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Introduction

Eritrea is located in the horn of Africa. It is bounded by Sudan to the North and West, Red Sea to the North-East, Ethiopia to the South and Republic of Djibouti to the South-East. The country has a surface area of about 124,000Km2. Administratively, the country is divided into six Zones: Anseba, Debub, Gash Barka, Maekel, Northern Red Sea (NRS) and Southern Red Sea (SRS) and it has 58 sub Zobas. Eritrea as many African countries it has a double burden of communicable and non- communicable disease. In previous times the communicable disease were the number one concern of public health, However, with time the non-communicable disease have become public health importance in Africa including Eritrea. The country has strategies and policies to prevent and control those health problems. Integrated disease surveillance and response (IDSR) is one of the strategies of the disease prevention and control programs.

IDSR (Integrated disease surveillance and response)

IDSR is a strategic approach of the disease prevention and control program. This strategy is the recommendation of the WHO region for Africa which has been adapted by all the member states. As strategic intervention the IDSR program has been evaluated to be cost effective strategy of surveillance. Thus it enables the country to detect outbreaks and the epidemic prone diseases early and responded on time. IDSR has been implemented in Eritrea since 1998. In each and every health facility of Sub Zoba and Zoba of the country there is a focal point responsible for timeliness and completeness of reporting of the diseases and the quality of the data reported from each health facilities. The function of IDSR is detecting, reporting, analysing and interpreting and response. The new IDSR guideline has been adopted in 2012 and its implementation is on progress. In the new IDSR guideline priority disease are communicable and non - communicable disease. The specific categories of IDSR priority disease are epidemic prone disease, disease targeted for eradication and elimination, emerging and re-emerging diseases and other disease of public health importance. The newly updated IDSR guideline has incorporated the implementation of IHR 2005.

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Completeness and Timeliness

There are six Zobas and two referral hospitals which are reporting to the IDSR unit of the MoH. The health facilities have timeliness and completeness guidelines of reporting to the Sub Zoba and Zoba level. Each health facility has to report within five days of the following week in order to be timely. Between 5 - 10 days is late report and if it is more than 10 days it is reported as no report(report missed). The timeliness and completeness of weekly reports is the main surveillance system indicators. All the reporting sites have timeliness above 85% except Gash Barka Zone. However the completeness is above 85% in all the Zones and the referral hospitals. The average timeliness and completeness of the reporting is above 80%.

Table 1: Average timeliness and completeness of the IDSR weekly reports as of third quarter

Zoba	Reporting health facilities	Timeliness (%)	Completeness (%)
Anseba	39	95.5	99.3
Debub	64	93.7	98
Gash -Barka	71	60.6	89.5
Maekel	33	100	99.4
NRS	40	87.4	97.7
SRS	15	88.4	97.3
OPH	1	100	99.2
Halibet	1	100	100
Total	**264**	**91.1**	**97.6**

Disease targeted for eradication and elimination

1. Measles

Measles has been controlled in Eritrea. There is measles surveillance system which collects measles case based samples of each suspected measles where all samples of specimens are sent to laboratory for investigation. Lab investigation is done for measles Igm and rubella .There are two main measles surveillance performance indicators which are suggested by WHO to regularly monitor the quality of measles case based surveillance. These are annualized investigation rate (Target: at least 1 per 100,000 population) and the second indicator is proportion of districts that have reported at least 1 suspected cases of measles with a blood specimen per year, Target: at least 80% of the districts).

To date 97 suspected measles cases has been reported to the measles lab and only 1 case revealed to be positive for measles Igm. There are two zones namely Gash Barka and SRS which have not sent any blood specimen to the central laboratory. There was no measles associated deaths reported from the Zobas of the country. At the national level the measles annualized investigation rate sustained at 1.9/100,000 population which is above the target. (Target≥ 1/100,000). However the second indicator has not been met. Only 4 Zobas have reported blood specimen to the national lab.

Table 2: Measles surveillance performance indicators by Zoba as of third quarter 2014

Zoba	Total Population	Suspected measles reported	Annualized rate of Measles investigation	Lab Confirmed	Epidemiological Linkage	Discarded by Lab	Compatible
Anseba	647,481	25	2.9	0	0	0	0
Debub	1,018,577	20	1.5	1	0	0	0
Gash - Barka	791,528	0	0	0	0	0	0
Maekel	781,521	46	4.4	0	0	0	0
NRS	583,581	6	0.8	0	0	0	0
SRS	96,283	0	0	0	0	0	0
Total	3,918,970	97	1.9	0	0	0	0

2. AFP/Polio

Eritrea has been maintained polio free status since 2005. The last polio virus type 1 seen in the country was in 2005. There is strong case based AFP surveillance and active search surveillance for any suspected polio cases. There are two main indicators which have to be met the criteria of the certification level. These targets are Non-polio AFP detection rate and the stool adequacy rate and target is 2/100,000 population bellow 15 years of age and ≥ 80% respectively.All the sub zobas sends AFP stool specimens to the regional referral lab in Nairobi KEMRI for the laboratory investigation. After getting the lab results follow ups and classification process are done by the NPECC.

