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Pilot Trial of Needle Remover Devices in Eritrea

Effective and safe management of sharps in healthcare activities is a challenge that is being addressed vigorously in WHO/east African countries. Although auto-destructive syringes have been introduced for immunization activities in most health facilities, a good number of lapses in safe injection practices still exist. Some of the lapses observed during evaluations of injection practices include, needle stick injuries, reuse of injection equipment, poorly sterilized injection equipment and poor sharps disposal. Some reports have shown that the consequences of such lapses may lead to various types of infections, such as HIV and hepatitis B.

In order to reduce needle stick injuries, eliminate the reuse of injection equipment and dangers posed by poor sharps disposal, Eritrea conducted a pilot trial to assess the effectiveness and acceptability of needle removal devices (NRD) in containing used sharps. The exercise was conducted in September 2003. The sharps contained included injection equipment, infusion sets, hypodermic needles and lancet blades. Two types of NRD were used; the BALCAN, donated by PATH and the BD 'YELLOW', donated by Becton-Dickinson.

A protocol was developed and training conducted for the health workers on how to use the devices. 2 hospitals, 2 health centers and 5 health stations were randomly selected in Maakel Zone for the trial. Health workers were also supervised during the trial by staff of ministry of health and supported by WHO.

The following were the principal findings

- 1) All the removed needles were effectively contained and shielded from contact with health workers.
- 2) The use of a needle remover did not result in appreciable increase in immunization time following the introduction of the extra step of cutting the sharps before dropping syringes into a puncture-proof box. Chart 1 shows there was only about 4 - 5% time increase compared with non-use of needle cutter
- 3) Health workers judged the devices as user-friendly and effective in facilitating waste disposal by reducing the volume of infectious sharps. 90% of the HW



Figure 1: BD Needle Bud Cutter



Figure 2: Balcan Needle Remover.

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AFP Summary March 2004 Indicators, Timeliness and Completeness

Country	AFP Cases expected	Overall cases found	Classification (NPEC Decision)					Unclassified Cases after 90 days		Stool samples collected within 14 days		Date of last update
			Pending	Discarded.	Compatible	Confirmed	Non Polio Rate	Number	Percent	Number	Percent	
Burundi	31	6	3	3	0	0	0.39	1	16.7	6	100.0	05-Mar
Eritrea	12	5	5	0	0	0	0.00	1	20.0	3	60.0	04-Mar
Ethiopia	323	61	18	43	0	0	0.53	1	1.6	55	90.2	01-Mar
Kenya	148	49	49	0	0	0	0.00	10	20.4	47	95.9	01-Mar
Rwanda	39	21	21	0	0	0	0.00	3	14.3	18	85.7	05-Mar
Tanzania	156	42	42	0	0	0	0.00	5	11.9	37	88.1	06-Mar
Uganda	127	44	19	25	0	0	0.79	1	2.3	40	90.9	03-Mar
Eastern Africa	836	228	157	71	0	0	0.34	22	9.6	206	90.4	

