

Republic of Kenya



MINISTRY OF HEALTH



Meningococcal Meningitis Outbreak Report

West Pokot District-Rift Valley province

March-April 2006

1. INTRODUCTION

On 23rd January 2006, the Kenyan ministry of health headquarters received reports of increased number of suspected meningitis cases and deaths in West Pokot district. The affected divisions were mainly Kacheliba, Alale and Kasei that borders the Republic of Uganda to the west where meningococcal meningitis outbreak had been confirmed.

A team comprising members from the Disease Outbreak Management Unit (DOMU) of Ministry of Health, Field Epidemiology and Laboratory Training Program (FELTP), MSF Spain and other local stake holders were sent to the district to investigate the suspected outbreak. The team indeed confirmed that there was an on going meningitis outbreak.

Three Cerebral spinal fluid (CSF) specimen cultures done by district lab grew some colonies that revealed gram negative diplococci. Sero-typing could not be done by the district laboratory technologist at that time due to lack of latex Kit.

While in the field the team from headquarters tested 3 CSF samples which showed the following results:

Name of patient	Age	Date CSF sample tested	Gram stain	Culture	Reaction with Latex kit
K Brenda	11years	13/2/06	Few pus cells	No growth obtained	Not done
Aperingo	60 years	13/2/06	Gram Negative diplococci	Gram Negative collonies	Reaction with <i>Nm A</i> and <i>Nm y/w135</i>
Nancy Jacob	6	13/2/06	Pus cell with Gram Negative diplococci	No growth obtained	Not done

As of 16th February a total of 62 cases of meningococcal meningitis including 15 deaths had been reported (CFR of 24%) in 4 divisions i.e. Kacheliba, Alale, Kasei and Chebareria.

It was on the above basis that the ministry of Health brought on board various stakeholders to plan and implement response activities. The response activities involved strengthening the district on

- Active Surveillance
- Case Management
- Laboratory confirmation
- Public awareness
- Data management
- Emergency immunization of the population at risk
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The National Stakeholders that formed the taskforce included:-

- Ministry of Health
- World Health Organization (WHO)
- MSF – Spain
- Africa Medical Research Foundation (AMREF)

- United Nations Children’s Fund (UNICEF)
- Kenya Red Cross Society
- Centers for Disease Control and prevention (CDC)
- Sight Savers International
- Kenya Army
- KEMRI

2.EPIDEMIC RESPONSE.

2.1 District profile

West Pokot is one of the 19 districts forming the Rift valley Province. It borders the Republic of Uganda to the west, Turkana District to North, Trans-Nzoia District to the South West, Baringo and Marakwet Districts to the East and South East respectively.

Position and size

- The area 9100km²
- Population 379499
- Population<15yrs 184045
- Divisions 10
- Locations 58
- Sub-Locations 188

