Addis Ababa University College of public health science school of public health

Ethiopia Field Epidemiology Training Program (EFELP)

Compiled Body of Works in Field Epidemiology

By

Zemedkn Astatke Chekole

Submitted to the School of Graduate Studies of Addis Ababa University in Partial Fulfillment for the Degree of Master of Public Health in Field Epidemiology

May 2016

Addis Ababa Ethiopia

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Addis Ababa University

Approval by Examining Board

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Examiner

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Examiner

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Acronyms

AAU	Addis Ababa University
ACS	Active Case Search
ADIS	Acquired Immune Deficiency Syndrome
AFI	Acute Febrile Illness
AFP	Acute Flaccid Paralysis
AR	Attack Rate
ART	Anti Retroviral Treatment
AURTI	Acute Upper Respiratory Tract Infection
CDC	Communicable Disease Controls
CFR	Case Fatality Rate
CSA	Central Statistical Agency
E.P.H.A	Ethiopian Public Health Association
EFELTP	Ethiopia Filed Epidemiology and Laboratory Program
EFRMOH	Ethiopian Federal Republic Ministry of Health
EPHA	Ethiopian Public Health Association
EPHI	Ethiopian Public Health Incaution
EPY	Ethiopian Physical Year
FMOH	Federal Minister of Health
FP	Family Planning
GAVI	Global Alliance for Vaccines & Immunization
GC	Gregorian Calendar
GIBS	Gulian Bare Syndromes
GPEI	Global Polio Eradication Initiative
GVAP	Global Vaccine Action Plan
H.C	Health Center
HIT	Health Information Technology
HIV	Human Immune Viruses
HMIS	Health Management Information System
HOSP	Hospital
HP	Health Post
IGM	Immune Globulin M
IPV	Inactivated Polio Vaccine
IPV	Inactivated Polio Vaccine
KAP	Knowledge Attitude & Practice
MCH	Mother And Child Health
NGO	Non Governmental Organization

NPAFP	None Polio Acute Flaccid Paralysis
ODF	Open Defecation Free
OPD	Outpatient Department
OPV	Oral Polio Vaccine
PHEM	Public Health Emergency Management
PHCU	Primary Health Care Unite
PHEM	Public Health Emergency Management
PHF	Privet Health Facility
RH	Reproductive Health
SAM	Sever Acute Malnutrition
SIA	Supplementary Immunization Activity
SNNPR	Southern Nation And Nationality People Region
SPH	School of Public Health
TB	Tuberculosis
UNICEF	United Nation International Child Emergency Fund
VDPV	Vaccine Derived Polio Virus
URTI	Upper Respiratory Tract Infection
W.H.O	World Health Organization
WOHO	Woreda Health Office

Acknowledgement

First of all I would like to say thanks from my heart to the almighty God then My heartfelt gratitude goes to my mentors; Dr. Wakgari Deresaa and Mr. Afework Tamiru for the constructive and valuable suggestions and comments given to me.

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Executive Summary

The Ethiopian Field Epidemiology Training Program is a two-year postgraduate training program. The training is provided in collaboration with Addis Ababa University, School of Public Health, Ministry of Health and Ethiopian Public Health Association. The program designed to work 75% of the time in service and 25% theory. For the partial fulfillment of Master's in Public Health in Field Epidemiology, within two years residency period the residents should conduct outbreak investigation, surveillance data analysis, surveillance system evaluation, health profile, manuscript and disaster report. Accordingly, I stayed as a resident at the Addis Ababa University, Field Epidemiology Training Program, School of Public Health, Oromia field base from October 2014 to June 2016. During My stay I Conducted; two outbreak investigations, one surveillance data analysis, one surveillance system evaluation, one Woreda health profile data description, two abstracts for scientific conference, two research proposals and Ebola Viral Hemorrhagic Disease screening at bole air port & three moths AWD prevention at Moyale district of Borena Zone Oromia. The Detail of Body of Work is organized in nine chapters as follows

Chapter One Outbreak Investigation

Measles Outbreak investigation and response in Chinaksen District East Hareghe zone of Oromia , Feb 14-March 01 /2015

Abstract

Introduction

Measles is an acute highly contagious viral disease. The sign and symptom of the disease includes Fever with maculo popular rash, one of the conjunctivitis, coryza (runny nose), and cough. Especially it is highly communicable during the first 8 days which is 4 days before rash and 4 days after rash. It affects mostly children and all people is susceptible unless develop immunity the virus is transmitted via droplets from the nose, mouth or throat of infected persons through coughing, sneezing or close personal contact or direct contact with infected secretions. Measles is a leading vaccine preventable contagious infectious disease caused by a paramyxovirus of the genus Morbilli.

Methods

By WHO standard case definition defined a confirmed Measles case as an illness characterized by acute onset of generalized maculopapular rash, fever, arthralgia, lymphadenopathy, conjunctivitis including Lab result update serum test result 2015 for Measles immunoglobulin M (IgM) antibody in the blood specimen already collected from cases (7) samples for laboratory confirmation. We conducted un-matched case control study to identify possible risk factors and mode of transmission.

Result

A total of 171 (95 %) of mother, 7 (3.9 %) father and 2 (1.1) controls introduced to interview the data interred and analyzed by excel sheet and eip-info 7 .A total of 5 blood samples were taken to lab exam 3 case are IGM positive which indicates there in confirmed measles epidemic in the woreda.

Conclusion

Lack of accessibility to routine vaccination and loss potency of vaccination cold chain contributes the more for epidemic and unvaccinated children accumulate in the area throughout many yeas leads to lack of heard immunity.

Key Words Measles, measles outbreak “HABAFATU”

Measles Outbreak investigation and response in Chinaksen District East Hareghe zone of Oromia Region, Feb 14-March 01 /2015

Introduction

Measles is an acute highly contagious viral disease. The sign and symptom of the disease includes Fever with maculo popular rash, one of the conjunctivitis, coryza (runny nose), and cough. Especially it is highly communicable during the first 8 days which is 4 days before rash and 4 days after rash. It affects mostly children and all people is susceptible unless develop immunity the virus is transmitted via droplets from the nose, mouth or throat of infected persons through coughing, sneezing or close personal contact or direct contact with infected secretions. Measles is a leading vaccine preventable contagious infectious disease caused by a paramyxovirus of the genus Morbilli .According to W.H.O it has four main supported strategy for its prevention. It has effective prevention strategy like strong routine immunization greater than 90 % coverage, providing second opportunity for measles vaccination; intensified case based surveillance & improved case management. Since Measles virus has no animal reservoir if country stick to the strategy elimination of the case and minimizing human catastrophe and minimizing the expense of resource possible (1) Measles is an extremely contagious and remains a common disease and major contributor to child-mortality worldwide and kills approximately 1-3 of every 1000 infected individuals. An estimated 10 million cases and 164,000 deaths from measles occur worldwide each year.

During the 12-month period from October 2014 to September 2015, 4 202 cases were reported by 30 EU/EEA countries. Twenty-five countries reported consistently throughout this period. Germany accounted for 62.6% of the cases reported during this period. Measles is targeted for elimination in Europe. In 12 of the countries reporting consistently, the measles notification rate was less than the elimination target of one case per million populations, including seven countries which reported zero cases during the 12-month period. Thirteen consistently reporting countries had a notification rate above this target, the highest reported by Croatia (50.4 cases per million). The diagnosis of measles was confirmed by positive laboratory results (serology, virus detection or isolation) in 65.7% of all cases. Study on Europe revels that of all cases, 88.7% had a known vaccination status, with 74.7% of all cases reported as unvaccinated. In the target group for routine childhood MMR vaccination (1–4-year-old children), 77.0% of all cases were

unvaccinated. One measles-related death was reported during the period October 2014–September 2015, and six cases were complicated by acute measles encephalitis. In 2014, 16 EU/EEA countries were above the measles vaccination coverage target of 95% for the first dose and six countries were above this target for the second dose. Coverage of 95% in both the first and the second dose is necessary to achieve the level of population immunity required to interrupt endemic transmission. Fourteen countries have coverage rates of <95% for the first dose and 20 countries for the second dose.

Since the previous report, no new outbreaks of measles have been detected in Europe. The outbreaks in Alsace, France and Berlin, Germany are over. Outside of Europe, large outbreaks have been reported in Mongolia, China, the Democratic Republic of Congo (DRC), Sudan and Kazakhstan, while smaller outbreaks have also been reported in Africa, Asia and the Americas. (11-14)

Back ground

Measles is an extremely contagious and remains a common disease and major contributor to child-mortality worldwide and kills approximately 1-3 of every 1000 infected individuals. An estimated 10 million cases and 164,000 deaths from measles occur worldwide each year. (1-3)

During the 12-month period from October 2014 to September 2015, 4 202 cases were reported by 30 EU/EEA countries. Twenty-five countries reported consistently throughout this period. Germany accounted for 62.6% of the cases reported during this period. Measles is targeted for elimination in Europe. In 12 of the countries reporting consistently, the measles notification rate was less than the elimination target of one case per million populations, including seven countries which reported zero cases during the 12-month period. (11-14)

East hareghe heath office also inform regional health office as a roumer case later on by line listing the outbreak is still ongoing with approximately 46 measles cases and 4 measles-associated community deaths reported. Cases have been reported in both children and young adults. Last year at this time no measles cases had been reported from the district.

Chinaksen is one of the 22 woreda in East Hararge zonal administration which found in remote area nearby jijiga Ethiosomali regon the district has 3 urban and 48 rural kebeles. It has 109398 total populations and bordered by Somali region in East and North,Gursum district in south and Jarso woreda and Dire Dawa Administration council in West.

General objective

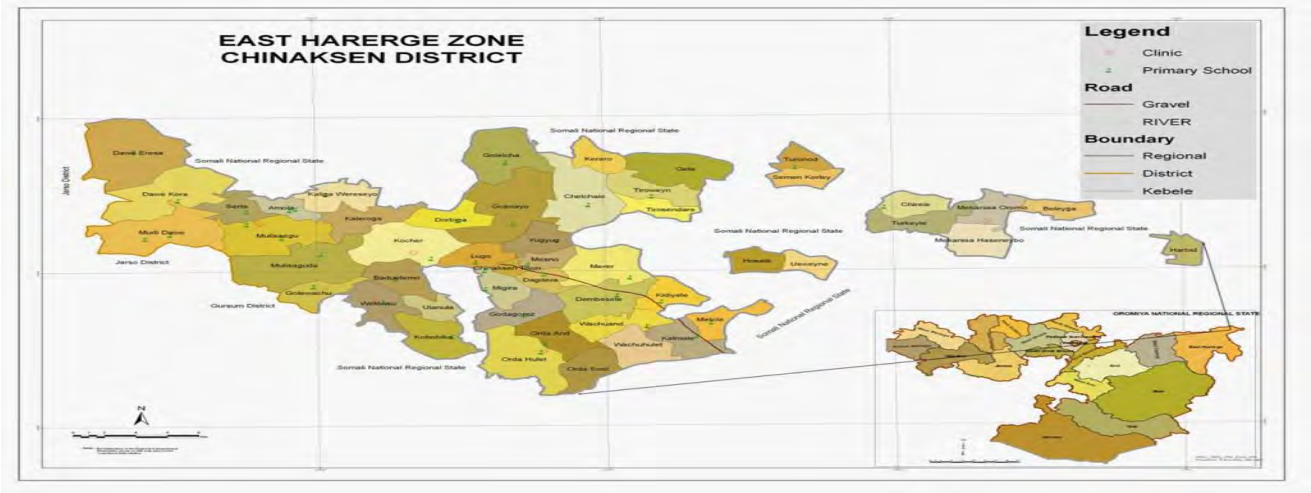
- To describe Measles outbreak burden and identify risk factors associated with measles outbreak for the control and prevention of future outbreak in Cinaksen district of East Hareghe zone Oromia region.