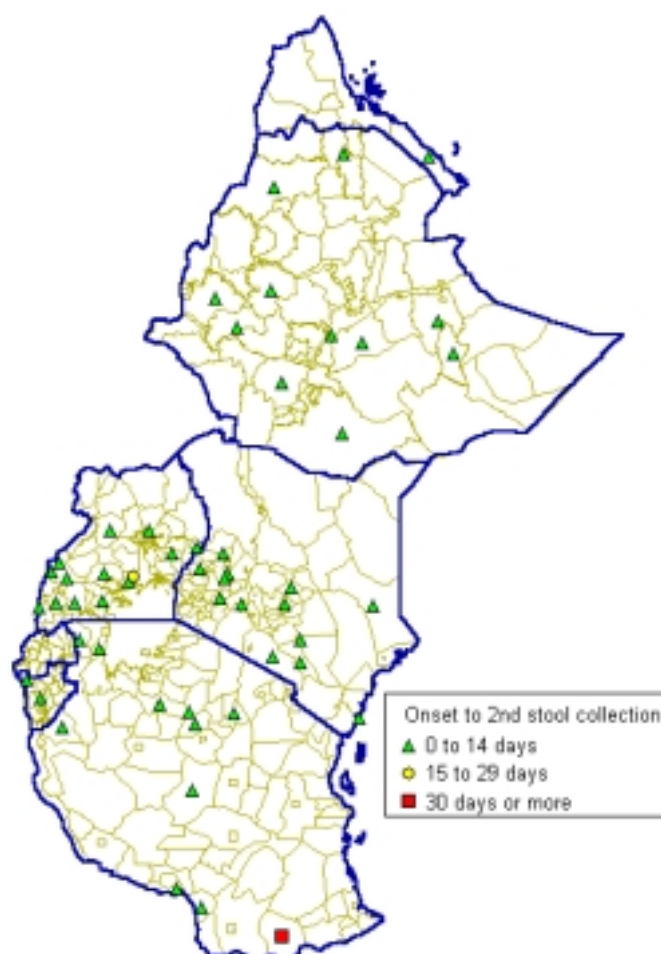
AFP Surveillance March 2004

Acute Flaccid Paralysis (AFP) two stool sample collection in March 2004 is represented on the map on the right. These are stool samples collected from children under 15 years of age in the AFRO EPI Eastern Africa block. A total of 228 cases of AFP were reported in the period with 98.7% (225) of cases having two stool samples while 1.3% (3) of the cases not having two stool samples collected.

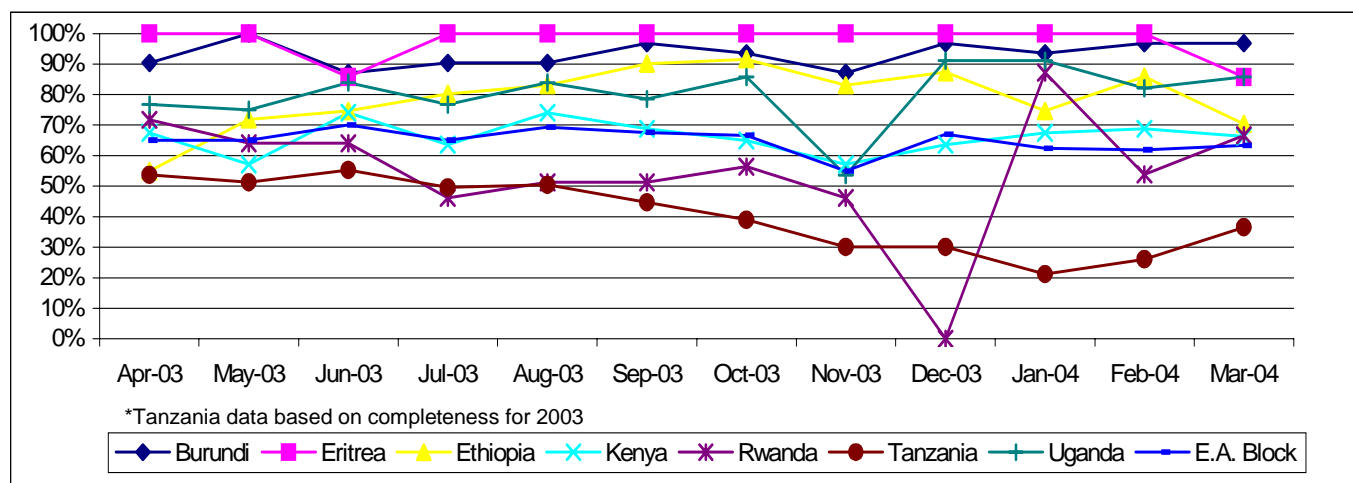
206 (90.4%) AFP cases had two stool samples collected within the required 14 days after onset of paralysis. 9 (3.9%) AFP cases had two stool samples collected between 15 to 29 days after onset of paralysis. 10 (4.4%) AFP cases had their two stool samples collected 30 days or more after onset of paralysis.

