising	2	0.6%
Botts disease	1	0.3%
Diarrhieia	1	0.3%
Childhood hemiplegia	20	11%
Complicated malaria	62	18%
CVA	1	0.3%
Diphtheria	1	0.3%
Hypokalemia	13	4%
Meningo encephalitis	37	10%
Dispasic paraplegia	4	1%
Fever	1	0.3%
Rheumatic arthritis	1	0.3%
Rheumatic chorea	1	0.3%
Fibrile convulsion	1	0.3%
Hypotomia	1	0.3%
Sicke cell anaemia	4	1%
Sickle cell Stroke	2	0.6%
Myositis	1	0.3%
Traumatic neuritis	43	12%
Pneumonia	1	0.3%
Post injection	1	0.3%
Quadri plegia	1	0.3%
Spinal cord injuries	1	0.3%
Spinal cord Tumer	1	0.3%
Sydenham chorea	2	0.6%
Upper motor neuron	1	0.3%
Viral myelitis	2	0.6%
Thrombotic hemiplegia	1	0.3%
Total	354	100%

(Chart – 8)



(Chart – 9)

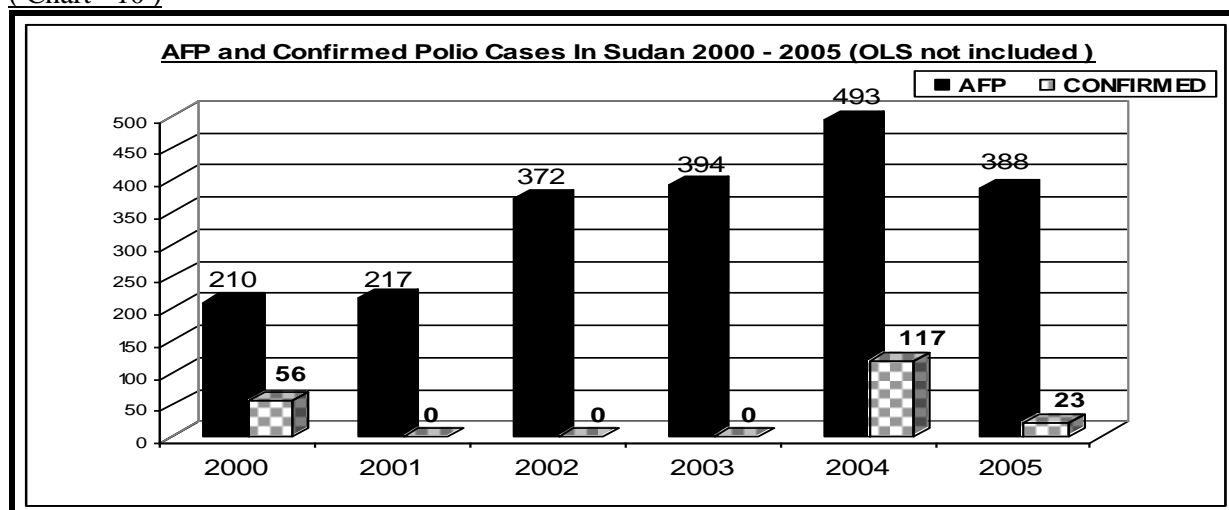


(Table – 14)

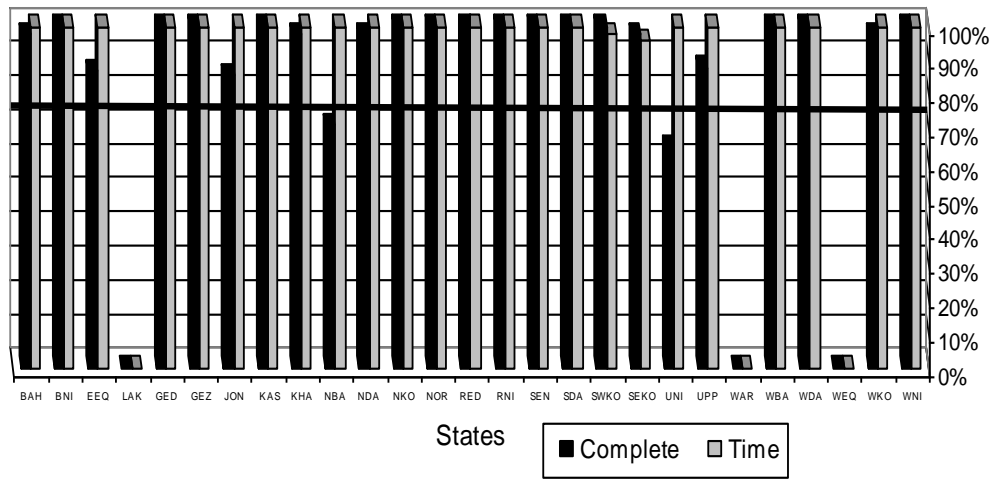
AFP PERFORMANCE INDICATORS IN SUDAN 2000 - 2005