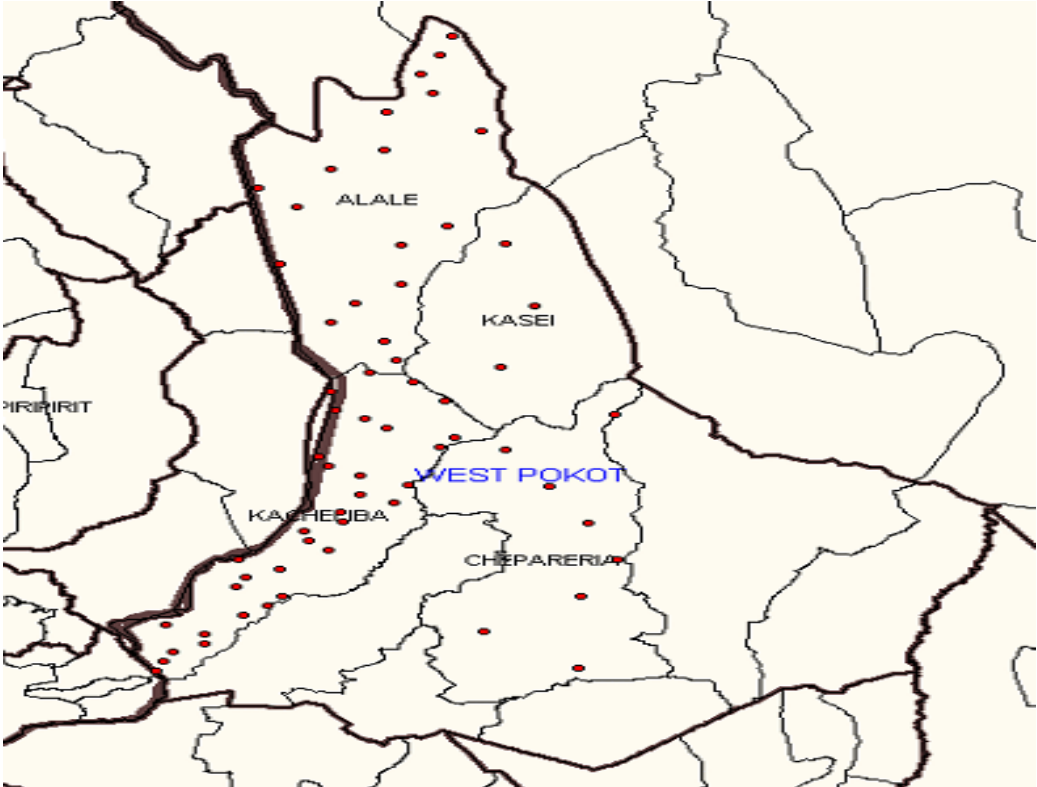
Population size of the divisions that were affected:

Divisions	Projections 2006	Target Population
Alale	36,558	33,816
Kasei	12,166	11,254
Kacheliba	24,820	22,959
Chepararia	84399	78,027
TOTAL	157,943	146,056

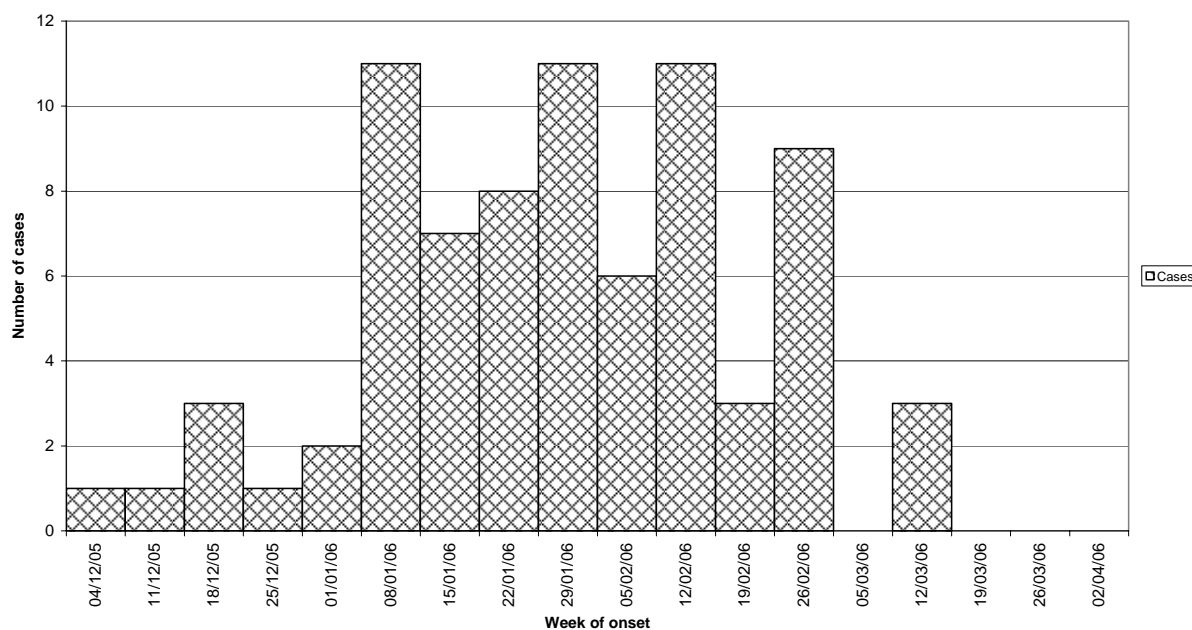
2.2. Reported cases per division affected as of 13th March 2006.