By the end of March 2004, Burundi had a timely AFP stool collection rate of 100% within 14 days after onset of paralysis which was the highest in the block. Kenya had a rate of 95.9, Uganda a rate of 90.9, Ethiopia a rate of 90.2%, Tanzania had a rate of 88.1%, Rwanda a rate of 85.7% while Eritrea had a rate of 60% which was the lowest in the block. All the countries except Eritrea achieved certification level (80%) timeliness of stool collection in this month compared to all having achieved in February 2004. The overall timeliness of AFP stool collection rate for the Eastern Africa block was 90.4% which is marginally lower compared to last month's (February 2004) rate of 93.8%.

Eritrea, Kenya, Rwanda, Tanzania and Uganda achieved a computer generated non-polio AFP rate of more than 1 per 100,000 children under the age of 15 years. Non of the seven countries achieved a NPEC computed non-polio AFP rate of more than 1. The discrepancy is due to delay in classification of cases.



Timeliness of routine immunization district reporting (Apr 2003 to Mar 2004)



Hib Sentinel Sites Results, March 2004

Country	Patients with suspected Meningitis	Patients with suspected meningitis who have CSF sample (Target: >80%)		CSF samples having results (Target >90%)		Total culture +ve CSF Samples	Purulent* CSF specimens which show bacterial growth (Target: >20%)			H. Influenza B (Target>20%)		Timeliness	
		n	%	n	%		Purulent CSF	With growth	%	n	%		
Burundi	36	36	100.0%	9	25.0%	1	7	0	0.0%	0	0.0%	66.7	
Eritrea	ND	ND		ND		ND	ND	ND		ND			
Ethiopia	48	33	68.8%	33	100.0%	8	7	7	100.0%	3	37.5%	100.0	
Kenya	148	98	66.2%	98	100.0%	6	1	0	0.0%	0	0.0%	100.0	
Rwanda	44	43	97.7%	43	100.0%	3	4	3	75.0%	0	0.0%	0.0	
Tanzania	92	91	98.9%	91	100.0%	3	2	2	100.0%	0	0.0%	100.0	
Uganda	Lacor	211	211	100.0%	211	100.0%	13	19	13	68.4%	0	0.0%	
	Mbarara	31	31	100.0%	31	100.0%	6	4	2	50.0%	0	0.0%	
	Mulago	399	395	99.0%	395	100.0%	22	22	14	63.6%	0	0.0%	
	TOTAL	641	637	99.4%	637	100.0%	41	45	29	64.4%	0	0.0%	100.0
East Africa	1009	938	93.0%	911	97.1%	62	66	41	62.1%	3	4.8%		

Attained Target
 Not attained Target

Polio Laboratories Results and Performance (March 2004)

LAB	Country	Total Samples Received	AVAILABLE RESULTS		RESULTS						REPORTS WITHIN 28 DAYS		NIV Confirmed Wild Polio samples
			N	%	Negative		Non-Polio entero virus		Unspecified Polio Virus*		N	%	
					N	%	N	%	N	%			
KEMRI	Eritrea	8	6	75.0	6	100.0	0	0.0	0	0.0	6	100.0	0
	Kenya	117	94	80.3	83	88.3	11	11.7	0	0.0	94	100.0	0
	Somalia	30	20	66.7	20	100.0	0	0.0	0	0.0	20	100.0	0
	Sudan	32	28	87.5	28	100.0	0	0.0	0	0.0	28	100.0	0
	SUBTOTAL	189	150	79.4	139	92.7	11	7.3	0	0.0	150	100.0	0
ENRI	Ethiopia	137	113	82.5	105	92.9	8	7.1	0	0.0	113	100.0	0
	SUBTOTAL	137	113	82.5	105	92.9	8	7.1	0	0.0	113	100.0	0
UVRI	Uganda	74	52	70.3	44	84.6	4	7.7	4	7.7	52	100.0	0
	Burundi	14	12	85.7	6	50.0	2	16.7	4	33.3	12	100.0	0
	DR Congo	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
	Rwanda	29	21	72.4	19	90.5	2	9.5	0	0.0	21	100.0	0
	SUBTOTAL	117	85	72.6	69	81.2	8	9.4	8	9.4	85	100.0	0
ZAM UTH	Zambia	52	39	75.0	32	82.1	7	17.9	0	0.0	39	100.0	0
	Tanzania	54	35	64.8	33	94.3	2	5.7	0	0.0	35	100.0	0
	SUBTOTAL	106	74	69.8	65	87.8	9	12.2	0	0.0	74	100.0	0
ALL SAMPLES		549	422	76.9	378	89.6	36	8.5	8	1.9	422	100.0	0