INDICATORS	2000	2001	2002	2003	2004	2005
EXPECTED AFP CASES	134	137	143	143	146	149
REPORTED AFP CASES	210	217	372	394	494	388
CONFIRMED POLIO CASES	56	0	0	0	119	23
CASES WITH WILD POLIOVIRUS ISOLATED	4	0	0	0	119	23
CONFIRMED POLIO CASES BY FOLLOW-UP	34	0	0	0	0	0
COMPATIBLE CASES	0	1	1	1	23	0
CASES LOST FOLLOW-UP	5	0	0	4	0	0
CASES DIED	13	0	0	37	0	0
DISCARDED CASES	154	216	370	393	352	354
TOTAL CASES WITH SPECIMENS COLLECTED	193	215	371	391	490	381
CASES WITH 2 SPECIMENS	187	213	367	388	481	376
CASES WITH 1 SPECIMENS	6	3	4	3	9	5
CASES WITH NO SPECIMENS	17	1	0	3	4	7
TOTAL SPECIMENS COLLECTED	380	429	738	779	971	757
SPECIMENS IN GOOD CONDITION	333	422	738	779	969	757
SPECIMENS IN POOR CONDITION	47	7	0	0	2	0
CASES WITH ADEQUATE SPECIMENS	108	180	332	350	87.6%	88%
SPECIMENS WITH POSITIVE RESULTS	17	24	0	0	203	39
SPECIMENS WITH NEGATIVE RESULTS	363	405	738	779	768	718
AFP CASES INVESTIGATED \leq 48 HOURS	154	204	338	383	99.6%	99%
SPECIMENS ARRIVED LABORATORY \leq 3DAYS OF BEING SEND	161	409	-	99.2%	99.1%	96%
SPECIMENS RESULTS TURN ROUND \leq 28 DAYS	169	309	-	95%	90%	96%
NON-POLIO AFP RATE	1.14	1.6	2.6	2.7	2.4	2.4

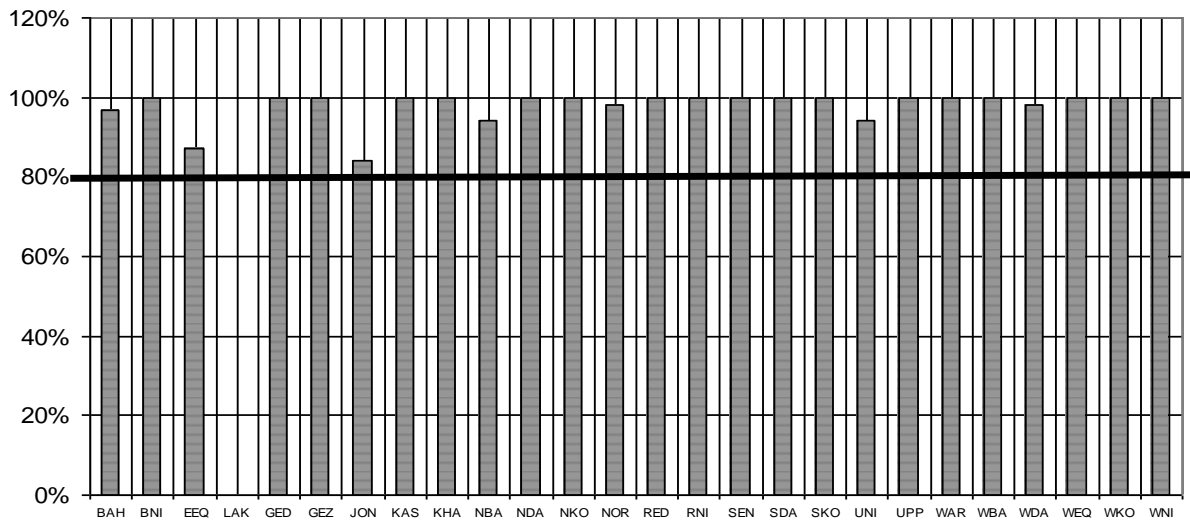
(Chart - 10)