As of the third quarter of 2014 a total of 48 suspected cases of AFP were reported from the five Zobas of the country and none of them were positive for polio. The lab results shows all the specimens are negative for polio virus. The level of AFP performance indicators at national level has been maintained with an annualized non-polio AFP detection rate of 4.2 /100,000 population below 15 years of age (target ≥ 2/100,000) and a stool adequacy rate of 100 percept (target ≥ 80%).

Table 3: AFP surveillance performance indicators by Zoba

Zones	Target Pop. <15 Yrs	No. of AFP cases detected	No. of AFP with adequate stool	Annualized NP-AFP Rate	% of adequate stool collection within 14 day of onset of paralysis
Anseba	284,892	8	8	4.21	100
Debub	448,174	10	10	3.35	100
G/barka	348,272	13	13	5.60	100
Maekel	343,869	8	8	3.49	100
NRS	256,776	7	7	4.09	100
SRS	42,364	2	2	7.08	100
Total	1,724,347	48	48	4.18	100

3. MNT

MNT is eliminated from the country. To maintain the status of elimination the cases bases surveillance is on its place and there was no report of any case.

4. Dranculliasis

Eritrea is among the nine countries certified by the International Commission for the Certification of Dracunculiasis Eradication (ICCDE). It has been certified from dranculliasis in 2011. The country is continuing to conduct post certification surveillance that will be maintained until global eradication of dracunculiasis is achieved. The disease was last seen in Eritrea in1969.

Epidemic prone disease

Malaria and Bloody Diarrhoea:

The epidemic prone disease which are reported on weekly bases are based on clinical or lab confirmed cases. Bloody diarrhoea and malaria are among the top ten of the weekly reported disease. The trend of the disease is analyses at all levels for any outbreak or abnormal increases of the disease. At the national level the reported cases of bloody diarrhea and malaria is 18607 and 10560 respectively. The trend of the two disease analysed by epidemiological week versus the threshold shows that the reported cases for the current year have crossed the threshold line in some weeks. The threshold line is the average of the previous five years weekly reports. There was no report of any outbreak for the epidemic prone disease in the quarter of the year however all the necessary responses were taken place to respond the increase of the cases.

Figure 1:

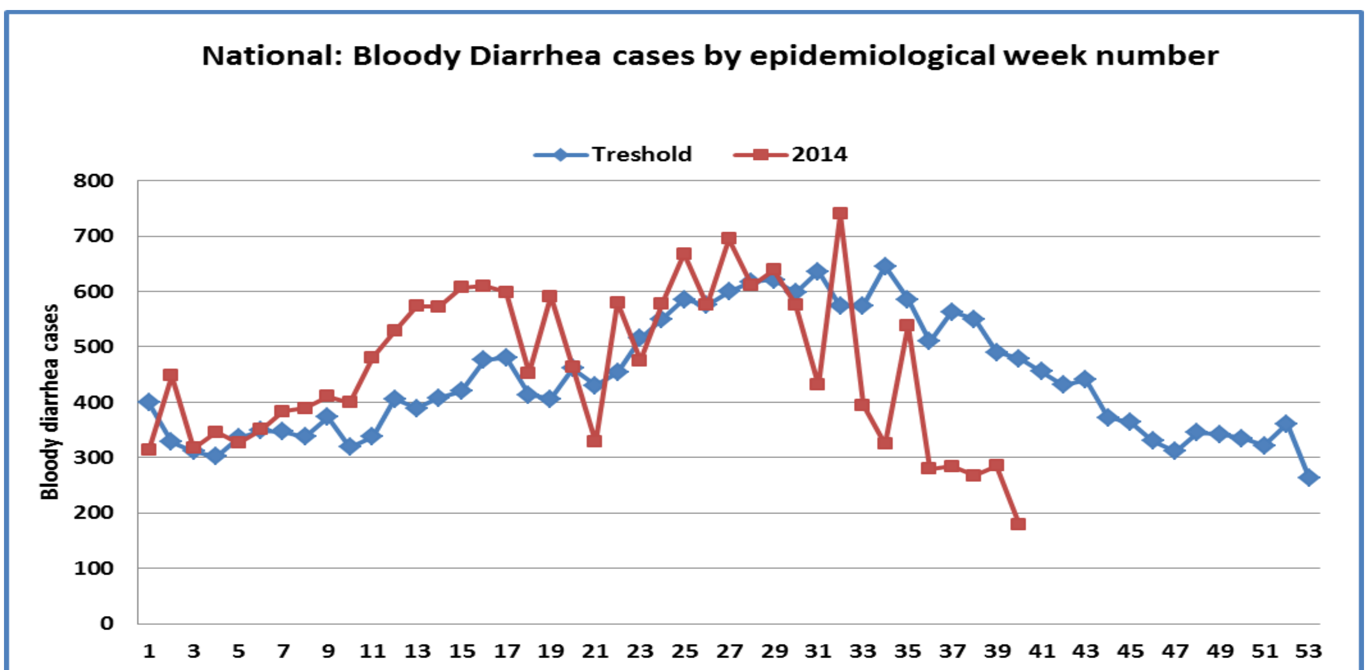
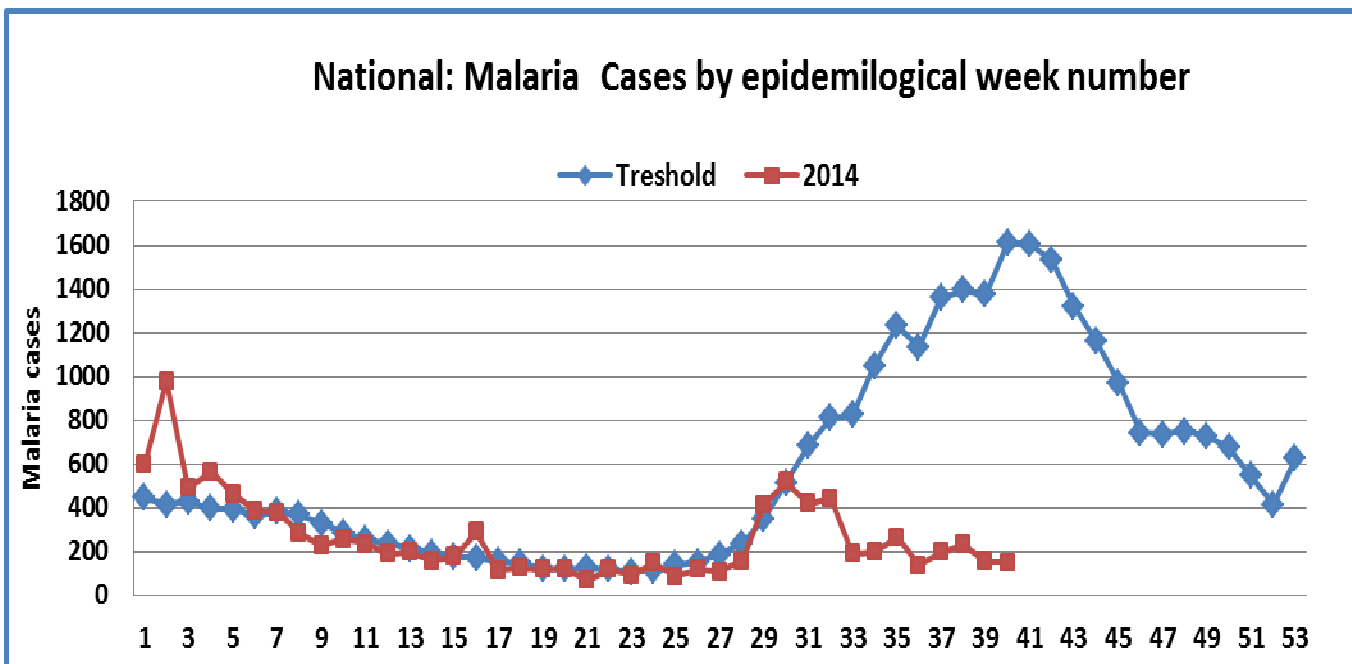


Figure 2:



Emerging and re-emerging disease:

1. Haemorrhagic fever

There was no report of suspected or confirmed cases of the hemorrhagic fever.

2. Influenza like illness

There was zero report of suspected cases for the influenza like illness

3. Dengue fever

Dengue fever, Hemorrhagic and Ebola, plague and avian flue are all under the weekly surveillance. Dengue fever has been reported from all the Zobas and the number of cases has been increasing from previous years and also its distribution has been in all the zobas of the country. The weekly reports for the other emerging and re-emerging disease which are under the weekly surveillance zero report as of the 3rd quarter of the year. The trend of weekly dengue fever report versus the average reports of the previous years is displayed in the line graph (Figure 3). The trend shows abnormal increase of the dengue fever cases in the week numbers 18-32 and it declined in the weeks 33 onwards. However, there was no outbreak reports of dengue.