Record of timeliness and completeness of monthly databases shared with WHO by MOHs March 2004

Country	Surveillance Data								Lab Data			Non-Surveillance HIS Data		
	Case-based databases				Malaria	IDS Monthly Summary Database	Timeliness of District IDS	Hib-PBMS sites	Polio Lab	Meas/YF Lab	Bact Lab	Monthly EPI Summary	EPI Database by Antigen by Month	Malaria-IMCI Coverage
	AFP	NT	YF	Measles										
BUU	T	N		N	N	T	T	L		L	N	L	T	N
ERI	T	T		T	N	N	T	N		T	N	T	T	N
ETH	T	N		T	N	T	T	T	T	T	N	T	L	N
KEN	T	T		T	N	N	T	T	T	T	N	T	T	N
RWA	T	N		T	N	T	N	L		N	N	T	T	N
TAN	T	N		T	N	T	N	T		T	T	T	L	N
UGA	T	T		T	N	N	T	T	T	T	N	T	L	N

Bloc summary:

Timeliness	100%	43%	0%	86%	0%	57%	71%	57%	100%	71%	14%	86%	57%	0%
Complete	100%	43%	0%	86%	0%	57%	71%	86%	100%	0%	14%	100%	100%	0%

Pilot Trial of Needle Remover Devices in Eritrea

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rated the devices as 'very good', while the rest 10% considered it as 'excellent'.

- The YELLOW device could not cut off the butterfly IV needle or the larger gauge needles used for blood transfusion.

The separated syringes are considered generally free of any infectious elements and can be disposed by the system of burning or recycling. However, care must be taken in certain cases where blood samples remain in separated syringes. NRDs containing sharps were disposed off in pits as shown in the side picture.

Needle removal devices ensure that sharps are effectively contained and can be safely disposed in risk free pits. The syringes can also be recycled into plastic containers to be reused in the case of the BALKAN device.

Eritrea is already planning to scale-up the trial in all the six zones in the country.

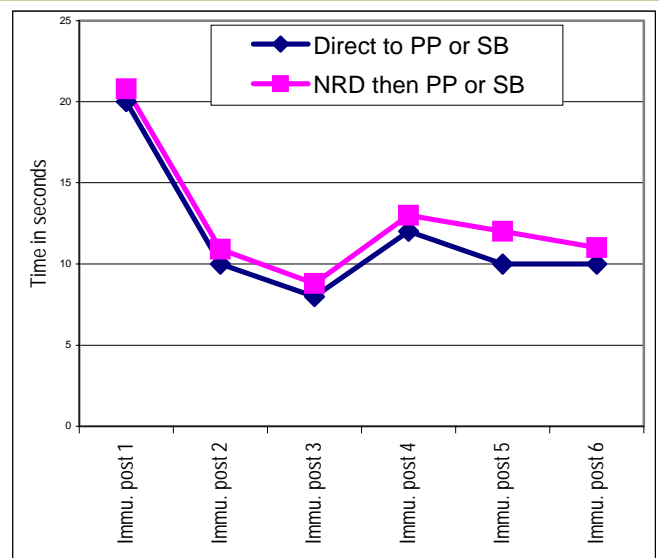


Table 1: Time variation with needle cutter

By Dr. Emmanuel Taylor, ICP EA

This bulletin is produced monthly by the WHO AFRO EPI/ICP office for the E. African Epidemiological block with contribution of HOA & GL CSR Blocks. It is for internal use by the Epidemiological and surveillance teams within the block only as a feedback.