Specific objective

- To verify the reported outbreak from Chinaksen district
- To Describe the occurrence of the outbreak by time, place and person
- To identify the risk factors associated with measles outbreaks
- To propose control measures against Measles transmission.

Study area and period

The investigation was carried out from March 14-April 15/2015 in Chinaksen district of East Haerghe Zone, which is located about 470 km from Addis Ababa Capital city of Ethiopia woreda population is estimated to be 109398 (9) The district is surrounded by Ethiosomali region at list all affected kebles assessed for the cases .district EPI activity, vaccine & cold chain condition with health worker knowledge assessed respectively.



Map 1:- Chinaksen District of East harerge Zone,oromia

Study Design:-

Unmatched 1:2 case control study design was used. A total of 60 cases and 120 controls selected.

Source population

People reside in chinaksen district of East hareghe zone of ormia regional state

Study Population:-

Study population of the investigation was all measles cases in Chinaksen district and fulfills the standard case definition the control selected when they are not diseased.

Sample size & Samples size procedure

Un-matched case-control study in the ratio of 1:2 (60case and 120 controls) was conducted to describe potential household's risk factors for infection.

Data collection Methods

Structured questionnaire was used in order to collect basic epidemiological information: symptoms, date of onset of disease, medical care, and age group affected, Religion of the family, vaccination history of the case & control. The cases are selected by their general history of case definition while the control selected by their exposure but not have the history of measles sigh and symptom relatively not caught by this disease.

Data quality

Line listing & district health profile is used for describing measles cases in terms of time, place and person. However, all data were checked for completeness before the entry and analysis

Operational definition:-

Clinically-confirmed cases: Any person meeting the clinical case definition of suspected measles who lacks laboratory-confirmation and evidence of epidemiologic linkage to another confirmed measles case.

EPI link: An epidemiologically-linked measles case is a patient who meets the clinical case definition and has direct contact with another laboratory-confirmed measles case whose rash onset was within the preceding 21 days. In settings where contact tracing is not routinely conducted, epidemiological linkage can be ascribed if the suspected case lives in the same district or adjacent districts where a measles outbreak has been laboratory confirmed and transmission is plausible.

Lab confirmed cases: A case that meets the clinical case definition and has laboratory-confirmation of Measles virus infection

Index Cases the first which comes to the attention of health worker or the community.

Measles-related death is a death in an individual with confirmed (clinically, laboratory, or epidemiologically) measles in which death occurs within 30 days of rash onset and is not due to other unrelated causes.

Data processing and analysis:-

The data was descriptive and analytic stud is used the data interred & cleaned analyzed using Excl & Epi-Info version 7.1

Ethical Consideration

Written ethical clearance was obtained from the respective zone and district. Oral consent from the study participants identified and confidentiality assured and no personal details was recorded or produced on this documentation. Not shared unnecessarily for third parties.

Dissemination of the result

There was meeting to debrief the finding of the investigation to the district, Zone and region. Written report of the investigation was submitted to the region, resident advisor and to the EFELTP program coordinator of Addis Ababa University step by step.

Result

According to district health office PHEM case team the index case was seen 1/5/2007 but practically there were a lot of case and roumer deaths in chinaxcen 02 kebele which is not reported early by Health center. After the heath center report to the district health office and the starts of case control study a total of 178 case and 4 deaths reported to zone and region as well. The CFR was 2.24% and the, the attack rate of the case was 1.7 per 1000 population and the mean age was 59.3 months while the minimum age is six months and the maximum age was 240 months the vaccination status of the cases was no vaccination received cases 140 (76.9 %) while only One dose vaccinated cases was 38 (20.9) and their vaccination was not known cases are 4 (2.2 %). From visited health facility Ambero kebele 60 (34%) and 02 kebele were More affected 46 (25%) with cases and 2 deaths. Daily reporting of cases were not in place due to network and under functionality of the existing surveillance system epi curve of line listed cases not done but as strength daily review meeting was there for decision making purpose.

A total number of 60 cases who fulfilled standard case definition for measles and healthy 120 controls included for study. A total of 171 (95 %) of mother, 7 (3.9 %) father and 2 (1.1) controls introduced to interview. A total of 5 blood samples were taken to EPHI 3 case are IGM positive which indicates there in confirmed measles epidemic in the district.

Descriptive epidemiology

A total of 60 suspected measles cases and 120 relatively healthy control and fulfill standard case definition were identified from February 14-01/03/2015. Out of total cases 31(51.7%) were in male with the mean age of 59.5 months (range from 6 month to240 months) and. Median age of case and control were 48 months

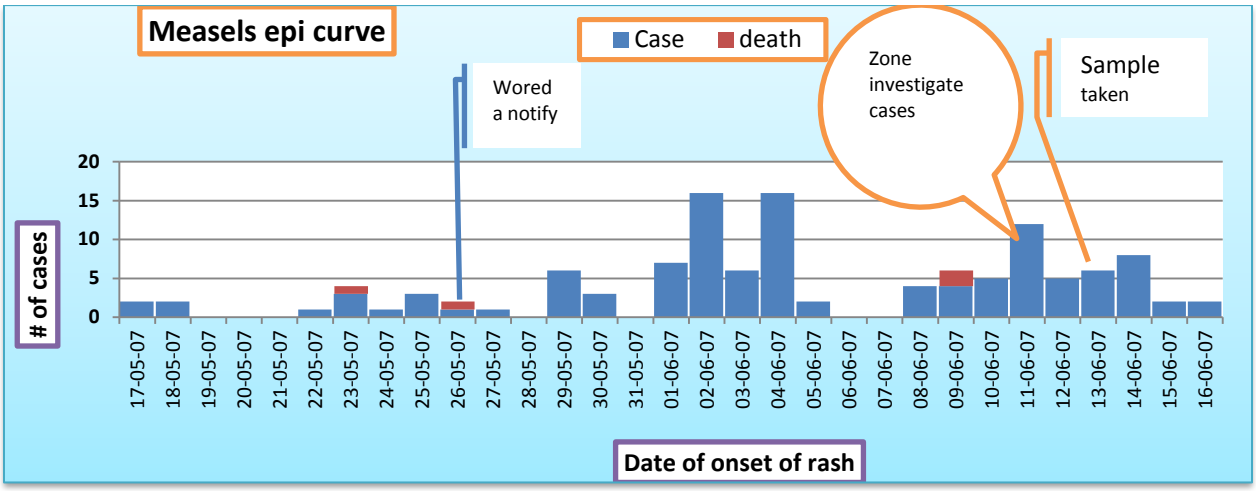


Figure 1:-Distribution of measles case by date of onset chinaxsen district 2015

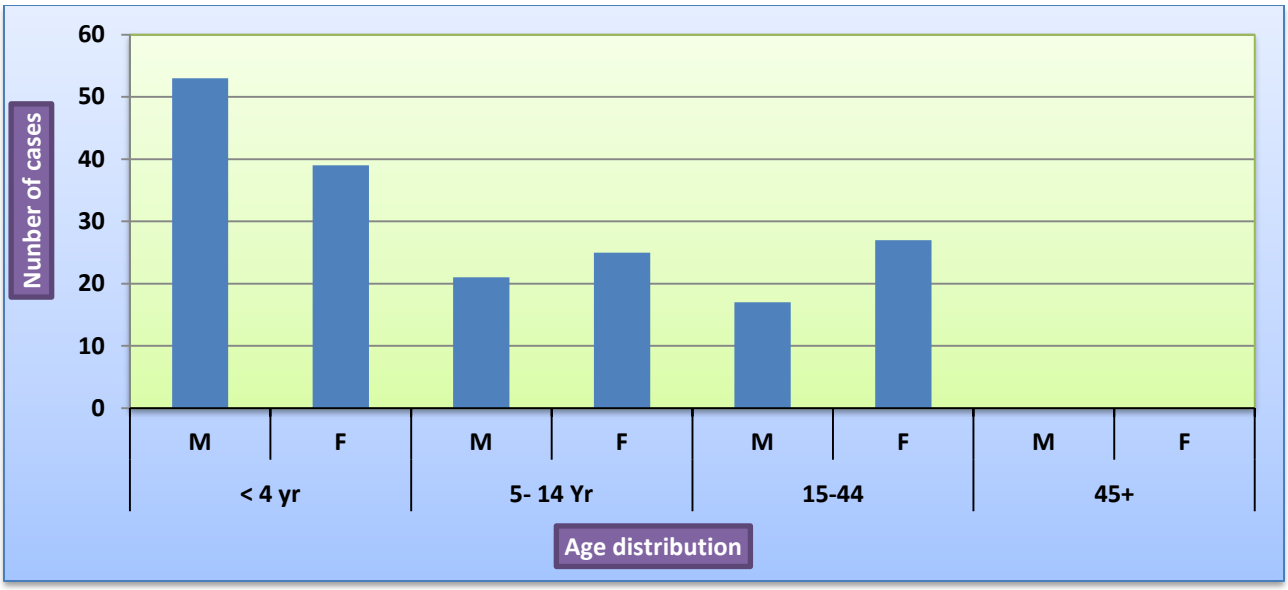


Figure 2:-Distribution of measles case by age and sex chinaksen District 2015

From a total of 182 cases line listed by district health office before the investigation the majority case were under five children male 39(29%) and female 39(21%) the other were age 5-14 years 46(25%) , age 15-44 were 44 (24%) and there were no cases registered above 44 years old regarding their vaccination a child who receive one dos were 38(21%),their vaccination status were not known 4(2.2%) and with zero dose were 140(77%) respectively.

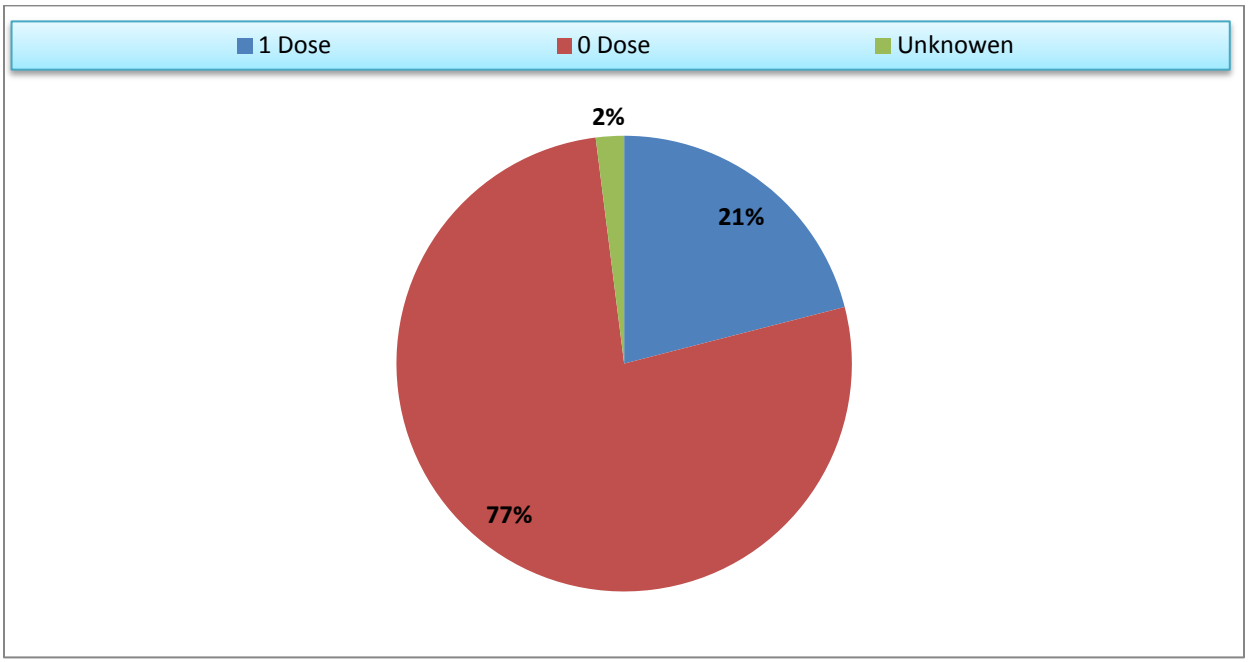


Figure 3:-Distribution of measles case by vaccination status 2015

Table 1:- Chinaxsen district measles case by kebele 2015

NO	Kebele	No of Cases	No of Deaths	Specimen Taken	Vaccin given
1	Ambero 1	2	0	0	1
2	Ambero 2	3	1	0	4
3	B. elemo	2	0	0	0
4	Cinaxsen 01	7	0	0	4
5	Cin 02	46	2	3	6
6	Cin 03	17	1	0	0
7	Dembesle	7	0	0	4
8	Hosale	5	0	0	3
9	Lugo	16	0	1	0
10	Turanod	3	0	0	1
11	Ulanula	3	0	0	0
12	Usweyne	7	0	0	1
13	Welensu	60	0	3	14
	Total	178	4	7	38