(Chart - 11.) Sudan AFP surveillance Active visits Completeness & Timeliness in high priority sites by states year 2005 (OLS not included)



(Chart - 12) Active search by states year 2005 (OLS not included)



REBUPLIC OF SUDAN
FEDERAL MINISTRY OF HEALTH
EXPANDED PROGRAMME ON IMMUNIZATION

ACUTE FLACCID PARALYSIS (AFP)
SURVEILLANCE CENTRAL UNIT

ANNUAL REPORT 2005

KHARTOUM
MARCH/ 2006

PERFORMANCE INDICATORS OF AFP SURVEILLANCE SYSTEM IN SUDAN BY STATES FOR YEAR 2005
(OLS INCLUDED)

EXE	AFP	ADBO	1*	2*	3*	CO	CO	DIS	Ann
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STATES							4*				ENTERO VIRUS	
BAHR ELGABAL	2	14	86%	93%	100% +ols	100% +ols	100% +ols	1	0	12	7%	6.5
BLUE NILE	3	20	100%	100%	80%	90%	100%	2	0	18	10%	6.0
EAST EQUATORIA	2	11	73%	91%	0.0+ol s	100% +ols	0.0+ol s	0	0	10	9%	5.5
ELBOHYRAT	2	16	69%	88%	0.0+ol s	0.0+ol s	0.0+ol s	0	2	13	25%	8.0
GEDARIF	7	23	91%	100%	74%	96%	100%	5	2	16	9%	2.6
GEZIRA	16	49	88%	98%	88%	97%	96%	0	2	47	13%	3.1
JONGLAI	4	21	71%	90%	0.0	0.0	0.0	0	0	21	23%	5.3
KASSALA	7	37	100%	100%	86%	93%	100%	5	0	32	9%	4.6
KHARTOUM	20	40	95%	100%	100%	100%	95%	1	0	39	13%	2.0
N. BAHR LGAZAL	2	16	81%	100%	0.0%+ ols	0.0+ol s	100% +ols	0	0	13	6%	8.0
NORTH DARFUR	8	23	96%	96%	43%	87%	100%	0	1	22	9%	2.9
N..KORDOFAN	8	23	91%	100%	96%	100%	100%	0	0	23	13%	2.9
NORTHERN	3	6	83%	100%	100%	100%	100%	0	1	5	0.0	2.0
RED SEA	3	15	80%	100%	93%	100%	100%	0	2	13	22%	5.0
RIVER NILE	4	14	64%	100%	93%	100%	100%	1	0	13	27%	3.3
SENNAR	6	16	86%	94%	81%	100%	94%	3	0	13	13%	2.2
SOUTH DARFUR	15	30	73%	97%	50%	96%	100%	0	2	28	13%	2.0
S. KORDOFAN	6	17	71%	100%	79%	100%	100%	0	1	16	12%	2.8
UNITY	1	19	68%	89%	33%+ ols	67%+ ols	100% +ols	6	1	12	17%	13.0
UPPER NILE	2	10	100%	100%	100% +ols	100% +ols	100% +ols	1	0	8	21%	4.5
WARAP	4	13	77%	92%	0.0	100%	0.0	0	0	13	8%	3.3
WEST BAHR ELGAZAL	1	3	100%	100%	100% +ols	100% +ols	100% +ols	0	0	3	0.0	3.0
WEST DARFUR	8	12	92%	100%	17%	100%	100%	0	0	12	8%	1.5
WEST QUATORIA	2	7	71%	100%	0.0+ol s	0.0+ol s	0.0+ol s	0	1	6	14%	3.5
W. KORDOFAN	6	23	83%	95%	65%	100%	100%	1	0	22	10%	3.7
WHITE NILE	7	23	91%	100%	96%	100%	96%	1	0	22	29%	3.1
TOTAL SUDAN	149	501	85%	96%	80%	96%	96%	27	15	452	12%	3.2

1* AFP cases investigated within 48 hours 2* Specimens received LAB. 3 days of being collected

3* Specimens received LAB. 3 days of being sent 4* specimens results received EPI 28 days of being received to LAB.

Cases at OLS pending for classification