Division	Cases	Deaths	CFR
Alale	21	7	30.0%
Kacheliba	42	5	11.9%
Kasei	4	2	50.0%
Chepareria	9	3	30.0%
TOTAL	76	17	22.67%

Map of W. Pokot showing the affected divisions



Epi-curve for Meningitis outbreak-West Pokot District, 2005-2006



2.3 Interventions.

2.3.1 Laboratory:

- A Lab technologist from Kapenguria district hospital was stationed at Amudat Hospital in Uganda to get CSF from suspected cases from Kenya. Some of the Kenya patients were being treated in Uganda.
- The Laboratory in Kapenguria district hospital was strengthened.
- Trans Isolate media (TIM) was sent from Nairobi. This helped the transportation of CSF specimens.
- A total of 12 CSF specimens were sent to AMREF, Kenya for tests. Among these specimens a pure culture of *Neisseria Meningitidis* was isolated which was serotyped as “X” on latex kit. 12 specimens were sent to a reference laboratory in Cairo Egypt for confirmation.

2.3.2 Surveillance & Epidemiology:

- An outbreak alert, Case definitions and guidelines on how to manage cases were sent to all the health facilities in the district.
- Three teams were formed to focus on the affected divisions at that time. All the teams were sent to the field to actively look for cases in the villages and also from health facility records. Each team was composed of a clinician, Nurse, Public Health person. Each team carried drugs and equipments for treatment and performing Lumbar Punctures (LP).

2.3.3. Case Management & Laboratory:

- The district was supplied with total of 960 vials of Igm Ceftriaxone from KEMSA and MSF. The drug was distributed in health facilities mainly in the

affected areas including the Mission hospitals. Oily chloracphenicol was not available in the country.

- Treatment protocol for Cetriaxone was sent to all health facilities.
- Guidelines on case management were supplied to all health facilities.

2.3.3. Data Management:

There were gaps in data management. The DOMU and FELTP team took time to support the DHMT in data management. Steps taken were;

- Strengthening the reporting of new cases promptly by the facilities
- Updating the line list on daily basis
- Plotting of the EPI curve in order to monitor the trend
- Review of health facilities records to establish the magnitude of the problem

2.3.5. Public Awareness:

District teams formed were all equipped with Public address system in order to create awareness among the community and seek treatment promptly. Assessment showed that the public was aware of the outbreak.

3.0 EMERGENCY IMMUNIZATION



3.1. Trainings

The following trainings were done preparation for mass vaccination.

- HMT/ Divisional co-ordinators and team supervisors training
- Training of Vaccinators and sensitisation of Volunteers

The following table shows the number of trained personnel per divisions

No.	Division	Vaccinators	Volunteers
1	Alale	28	56
2	Kasei	24	32
3	Kacheliba	24	31
4	Chepararia	98	45
	TOTAL	174	164

During the training of the above cadre, mapping of the immunization posts was done and the roles of the vaccinators and volunteers were defined.

3.2 Social mobilization activities

Sensitisation meetings for the chiefs were held in all the divisions as they were recognised to play a critical role in community mobilisation. They committed themselves to support the campaign.

The launch was held on 7th March 2006 at Konyao dispensary and presided over by Dr. Charles Nzioka the head of Division Communicable Diseases Control [DCDC]. In attendance were the Governor Kenya Red Cross Society, the PMO Rift Valley amongst other dignitaries. The materials were comprised of caps, T-shirts, posters, sun visors and hand bills. They were in Kiswahili, English and the local language. The materials were donated by ICRC.