Table 2:-Cases & death in chinaxen district 2015

NO	Kebele	No of Cases	No of Deaths	CFR
1	Ambero 1	2	0	
2	Ambero 2	3	1	33
3	B. elemo	2	0	
4	Cinaxsen 01	7	0	
5	Cin 02	46	2	4
6	Cin 03	17	1	6
7	Dembesle	7	0	
8	Hosale	5	0	
9	Lugo	16	0	
10	Turanod	3	0	
11	Ulanula	3	0	
12	Usweyne	7	0	
13	Welensu	60	0	
	Total	178	4	2

The Case fatality rate accounts 4 (2.2%) of the total cases which i received by line list from woreda health office. Ambero 60 (34%) and 02 kebele were More affected 46 (25%) with cases and 2 deaths. Daily reporting of cases were not in place due to network and under functionality of the existing surveillance system so proper epi curve not done but as strength daily review meeting was there for decision making purpose.

Analytic Epidemiology

A total of 60 measles cases and 120 apparently healthy controls were included into this study. The mean age of cases and controls were 81.6 and 48 months respectively. The median age of cases and controls were 60 & 48months respectively (ranging from 6 months up to 20 years). Among sixty cases interviewed thirty one (51.67%) was male and twenty nine (48.33%) were female. The most reported symptoms were macula-papular rash, fever, red eyes, cough in 52(86.7%), coreza 55(91.7%) and the least was read eye 35(58.3%). The major complications reported were diarrhea 59 (65%), pneumonia 50(55%), change of vision 4(6.7%), Convulsion 1(1.7%) ear infection 9 (15%), and none of them developed blindness. Out of the total 60 cases interviewed thirty five (58.3%) visited health facility for medical treatment.

In bi-variate analysis, having contact with known measles cases [OR=6.7; 95% CI (1.8,26), P=0.027], travel history during epidemic to first known sits with disease [OR=5.6; 95% CI (3,12), P=0.0001], Children moderately Malnourished their MUAC 11-12 (Middle Upper Arm Circumference) was significant risk factors to contribute their illness [(OR)=2.6; 95% CI (1.3,5.5), P=0.012], regarding the accessibility of the service respondent who travels maximum 3 hours to health facility was lost the exact schedule of measles vaccination [OR= 17.8; 95% CI [8.1,39] P= 0.000] , In Multivariat analysis; all factors that have been significantly associated with the presence of measles illness by the bi-variate analysis remained independently associated with contracting measles disease were seen for association. Distances traveling more than 3 hour per session were significantly associated Yea/No AOR 17 with 95% CI [7, 44].

Table 3:-Socio demographic characterstic cases & control in chinaxen district 2015

Variable	Cases (%) n= 60	Controls (%) n=120
Age in Month	Mean =81.7	44.2
	Mode =60	48
	Minimum =6	8
	Maximum =240	48
Sex	Male = 31 (51.67	58 (48.33)
	Female = 29 (48.33)	62 (51.67)
Ethnicity	Oromo = 57 (95)	119 (99)
	Other = 3(5)	1 (1)
Religion	Muslim = 58 (96.7)	176 (98.3)
	Others = 2 (3.3)	4 (1.7)
Vaccination status	vaccinated = 19 (31.7)	59 (49.1)
	Not Vaccinated = 41 (68.3)	61 (50.9)

Table 4:-Identified risk factors for measles case in chinaxen district 2015

Variable	Cases (%) n=60	Controls (%) n=20	OR [95%CI]	P-value
Mod/ malnourished (MUAC 11-12) CM	Yes = 21 (35)	20 (16.7)	2.6 [1.3,5.5]	0.005*
	No = 39 (65)	100 (83.3)		
Vaccination status	Yes = 19 (31.7)	45 (31.5	0.77 [0.4,1.5]	0.027*
	No = 41 (68.3)	75 (62.5)		
Contact with patient with In 1-3 wks	Yes = 9 (5)	3 (2.5)	6.7 [1.8,26]	0.002*
	No = 51 (85)	117 (97.3)		
Travel Hx with in 1 month period	Yes 48 (86)	50 (41.7)	5.6 [3,12]	0.0001*
	No = 12 (20)	70 (58.3)		
Go to school during 1 month period	Y = 26 (43.3)	34 (28.3)	1.9 [1,3.7]	0.003*
	No = 34 (56.7)	86 (71.7)		
Distance from H/facility > 3hr	Yes = 48 (80)	22 (18.3)	17.8 [8.1,39]	0.000*
	No = 22 (20)	98 (83.3)		
Is measles prevented by vaccination	Yes = 28 (46.7)	100 (83.3)	0.2 [0.1,0.4]	0.00005
	No = 32 (51.3)	20 (16.7)		

** Variables significantly associated with contracting measles infection.

Conclusion

More than seven cases of blood sample was taken to EPHI National laboratory for confirmation out of them 3 IGM positive cases detected for confirmation of the case in addition there is a lot of case around all boundaries it is considered as Epi-linked cases with full case definition of cases and low vaccinate coverage , high defaulter rate 33% after taking Pent 1 not come back for measles vaccination high mobility of the community and lack of health education in the heath facility about isolation of cases during mothers visiting health facility for treatment purpose contribute much for dissemination of the case. During our home to home visited noticed the mother are not seek medical help for their sick children with measles instead they brings together actively seek children to healthy one over night to be infected early and they know if the child survive not infected for the rest of his life in some places called “HABAFATU”.

Daily reporting of cases were not in place due to network and under functionality of the existing surveillance system so proper epi- curve not done but as strength daily review meeting only woreda health staff for decision making purpose. district task force were not fully functional also in some health center PHEM focal person not trained most case definition is not posted in most of Health postes and health centers so cases not detected early.

The outbreak was confirmed based on laboratory diagnosis. Contacts with measles case, health facility distance more than 3 hour walk and being malnourished were the possible risk factors and increased susceptibility. We recommend strong ongoing active case surveillance of febrile rash illness; health education on treatment and prevention of Measles to be enhanced and continued in the community by health workers.

Recommendations

Ongoing active febrile-rash illness surveillance should be enhanced routine measles vaccination and awareness creation towards modern treatment during suspected measles cases and improving accessibility health facility to the community is very important. Since this year weather change create drought and malnutrition has to be assessed and treated accordingly. Improve measles active surveillance by training the health workers on active surveillance system.

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13. Outbreak of measles in Hout-Rin Alaska France April 2016

14 Guideline for Measles outbreak WHO 2013

Chapter two Scabies out break investigation

.**Abstract**

Introduction

Scabies Outbreak Investigation in Anchar District, West HareghеZone, Oromia Region, Feb, 2016

Background: Scabies is highly contagious, water scars disease related with poor social economic condition and lack of clean and enough water in the community. In January, 2016 a roumer of scabies cases reported from west hareghe zone and we investigated the outbreak to characterize it, identify risk factors, and implement public health control measures.

Methods: We conducted a descriptive and analytic case-control study with 22 cases and 44 unmatched controls study design active cases was Line listed, ACS in to health facilities were conducted by reviewing OPD registration and HMIS reports. We defined suspected cases of scabies. P-value and 95% confidence interval for odds ratio were used in deciding the significance of the associations.

Results: We identified a total of 490 scabies cases. The outbreak was not confirmed by laboratory but scabies was easily diagnosed by trained person. The overall attack rate of this outbreak was 46/ 1000 populations. Age specific attack rate was high in range 5-14 years 131(26.7%) and 188(38.4%) was male. In bivariate analysis, living in crowded area was significantly associated by Odds Ratio =4.4; 95% CI (11, 17)], sharing contaminated close during night [OR=6.3; 95% CI (2, 20)], was significant risk factors associated with contracting scabies.

Conclusions: Travel history during epidemic of scabies can disseminate the cases to scabies free area, health facility ACS can identify the active cases and decreased the communicability of disease area to area. We recommend strong ongoing active case surveillance of the disease health education on treatment and prevention of scabies to be enhanced and continued in the community by health workers and local NGO's.

Key words: Scabies, Outbreak, Risk factors, mite.

Introduction

Scabies is a contagious ecto-parasite of the skin caused by the mite Sarcoptes scabiei var. hominis. Approximately 130 million cases of scabies occur worldwide each year. The incidence of scabies can increase during natural and manmade disasters (1-3)

Infestation begins when one or several pregnant female mites are transferred from the skin of an infected person to the skin of an un-infested person. After transfer from the skin of an infected person, or, rarely, from fomites, to the skin of an un-infested person, the adult female mite travels on the skin surface seeking a burrow site. At a suitable location, the pregnant female mite burrows into superficial layers of the skin, forming a slightly elevated narrow tunnel where it deposits eggs. The eggs progress through larval and nymphal stages to form adults in 10 to 17 days. The adults migrate to the skin surface and mate. The males die quickly and the females penetrate the skin and repeat the cycle. The mite requires human skin to complete its life cycle and is unable to survive off the host at room temperature for more than 2 to 3 days.

The severity of scabies infestation is directly related to the number of mites residing on the skin and the length of time between initial infestation and subsequent diagnosis and treatment. If diagnosis and treatment are delayed, the number of live mites multiplies resulting in heavier or atypical infestations.

Scabies usually is spread by direct, prolonged, skin-to-skin contact with a person who has scabies. Contact generally must be prolonged; a quick handshake or hug usually will not spread scabies. Scabies is spread easily to sexual partners and household members. Scabies sometimes is spread indirectly by sharing articles such as clothing, towels, or bedding used by an infested person. An infected person can spread scabies even if he or she has no symptoms. Humans are the source of infestation and animals do not spread human scabies. On a person, scabies mites can live for as long as 1-2 months. Off a person, scabies mites usually do not survive more than 48-72 hours. Scabies mites will die if exposed to a temperature of 50°C (122°F) for 10 minutes.

Scabies affects people of all races and social classes. Scabies can spread easily under crowded conditions where close body and skin contact is common. Institutions such as schools, refugee camps, sanitarium and prisons are often sites of scabies outbreaks. Some immunocompromised, elderly, neurological disabled or debilitated persons are at risk for a severe form of scabies called crusted scabies. Persons with crusted scabies have thick crusts of skin that contain large numbers of scabies mites and eggs. The mites in crusted scabies are much more numerous (up to 2 million per patient). (5)

Because they are infested with such large numbers of mites and therefore persons with crusted scabies are very contagious to other persons. The mite can survive for much longer than the conventional 2 to 3 days in the thick skin shade. So in addition to spreading scabies through brief direct skin-to-skin contact, persons with crusted scabies have also a high probability to transmit scabies indirectly by shedding mites that contaminate items such as their clothing, bedding, and

furniture. Persons with crusted scabies should receive quick and aggressive medical treatment for their infestation to prevent outbreaks of scabies.