Figure 2:

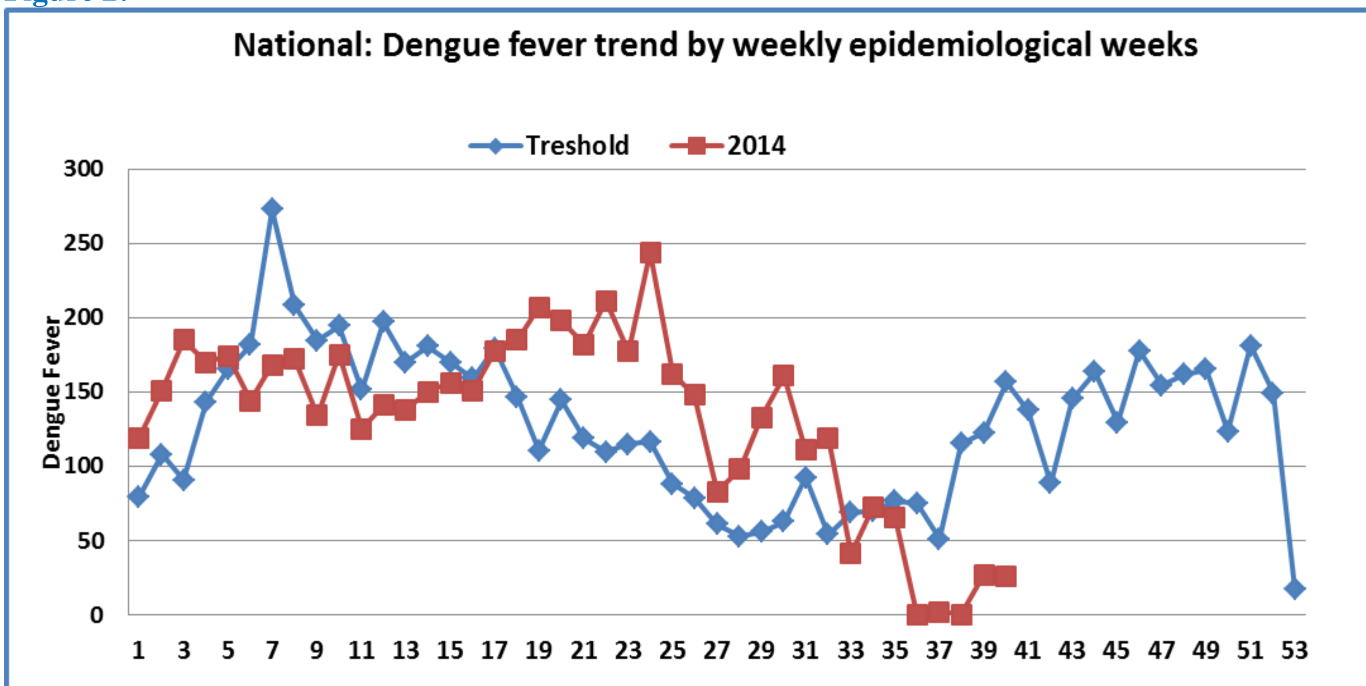


Table 3: The weekly cumulative number of epidemic prone diseases and the emerging and re-emerging disease as third quarter the year

Weekly reported Diseases	Anseba	Debub	G/Barka	Halibet hospital	Maekel	NRS	Orrota Pediatrics Hospital	SRS	Total
Bloody diarrhea	3472	3625	3611	287	4551	3240	388	213	19387
Malaria	1348	2987	5251	34	314	429	156	41	10560
Dengue fever	333	20	1654	49	28	4199	1	361	6645
Meningitis	0	0	0	0	0	0	0	0	0
Cholera	0	0	0	0	0	0	0	0	0
Dengue fever	0	0	0	0	0	0	0	0	0
Plague cases	0	0	0	0	0	0	0	0	0
Haemorrhagic Including ebola	0	0	0	0	0	0	0	0	0
Influenza like illness	0	0	0	0	0	0	0	0	0
Yellow fever	0	0	0	0	0	0	0	0	0

Remarks

- Timeliness and completeness of the IDSR reportingat national level is above 90%.
- The main surveillance quality indicators for the disease under eradication and elimination are above the target.
- There was crossing of the threshold for the epidemic prone disease in some of the. epidemiological weeks necessary actions were taken at sub zoba and zoba level.
- The number of suspected Dengue fever is increasing with wider distribution.
- No outbreak reported during the third quarter.