3.3. Vaccines and other logistics

Two hundred thousand (200,000) doses of trivalent vaccines (ACW) and 100 vials of transport media were received from World Health Organization, Geneva through the Kenya country office. The same were immediately dispatched to the district.

UNICEF availed one million two hundred and seventy four thousand

Four hundred and forty nine (1,274,449/=) which was to support vaccination campaigns in Chepareria division. The other divisions were supported by MSF-Spain

3.4 Immunization posts.

No.	Division	Permanent	Temporary	Mobile	Total
1	Alale	3	5	6	14
2	Kasei	8	0	4	12
3	Kacheliba	12	0	2	14
4	Chepareria	45	0	1	46
	TOTAL	68	5	13	86

3.5 Immunization strategies

Immunisations were carried out in permanent, temporary and mobile posts.

3.6 Cold chain equipment

8 freezers, 14 refrigerators, 12 cool boxes, 168 vaccine carriers and 2400 ice packs were used.

3.7 Organisation structure in the district during implementation and personnel involved

The following number of health workers participated in different capacities in the divisions

No.	Division	Divisional coordinator	Team supervisors	Vaccinator	Volunteers
	Alale	1	1	28	56
	Kasei	1	1	24	32
	Kacheliba	1	2	24	31
	Chepareria	1	5	98	45
	TOTAL	4	9	174	164

The DMOH and the DPHN served as the district co-ordinators with distribution of logistics to the divisions and taking care of cold chain issues.

3.8 Transport

The district had the following transport modes per division:

No.	Division	Vehicles
1	Kacheliba, Kasei and Alale	12 and 1 motor bike
2	Chepareria	8
	TOTAL	20

MSF Spain hired a helicopter to ferry vaccinators to the hard to reach areas which was used for two days.

3.9 Coverage

Daily Vaccination by Division

Day	Date	Alale	Kasei	Kacheliba	Chepareria	Total	% Vaccinated
Day One	06/03/06	1245	2273	7037	0	10555	7.2
Day Two	07/03/06	6228	4878	7193	27250	45465	31.1
Day Three	08/03/06	4796	3020	5878	27895	41589	28.4
Day Four	09/03/06	1706	1438	4249	14653	22046	15.1
Day Five	10/03/06	1196	762	3620	13115	18693	12.8
Day Six	11/03/06	1761	547	2478	8698	13488	9.2
Day Seven	12/03/06	1375	167	2525	2533	6600	2.8
Total	18307	13085	32980	94144	158436		
% Vaccinated		54.1	116.3	143.7	120.7		106.7

Overall coverage was 106%. Total number of vaccines used was of 177,550 doses of vaccines were used with a balance of 22,450 doses. This gives wastage of about 19,114 (10%). The

vaccine balances are still with the National Vaccine stores and will expire on October 2006, and therefore, advice is needed advice on their use.

4. CONSTRAINTS

1. Lack of co-ordination between MSF-Spain and the MOH
 - Premature closing of posts without consulting DMOH.
 - Mobilization in Alale was not adequate.
 - Many of the vehicles hired by MSF were not serviceable.
 - Communication with the divisional co-ordinators was poor.
2. Misunderstanding on payments for the vaccinators; whether per Diem or token allowance.
3. Hard to reach areas was not adequately covered as the Helicopter was withdrawn after only 2 days.
4. In Chepareria Division, the health workers and the potters had to walk for long hours before they reach their vaccination posts.

5. WAYFORWARD

1. Active surveillance and case management should be continued for at least 1 Month using the same case definition and treatment protocol.
2. Surveillance of the disease should be intensified mainly during the dry spells.
3. Lumbar puncture and Latex Agglutination tests kits should be available at least in all health facilities.
4. West Pokot District should be targeted for Integrated Disease Surveillance and Response(IDSR)
5. In future, the partners involved in such an outbreak should stick to the recommendations set as team.
6. The vaccine balances to be used

6.CONCLUSION

The exercise was very successful despite all the odds experienced.

We thank all the stakeholders who assisted in the exercise and made it a success.

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