Back ground

Scabies is a contagious ecto-parasite of the skin caused by the mite Sarcoptes scabiei var. hominis. Approximately 130 million cases of scabies occur worldwide each year. The incidence of scabies can increase during natural and manmade disasters. According to west hareghe zonal health office roumer of scabies case reported to oromia regional state in January 2016 G.C from four district namely Ancha ,habro, Guba qoricha and Hawi gudina.

During investigation health education given to the community about personal higen , the use of modern medicine and the severity of the disease

Anchare is one of the 16 woreda in west Hararge zonal administration which found in remote area nearby awsh regional state thedistrict has 2 urban and 23 rural kebeles. It has 104616 total populations five health center in the woreda which all are functional with 23 Health posts.

General objective

To describe Scabies burden and identify risk factors associated with this outbreak also control and prevention of future outbreak in anchar district of west Hareghe zone Oromia region.

Specific objective

To verify the existence of Scabies outbreak in anchar district.

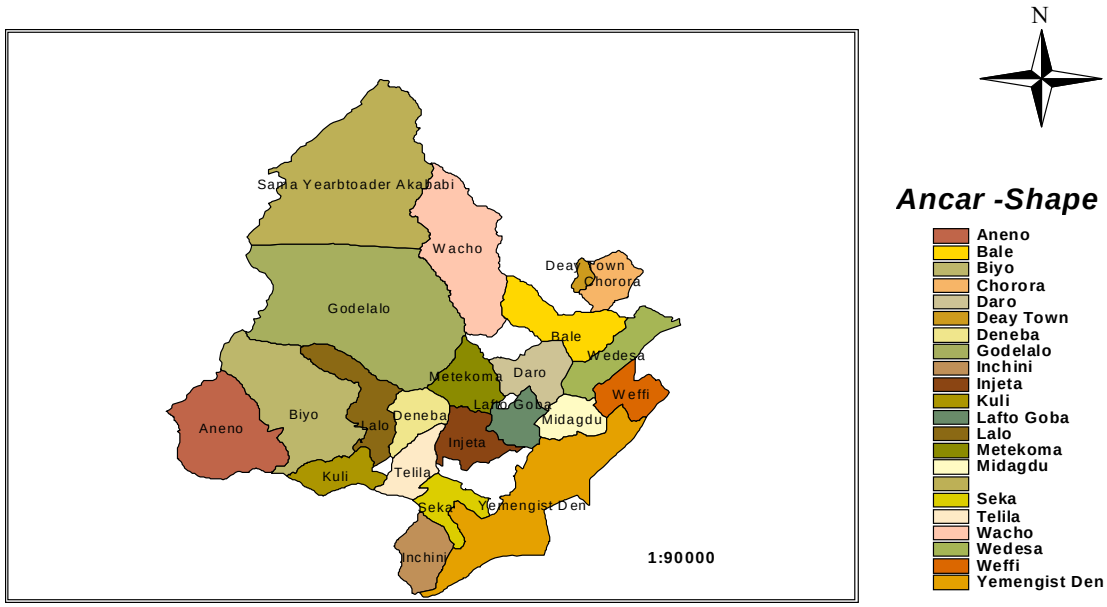
To identify the risk factors associated with the current condition.

To countrified the cases by person place & time

To propose control measures against scabies disease.

Study area and period

The investigation was carried out from Feb 14-march 1/2016 in anchar district of west Haerghe Zone, which is located 325 Km far from Addis Ababa and 126 KM from zonal Capital chiro district. Surrounded by it is bounded by Mi'eso woreda in the north, Aseko woreda In the south, Fentale woreda In the West And Daro lebu and Guba qoricha woreda in the east. The population of was 104616 (Central Statistical Agency)



Map 2:-Map of Anchar district West Hrerge Zone Oromia

Study Design:-

Unmatched 1:2 case control study design was used. A total of 22 cases and 44 controls selected.

Study Population:-

Study population of the investigation was all people reside in Anchar district.

Sample size & Samples size procedure

Un-matched case-control study in the ratio of 1:2 (22 case and 44 controls) was conducted to describe potential household's risk factors for infection.

Data collection Methods

Structured questionnaire was used in order to collect basic epidemiological information: symptoms, date of onset of disease, medical care, and age group affected, Religion of the family, exposure history of the case & control. The cases are selected by their general history of case definition while the control selected by their exposure but not have the history of scabies currently sigh and symptom relatively not caught by this disease.

Data quality

Line listing & woreda health profile is used for describing scabies cases in terms of time, place and person. However, all data were checked for completeness before the entry and analysis

Case Definitions and Outbreak Definition

Suspected case: A person with signs and symptoms consistent with scabies (itching).

Confirmed case: A person who has a skin scraping in which mites,mite eggs or mite feces have been identified by a trained health care professional.

Contact: A person without signs and symptoms consistent with scabies who has had direct contact (particularly prolonged, direct, skin-to-skin contact) with a suspected or confirmed case in the two months preceding the onset of scabies signs and symptoms in the case.

Index Cases the first which comes to the attention of health worker or the community.

Data processing and analysis:-

The data was descriptive and analytic stud is used the data interred & cleaned analyzed using Epi-Info version 7.1 and excel 2010 format.

Ethical Consideration

Written ethical clearance was obtained oromia regional state and from the respective zone and district. Oral consent from the study participants identified and confidentiality assured and no personal details was recorded or produced on this documentation. Not shared unnecessarily for third parties.

Dissemination of the result

There was meeting to debrief the finding of the investigation to the district, Zone and region. Written report of the investigation was submitted to the region, resident advisor and to the EFELTP program coordinator of Addis Ababa University step by step.

Result

Descriptive epidemiology

According to the Dindin & bedey PHCU directors in anchar district starting September 2015 scabies cases was seen in different Kebles, the cases increasing daily as see in the figure 1 due to lack of drugs & shortage of water for personal hygiene which create room for daily contact with cases in field, school & bedding. Since the community knows there is no the necessary drugs for cure in all health facilities they were stay at home or seek traditional healers for cure so that numerous number of cases were under reporting in weekly PHEM or monthly HMIS reports. Still new cases were seen hear & there in all visited kebles of anchar woreda which needs immediate responses. As we can see from figure 1 a total of 490 cases were registered from only few kebels near by health posts. Among them 266 (54.3%) of cases registered in telila health post of Bedey PHCU the rest were from other kebels in Dindin PHCU. As we see from Figure 2 while 249 (51%) of case were five to fourteen years of age the transmission of cases were increases in school age children. from a total cases 267 (54.5%) were female. See figure 3. Within interviewed cases and control ether is no difference in access to clean waterand using soap or ashes for proper hand washing droughts following whether changes may the cause vulnerability for scabies happened everywhere above expected levels.

Intervention began lately after we disclose the case to the zonal health office and zonal WHO officer we organize local NGO and the community for urgent reply against the current epidemic. Instant provision of drug for the sick and community awareness was implemented all Health extension worker in H.P level, H.C PHEM focal person and district PHEM focal person granted a

Figure 4:-picture of active scabies cases in anchar district 201

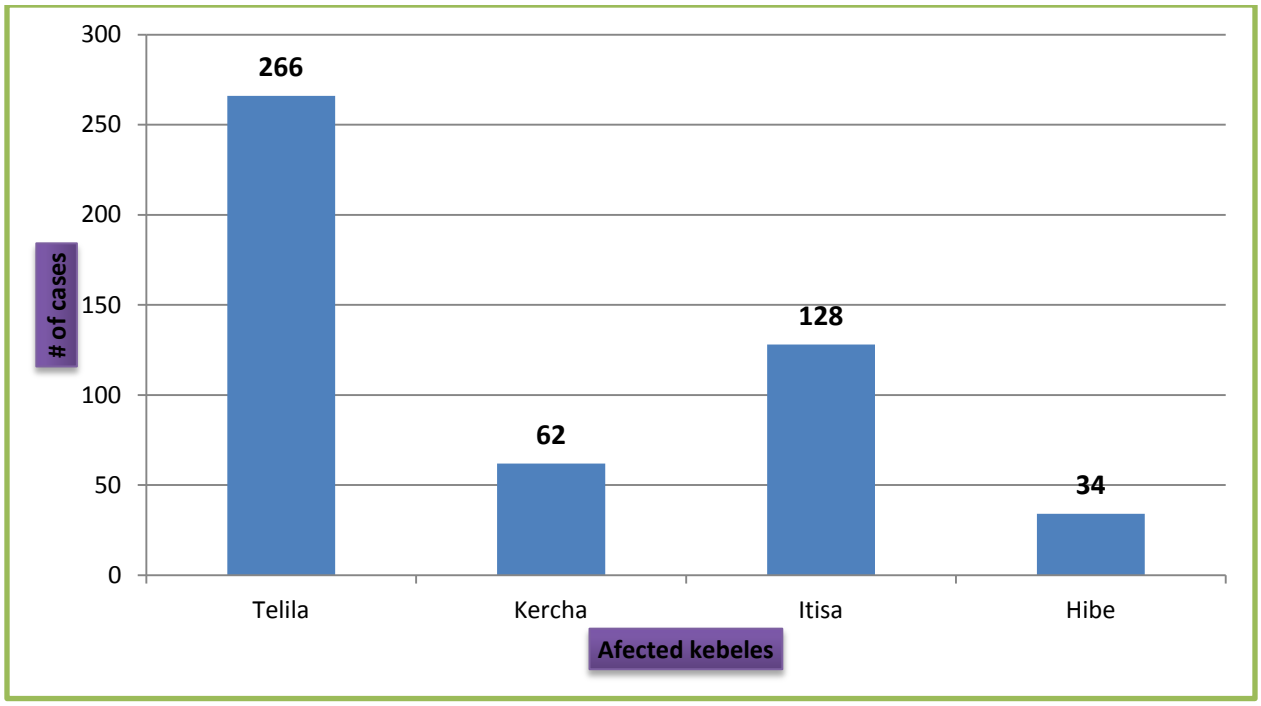


Figure 5:-Line listed scabies cases during investigation 2016 anchar distric

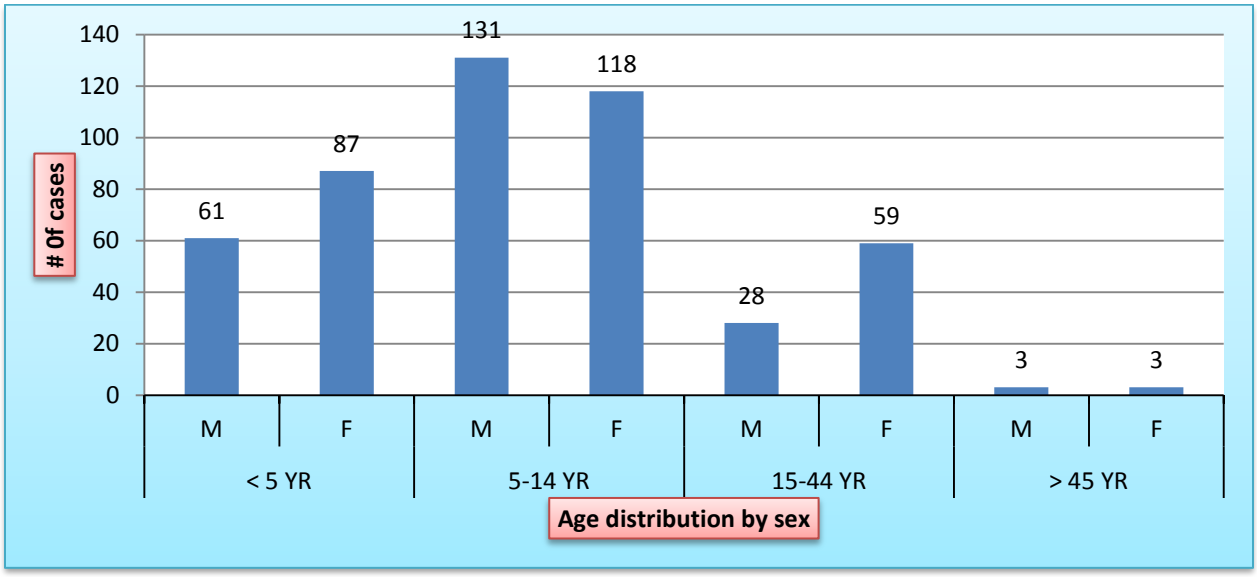


Figure 6:-Distribution of scabies case in anchar by age & sexdistrict 2016

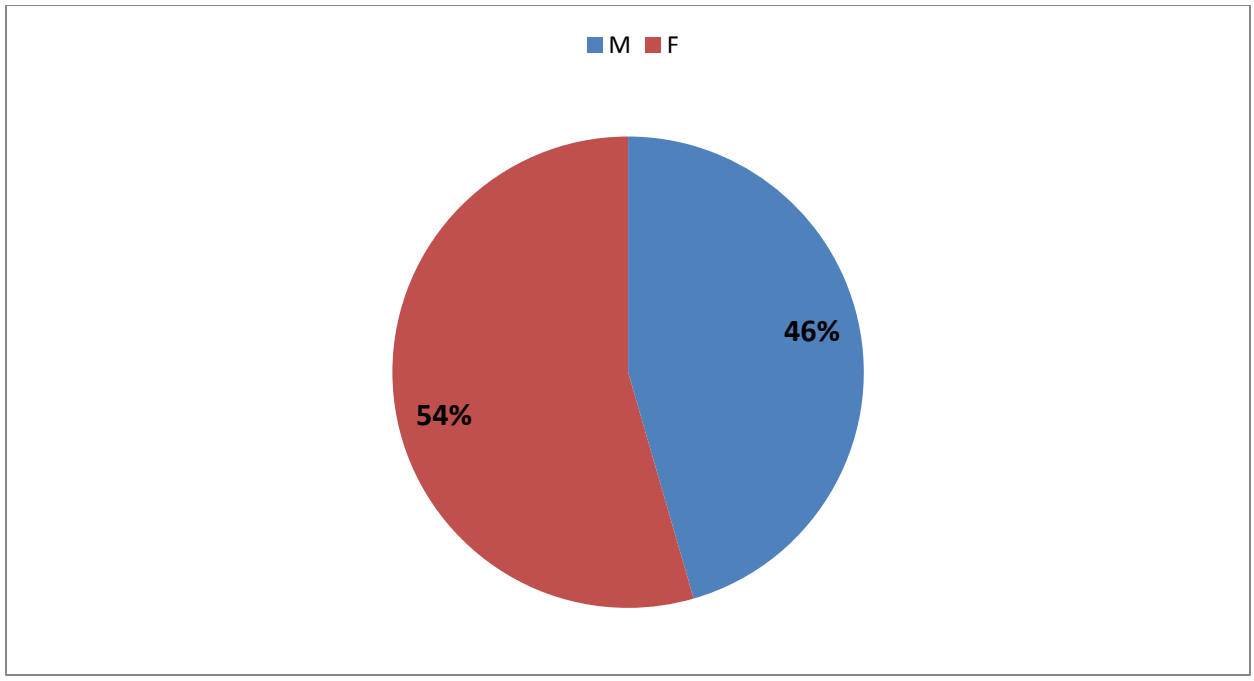


Figure 7:-Distribution of scabies cases by sex in anchar woreda 2016

As shown from the figure from all 490 cases 260 (54%) were females & 223 (46 %) were male patient.

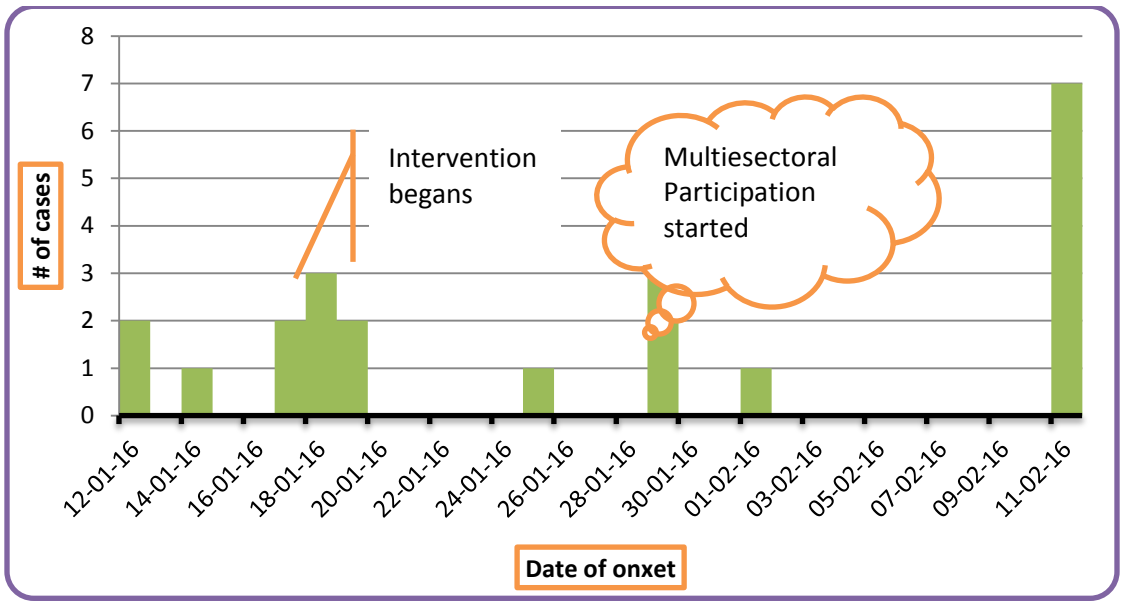


Figure 8:-Epidemic curve of scabies cases in anchar district 2016

Analytic Epidemiology

A total of 22 scabies cases and 44 apparently healthy controls were included into this study. The mean age of cases and controls were 6.8 and 6.2 years respectively. The median age of cases and controls were 6 & 5.5 months respectively (ranging from 2 year up to 20 years). Among twenty two interviewed cases 11 (50%) was male and 11 (50 %) were female. The most reported symptoms were Itching rash, fever, 22(100%), the major complications reported were 11(50%) experienced abscesses and infected wound, and none of them developed sever complication like renal failure. Out of the total 22 cases interviewed 18 (81%) not visits health facilities for medical cure they choose local treatment.

In bi-variate analysis, having travel history to active cases area was significantly associate to risk factor [OR=4.4; 95% CI (2,14), P=0.02], sharing contaminated closes with scabies mite during night time contribute for the transmission of scabies [OR=6; 95% CI (2,20) P=0.0001], house hold cases long stay with cases in house also significantly associated with scabies [(OR)=5.2; 95% CI (2,17), P=0.004], crowded living condition living more than 5 H.H together for one bed room contribute the transmission of scabies was significant [OR= 4.3; 95% CI [1,17] P= 0.02] , In Multivariat analysis; all factors that have been significantly associated with the presence of scabies illness by the bi-variate analysis remained independently associated with contracting scabis disease were seen for association. Sharing contaminated cloth with scabies were significantly associated Yea/No AOR 25 with 95% CI [3, 195]

Conclusion

Scabies disease was not reported as epidemic more than decayed in west hareghe zone the change in the weather condition contribute to drought as a result mal-nutrition and other disease following scarcity of water manifested in the vulnerable communality as we clearly stated in the result section the epidemic were not unclosed timely until high number of cases line listed at H.P level the disease distributed through the district cases were without medical care served only by loc healers or stay at home.

Sharing contaminated close with Scabies mitis highly associated with risk factors the ather was crowded livig condition & ravel history during the the epidemic faver easily transmission. People moves place to places for different reasons was contribute the transmission of cases from one area to others crowded living condition during epidemic stay together for longer time interns facilitate the transmission of cases from sick person to apparently healthy individuals knowledge of prevention of scabies by personal hygiene has no difference between cases and controls.

Recommendations

Since this year weather change create drought and malnutrition has to be assessed and treated accordingly. Improve scabies active surveillance by training the health workers on active surveillance system resource mapping available at hands can organize the efforts of community NGO's and governmental body towards mitigation of current condition health education and the assessment of KAP of the community has to be assessed for better results in the future.

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4. The FMOH Poverty reduction strategy Annual report 2005

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Chapter tow Evaluation of surveillance system

Health surveillance system evaluation - West Arsi Zone, Oromia, 2014/15

Introduction

Public health surveillance is the on-going, systematic collection, analysis, interpretation, and dissemination of data regarding a health-related event for use in public health action to reduce morbidity and mortality and to improve health. Data disseminated by a public health surveillance system can be used for immediate public health action, program planning and evaluation, and formulating research hypotheses (1)

Public health surveillance systems have been developed to address a range of public health needs. In addition, public health information systems have been defined to include a variety of data sources essential to public health action and are often used for surveillance. These systems vary from a simple system collecting data from a single source, to electronic systems that receive data from many sources in multiple formats, to complex surveys. The variety of systems will likely increase with advances in electronic data interchange and integration of data, which will also heighten the importance of patient privacy, data confidentiality, and system security. The evaluation of public health surveillance systems should involve an assessment of system attributes, including simplicity, flexibility, data quality, acceptability, sensitivity, predictive value positive, representativeness, timeliness, and stability. (2)

Communicable disease surveillance is the continuous monitoring of the frequency and the distribution of disease, and death, due to infectious disease that can be transmitted from human to human or animals, food, water or the environment to humans, and the monitoring of risk factors for those infections(3)

The data and information flows routinely transfer from the ground level (community) up to the higher level FMOH, which starts from health post to health center then passed to district health bureau afterward passed to Zonal health department. The Zone PHEM departments after compiled the data send to Regional Health Bureau PHEM core process. In turn the Regional Health Bureau PHEM unit sends the compiled data and information to the EHNRI/PHEM. The data and information flows process is carry out based on Ethiopia PHEM guideline schedule of Monday to Sunday every week.

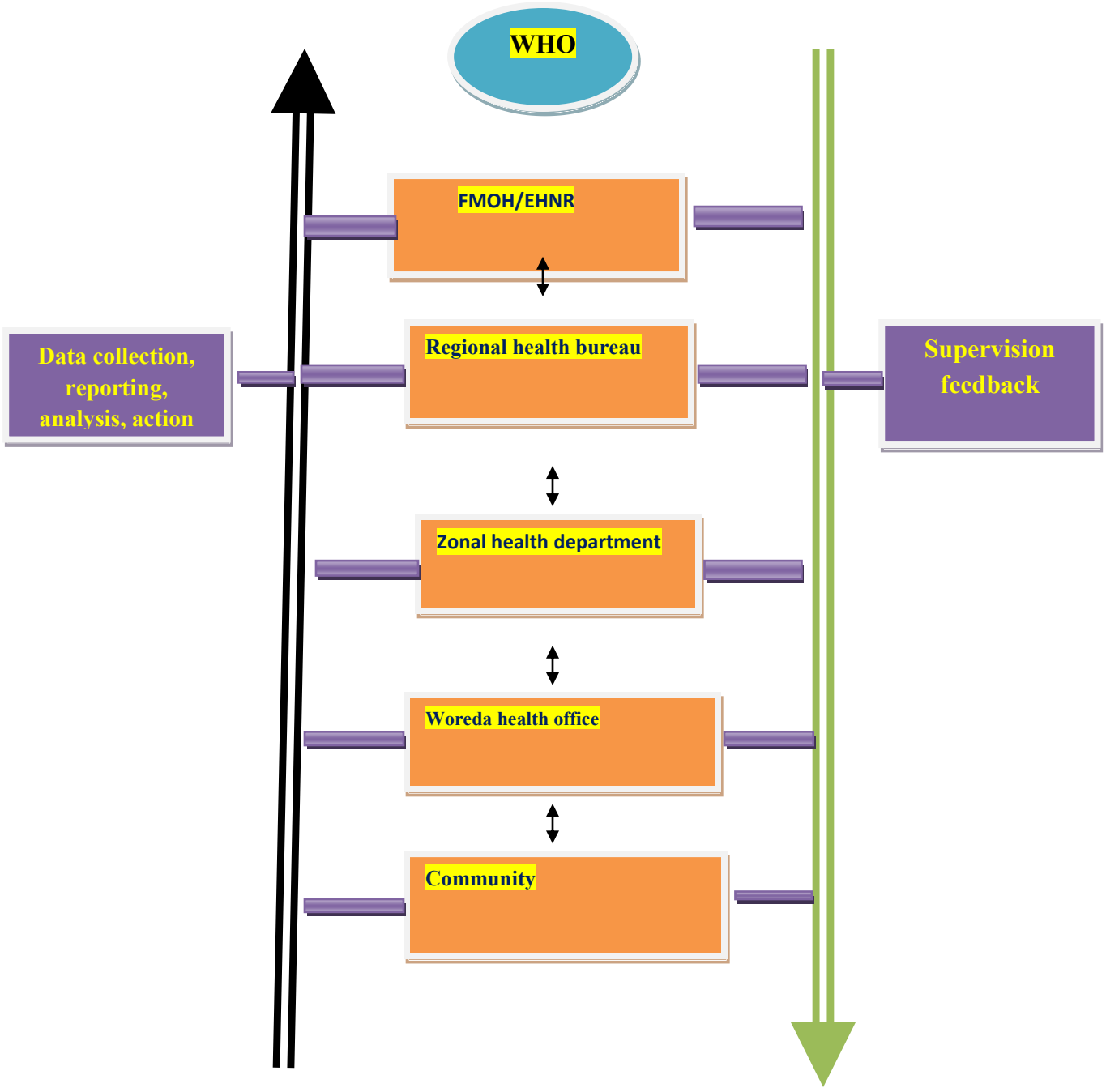


Figure 9:- Data and information flow for public health activity

General objective

To describe the surveillance system for measles, mal-nutrition and evaluate the key system attributes of West Arsi Zone, Oromia Region-Julay 2014/15.

Specific Objectives

To assess the core activities of the surveillance system in West Arsi Zone

To evaluate the key attributes of surveillance system

To assess the challenges of quality of surveillance system

Methods

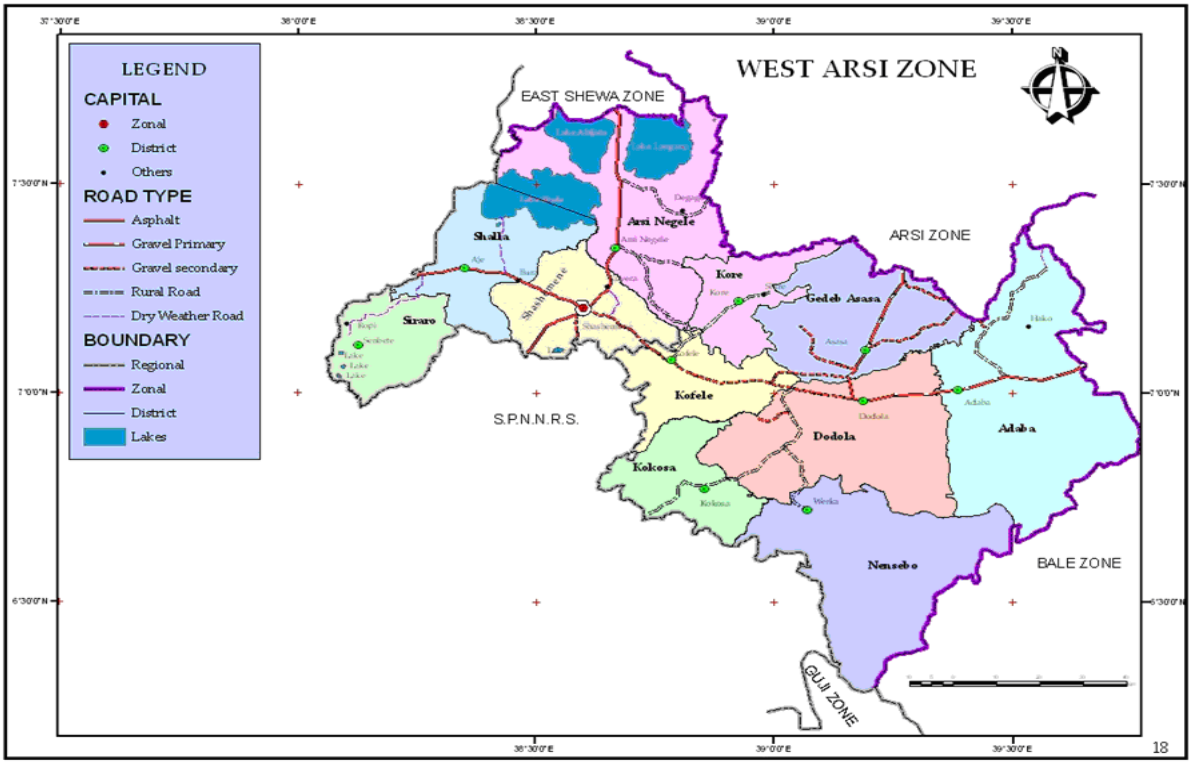
Study Design

We used cross-sectional descriptive study design for the evaluation of AFP & measles disease surveillance at Zonal, district and Health center and health post level in wesa Arsi Zone, Oromia region 2015.

Study Area

The evaluation was carried out in West Arsi administrative Zone of Oromia Regional State. The Zone further divided in to12 districts,3 town administration and 364 Kebeles with 33(9%) rural kebele. The zone share borders with East shoa zone on North; SPNNR on south, Bale & Arsi zone on east , on SPNNR west Zone. The capital town is Shashemene Town, 250 kilometer far in from Addis Ababa. Based on the 2007 Census conducted by the Central Statistical Agency of Ethiopia (CSA), this Zone has a total population of 2,408,588, of whom 1194660 are men and 1213928 are women and 13.85% of population is urban inhabitants. A total of 481718 households were counted in this Zone, which results in an average of 5 persons to a household, and 369,533 housing units. The two largest ethnic groups reported in West Arsi were the Oromo (88.52%) and the Amhara (3.98%); all other ethnic groups made up 7.5% of the population. Oromiffa was spoken as a first language by 87.34% and 6.46% spoke Amharic; the remaining 6.2% spoke all other primary languages reported. The majority of the inhabitants were Muslim, with 80.34% of the population having reported they practiced that belief, while 11.04% of the population professed Ethiopian Orthodox Christianity and 7.02% of the population professed Protestantism (3)

The potential health service coverage was 90% based on functional health centers in 2007 EFY. Surface area of the zone was about 11,746 sq Km with maximum annual rain fall of 2000 mm. Altitude varies 880-2600meter above sea level. The climate includes 45.5% high land, 39.6% temperate, and 14.9% low land. (5)



Map 3:- Map of West Arsi Zone Oromia

Table 5:-Population under surveillance in West Arsi zone 2015

S. No	Names of district	2007 population
1	Adaba	173119
2	Arsi Negele	257428
3	Dodola	215600
4	Dodola Town	29023
5	Gedeb Asas	233955
6	Kofele	213121
7	Kokosa	178903
8	Nensebo	142345
9	Qore	128878

10	Shala	189098
11	Shashemene	244563
12	Siraro	202667
13	Wondo	106271
14	A/Negele T	71806
15	B/ Guracha	21811
	Zonal	2408588

Integrated Disease Surveillance

In integrated disease surveillance, the various surveillance activities become integrated into one system within the broader national health system. It also emphasizes all functions of surveillance activities to be carried out using similar structures, processes and personnel. Surveillance is the process of gathering, analyzing, and dissemination of information for the purpose of proper planning, implementation, and evaluation of health services/interventions. It is also defined as "Information for Action". A functional disease surveillance system is essential for defining problems and taking action. Proper understanding and use of this essential epidemiological tool helps health workers at the district and health units to set priorities, plan interventions, mobilize and allocate resources, detect epidemics early, initiate prompt response to epidemics, and evaluate and monitor health interventions. It also helps to assess long term disease trends.

It is clear that surveillance could not be carried out for all diseases and conditions. Therefore, Priority should be given to those diseases that are of interest at national and international levels. In Ethiopia 20 diseases (13 are immediately reportable whereas 7 are weekly reportable) are selected to be included into the routine surveillance system in our country.

Table 6:-Immediately & weekly reportable disease list

Immediately reportable diseases	Weekly reportable diseases
1. Acute Flaccid Paralysis (AFP) /Polio	14. Dysentery
2. Anthrax	15. Malaria
3. Avian Human Influenza	16. Meningococcal Meningitis
4. Cholera	17. Relapsing fever
5. Dracunculiasis / Guinea worm	18. Severe Malnutrition
6. Measles	19. Typhoid fever
7. NNT	20. Typhus
8. Pandemic Influenza A	
9. Rabies	
10. Smallpox	
11. SARS	
12. VHF	
13. Yellow fever	

Study unit

The study subjects were the health facilities (Health Centers, and Health Posts), health offices District Health Offices, Zonal Health department of west arsi zone of oromia regional state.

Sample Size:

A total of 23 study units; one zonal health department (ZHD) & one hospital, seven health posts, seven health centers and seven district health office were selected & assessed.

Sampling Technique:

A convenience sampling was used to select one Administrative Zone from the region seven districts were selected by simple random sampling method and the district health offices of the selected districts were included in the study from each selected district one health center was selected by simple random sampling method. From the 7 health posts under each selected health center, one was selected by simple random sampling (SRS).

Data collection Method

Data were collected using questionnaire and observation of some practical tools for surveillance. Data were collected by the principal investigator using the WHO guidelines, protocol for the assessment of national communicable disease surveillance and response systems. The questionnaire was adapted from the generic questionnaire in annex 17 of these protocols, and from the CDC surveillance Evaluation guideline according objectives settled (1).

Data Analysis

Data were entered and analyzed using the Microsoft Excel. Data quality assurance Questionnaires were developed after review of CDC surveillance system evaluation guideline and interview with key informants were conducted and all questionnaires were administered by a single interviewer to keep the consistency of administering the questions.

Dissemination of the Study

The result of the study was be submitted to the AAU-SPH, EPHI and the respective zonal and regional health bureau with a hard & soft copy,

Ethical Considerations

Written support letter was obtained from Oromia Regional Health Bureau to zone. Discussion was made about the purpose and method of the study with zonal health office head and PHEM department, and convincing them to write a letter for selected districts & health facilities.

Operational Definitions Accuracy:

Degree to which a measurement or an estimate based on measurements represents the true value of the attribute that is being measured. Feasibility Ease which statistical information can be obtained from the agency. This includes the ease with which the existence of information can be ascertained, as well as the suitability of the form or medium through which the information can be accessed. The cost of the information may also be an aspect of accessibility for some users. Willingness of persons and organizations to participate in the surveillance system. And it will be measured quantitatively through reviewing completeness of report forms for the past three months and timeliness of data reporting. Simplicity; the simplicity of a public health surveillance system refers to both its structure and ease of operation. Surveillance systems should be as simple as possible while still meeting their objectives. Data Quality*:* Data quality reflects the completeness and validity of the data recorded in the public health surveillance system.

Flexibility: A flexible public health surveillance system can adapt to changing information needs or operating conditions with little additional time, personnel, or allocated funds. Flexible systems can accommodate, for example, new health-related events, changes in case definitions or

Result

Standard case definitions for all prioritized diseases are available at Zonal, visited districts and 7 (100%) health centers in the zone. However, at visited two health centers and all health posts, case definitions are available including AFP and Measles. In these health facilities, these case definitions were posted on the wall. At visited districts and health facilities, recent outbreak was detected within less than one week after date of onset of first case. At all visited health facilities, there is clinical registration. In addition, it was identified that diseases are correctly filled in clinical registration. At visited health post, health extension workers were responded correctly on standard case definitions of some diseases such as measles and AFP.

Population under Surveillance

According to scope of National PHEM guideline, surveillance system is applicable in all population of the zone for prevention and control of diseases in PHEM. Following established regional PHEM since 2009, activities are implementing in all setting of the zonal population

Table 7:- material used for PHEM department

No	Resource	Zone N (n)	Hospital	District N (n)	H. center N (n)	Health post
1	E-PHEM reporting	1 (1)	1 (1)	7 (7)	7 (0)	7 (0)
2	Electricity (power)	1 (1)	1 (1)	7 (7)	7 (6)	7 (0)
3	Computer	1 (1)	1 (1)	7 (6)	7 (5)	7 (0)
4	Printer	1 (1)	1 (1)	7 (6)	7 (0)	7 (0)
5	Stationary	1 (1)	1 (1)	7 (7)	7 (0)	7 (7)
6	Vehicles	1 (1)	1 (1)	7 (7)	7 (0)	7 (0)
7	Motor Cycles	1 (1)	1 (1)	7 (5)	7 (5)	7 (0)
8	Fax	1 (1)	1 (1)	7 (0)	7 (0)	7 (0)
9	Telephone	1 (1)	1 (1)	7 (7)	7 (0)	7 (0)
10	Preparedness plan	1 (1)	1 (1)	7 (7)	7 (0)	7 (0)
11	Internet access	1 (1)	1 (1)	7 (5)	7 (0)	7 (0)
12	Data manager	1 (1)	1 (1)	7 (7)	7 (0)	7 (0)

Laboratory

Districts and health facilities have the capacity to collect and transport biological specimens such as: blood and stool to the national laboratory accompanied with case based reporting form for further analysis and confirmation. Ethiopia Public Health Institute is responsible to test the specimen and inform the result based on the standard time on the national guideline to the national Public Health Emergency Management (PHEM)

Timeliness and Completeness of report

Timely report of surveillance data is important for early public health interventions. Timeliness is a speed between steps in a public health surveillance system. As per standard of National PHEM the expected level of report timeliness is 80% and above. Early case detection is another key attribute of timeliness assessment. Annual average report timeliness & completeness was 82% & 97% respectively which is above National minimum expected level (80%) in 2006 EFY, among visited sites the highest annual timeliness 100% was by Shashemane district and the least (53%) was by Kokosa district. (1, 2)

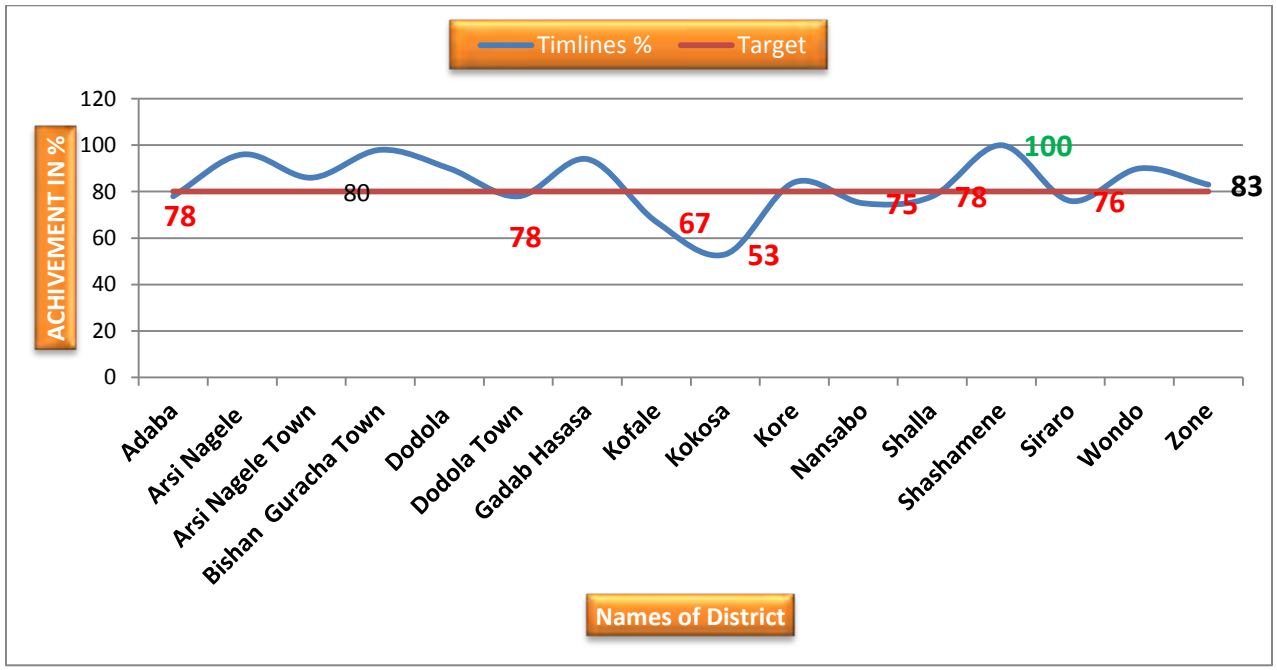


Figure 10:-Weakly report timelines by district 2015

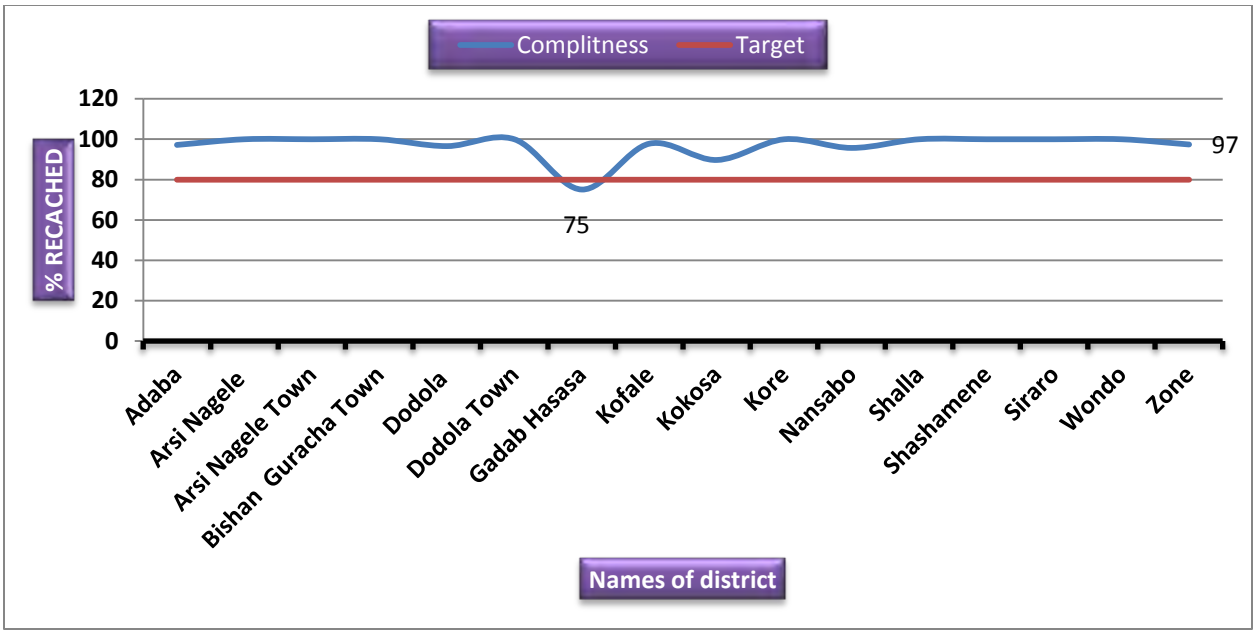


Figure 11:-Weekly report completeness 2015

AFP Polio case detraction

Ethiopia was polio-free for almost three years prior to the first importation of a wild poliovirus (WPV) from Sudan in December 2004. In the following years (Dec 2004 to Nov 2006), Ethiopia reported four different importations (from both Somalia and Sudan) totaling forty WPV cases (1 in 2004; 22 in 2005, 17 in 2006) affecting four of the eleven regions of the country (Tigray, Amhara, Oromia and Somali). The last of this series of confirmed WPV importations reported in Nov 2006, was from Korahe zone of Somali region. Following the successful interruption of these importations, the country enjoyed a 17 months polio-free status until April 2008 when 3 cases of WPV were confirmed in Gambella region, neighboring Southern Sudan where cross-border migration is common.

Horn of Africa (HoA) countries have had repeated WPV outbreaks, mainly due to importations fuelled by low population immunity and massive population movements. The largest and longest occurred between 2004 and 2007, affecting Eritrea, Ethiopi

Following the recent outbreak of wild polio virus in the Horn of Africa in 2013, the first case of imported wild polio case was reported in Galladin woreda of Somali region, in June 2013. In the recent wild polio outbreak in Ethiopia, a total of nine confirmed WPV cases were reported from Dollo zone of Somali region from the start of the outbreak till end of 2013. The last (tenth) WPV case in Ethiopia was reported on January 5, 2014. There is no wild polio virus since January 5, 2014. After conducting quality of surveillance, the quality of SIAs, application of communication strategies, and reaching mobile populations; Ethiopia has interrupted this polio transmission and validated be external evaluator conducted from June 8-12, 2015.NP-AFP case

detection in west arsi zone from 2008- 2013 ec clearly contributing the to the mission of FDREMOH by reporting above the target about 6 consecutive years. (4)

Table 8:-Non AFP case detection & stool adequacy rat 2008-13 GC

Non-AFP Cases detection &Stool adequacy rat 2008-2013 GC				
Year (G.C)	AFP Expected	AFP Reported	NP-AFP Rate	Stool Adequacy %
2008	20	26	3.7	96
2009	20	21	3	95
2010	20	26	2.6	88
2011	20	28	2.8	86
2012	20	31	2.8	90
2013	21	23	2.1	87

Measles case detection

All six WHO regions have committed to measles elimination and five regions have set target dates. The WHO Region of the Americas achieved the goal in 2002; the Western Pacific Region aims to eliminate measles by end of 2012; and the European and Eastern Mediterranean Regions are accelerating their measles control activities in order to eliminate measles by 2015. In 2011, countries in the African Region took on the goal to eliminate measles by 2020, and in 2010 the South-East Asia Region adopted a resolution urging countries to mobilize resources to support the elimination of measles, the target date for which was under discussion. In May 2010, the World Health Assembly endorsed a series of interim measles control targets for 2015. These targets, which include exceeding 90% coverage with MCV1 nationally, and exceeding 80% vaccination coverage in every district, highlighted the critical role of strong routine immunization systems as a cornerstone for sustainable measles control/elimination efforts. The targets also include reducing annual measles incidence to <5 cases per million, maintaining that level, and reducing measles mortality by more than 95% compared with 2000 estimates. West arsi zone was striving to achieve the regional target of case detection and early reporting of suspected measles cases from 2008- 2013E.C. (6)

Table 9:-West Arsi zone Measles case detection from 2008-13 GC

Annual Zonal Measles case detection rate from 2008-13GC				
Year (G.C)	Expected	Reported	Detection Rate	IgM+ve
2008	14	19	1.4	15.8
2009	14	55	3.9	2.1
2010	32	330	11.2	27
2011	32	71	4.2	26.7
2012	Data was not available			
2013	45	378	16.8	13.6

Focal Person training

Focal person training on surveillance reporting and data analyses is was important to use the data for decision making propose. In west arsi zone zonal & visited hospital 100% trained but district level was only 4 out of 7 visited from all H,C working in visited district 9/22 only 41% PMEM focal persons trained.

Table 10:-District & H.C PHEM focal person training need assessment Wst Arsi zone 2015

No	Woreda			Training Status		
		Name of Institution	Type of ofice	Not trained	Trained	Trained but > 2 years
1	Arsi Negelle Woreda	WoHO	WoHO	√		
		Dole H.C	HC	√		
		Gorbi H.C	HC	√		
		Beseku H.C	HC	√		
		Gambelto	HC	√		
		Gode	HC	√		
		Kelo	HC		√	
		Goljota	HC			√
		Shalla	HC	√		
		Meti	HC	√		
2	Dodola Woreda		WoHO		√	
		Negelle Metema	H.C			√
		Herero	H.C	√		
		Serofta	H.C			√

		Ido	H.C			√
		Aluma	H.C			√
		Geneta	H.C	√		
		Wabe Burkitu	H.C	√		
			WoHO	√		
		Kore	H.C		√	
		Gobe	H.C		√	
3	Kore	Shire	H.C	√		
		Lencha Ansha	H.C	√		
		Bete Wentesha	H.C	√		
			WoHO	√		
4	Wondo	Bachil	H.C		√	
5	Dodola Town	dodola Hosital	Hospital		√	

No	Woreda	Name of Institution	Type of ofice	Training Status		
				Not trained	Trained	Trained but > 2 years
			WoHO	√		
		Kabate	H.C			√
		Ilka	H.C	√		
6	Kofele	Guchi	H.C	√		
		Kofale	H.C			√
		Wabe	H.C			√
		R/Ashoka	H.C			√
		S/Shifa	H.C	√		
		Roba	H.C			√
			WoHO		√	
		Aje	H.C	√		
		Awara	H.C	√		
		Senbete Shalla	H.C			√
7	Shalla	Abure	H.C	√		
		Kerensa Kubi	H.C	√		
		Ilala	H.C	√		
		Fende Ejersa	H.C	√		
			WoHO		√	
		Toga	H.C	√		
8	Shashemene	Harebate	H.C		√	
		Faji	H.C		√	

Jigesa	H.C	√	
Hursa	H.C		√
Wetara Shegule	H.C	√	
Cebi	H.C		

Conclusion

Periodic assessment of public health surveillance system is a key activity to identify strengths and weakness of the existing system. This will be more effective if it was done in collaboration with key stakeholders. In West Arsi zone the surveillance system was not satisfactory and efforts should be exerted to improve the system mainly on supervisory activities, proper and timely feedback, data management and analysis of prioritized diseases. Finally, the surveillance system of measles and AFP are useful to detect outbreaks, estimate magnitude of the morbidity and mortality of the disease in the area. These surveillance systems are simple and flexible and well accepted by all assessed sites.

Recommendations

Training should be given for health extension workers on surveillance activities to improve active case search and reporting system. Data quality assessment should be conducted at all levels as many problems were identified on reporting system during this evaluation. Data analysis for prioritized diseases at district and health facility level should be performed regularly. Utilization of National PHEM guideline and different manuals for management of prioritized diseases should be optimized at all levels; mainly at health facilities. Results of laboratory confirmation should be communicated to the Districts and health facility on timely basis. Strong supportive supervision and feedback should be maintained in regular basis at all levels.

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Chapter three Health profile description

Health profile of Siraro District west arsi zone of Oromia Region, April 14-23 /2015

Introduction

Health profile is a process of collecting and summarizing health and health related events like demographic, socio-economic, political and cultural aspect of a given Zone/district. This summarized and prioritized public health data is important for planers & public health officials to uses it for planning, implementation and evaluation of public health programs for the benefit of a given community at a given time.

The land area of Ethiopia is estimated at about 1.1 million square kilometer and the Current population is approximately 77 million, of which more than 84 percent live in rural areas. Ethiopia is a Federal Democratic Republic composed of 9 National Regional states: namely Tigray, Afar, Amhara, Oromia, Somali, Benishangul-Gumuz, and Southern SNNPR, Gambella and Harari and two Administrative states (Addis Ababa City administration and Dire Dawa city council). The national regional states as well as the two cities administrative councils are further divided into six hundred eleven woredas and around 15,000 kebeles (5,000 Urban & 10,000 Rural).

Ethiopia experiences a heavy burden of disease with a growing prevalence of communicable infections. Many Ethiopians face high disease morbidity and mortality largely attributable to potentially preventable infectious diseases and nutritional deficiencies. In response to such prevailing and newly emerging health problems the Ethiopian Government has developed a 20 year rolling Health Sector Development Program which proposes long-term goals for the sector, and the means to attain them by way of a series of phases. (1,2)

West Arai is situated in Shashemene town 250 KM away from Addis Ababa it has 12 woerda and 3 Town administration with one governmental & 3 NGO Hospital ,78 Health centers , 331 Health Posts with others 22 privet and NGO clinics serving a total population of 2,408,588 the Potential health coverage is 90 % in 2006 ec. (5)

Siraro woreda is one of 16 woredas of west Arsi zone bordered by east Shala woreda of oromia region by west hadiya zon of badaracho woreda of SNNPR by North Alaba special woerda of SNNPR by south Sidama zone of Boricho woreda of SNNPR it is 64 Km far from Shashemene capital of the zone it has 28 rural and 4 Urban kebele with 6 Health center,28 health posts & 17 privet Clinics serving 202,676 population in the woreda there in many cultural & tourism heritage among them Adabe hot spring ,Senbate sinikle & Budamada Lake is legend for the woreda. The woreda has 131285.5 M2 land area living divers nation and religion according to the woreda cultural and tourism office 80% of the residence is Oromo while hadiya 5%, Alaba 4% Kembata 3 %,Walyta 2% and 6% are others. The religious distribution is Muslim 82%,Orthodox 4% Catholic 3% Protestant 0.9 & 0.1 % are others (6) (7)

General objective:

To assess and describe health related issues about health status, health indicators and to identify problems for priority setting of Siraro district, West Arsi Zone of Oromia region.

Specific objectives:

To identify the health service status of the District.

To indicate the major problem related to communicable diseases of the woreda

To identify & indicate gaps related to health problem in the woreda

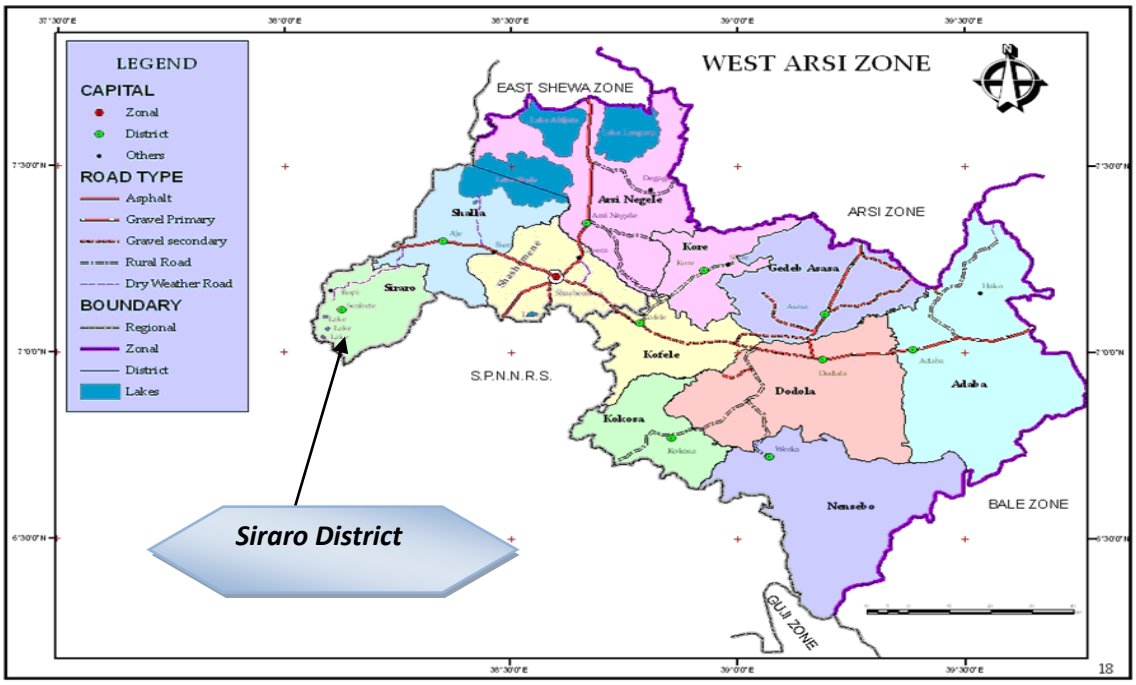
To document baseline information in the future

Methods and materials

Study area

Study was conducted in Siraro woreda West arsi zone of oromia regional state with different sectors.

Map of Weast arsi zone



Map 4:- Map os Siraro district West Arsi Zone Oromia

Study design

Descriptive cross sectional study was conducted to identify and indicate the woreda health service status as well as to identify the major health problem of the area and to bring recommendations for the identified major problems for the future developments of the woreda activity.

Study period

The study was conducted from April 14-23/2015 in Siraro woreda West arsi zone of oromia region by visiting different sectors in the woreda which have impact on the outcome of health activity.

Sample size & sampling technique

Since the study was conducted to document and show the woreda profile for planning by gathering information from different concerned offices and by using different years of annual report of different sectors at woreda office level. No need of using different sample determination technique.

Data collection & analysis

Data was collected from West Arsi zone, Siraro district health office and other respective sectors like administration, water sector, Culture and tourism office, education office, and others by reviewing available data from those mentioned sectors by using structured questioner and interviewing different concerned individuals from April 14-23/ 2015.And the available data analyzed by using Microsoft Excel software.

Result

Administrative &political structure

Siraro woreda has twenty eight rural and four urban kebeles. The administrative central town of the district is Lokke. It has an elevation of 1500-2075 meters above sea level. The annual average temperature is 27 degree centigrade It has 24 hr electric supply with 38.8 % drinking water supply no public transport from shashemene to Lokke sometimes once in a week there is a bus not continuous.

Lokke town is 64 Km far away the west arisi zonal town shashemene & 314 Km away from Addis Ababa the capital city of Ethiopia. Development of road network system is a vital to any countries socio-economic progress but the woreda rode and transport office planed in 2006 ec 25 new roads and the plan achievement was only 16 (64 %) per year but the structure of the land has no heal it is flat.

Demographic information

Production

Siraro worda is suitable for tow times per year production since most of the residence are farmer their life depends on their annual production from many activity done in the woreda cultivation of Maize, Beans (Boloqe),Teff, Sugarcane, Banana & Potato are the main one. In other hand cattle's, sheep & goats are the main income generation chance of the community

Table 11:- Target population in siraro district 2015

S.No	Parameter	Number / %	Remark
1	Total Population 2015/2007 EPY	202676	
2	Estimated House Holds (4.8%)	42225	
3	Live Births (3.37%)	7033	
4	Surviving infants (3.22 %)	6527	
5	Under 5 Years population (16.43%)	33300	
6	Under 3 Years population (9.43%)	19112	
7	6-59 Months Children (15%)	30402	
8	24-59 Months Children (10.72 %)	21727	
9	Under 15 Years population (47.61 %)	96465	

10	15-24 Years group (19.61 %)	39715	
11	15-49 years age group (47.53 %)	96332	
12	(15-49) Years Child bearing women (22.13 %)	44853	
13	Non pregnant women (18.63 %)	37757	

Education

There are about 47 government schools and Ten kindergarten except adult education in the woreda since there is no a preparatory school in the woreda student after graduation of grade ten who their family afford to continue support their children send the outside the woreda to next carrier unless and otherwise they will obliged to discontinue their education specially female students are victims of this condition. According to the woreda education office 36 (76%) schools have latrine and there is 42 HIV/ADIS club which give peer education for student and the school community at all. The other challenging condition in the woreda regarding student enrollment when we compare Grade 1-4 which is 100 % to others class when their class an age increases many children discontinue from school as you can see grade 5-8 was 25% while grade 9-10 was only 10 %.

Table 12:- Distribution of schools in siraro district 2015 EPY

Type of school	Number of school by year 2012-14 G.C		
	2012	2013	2014
Kinder Garden	7	9	10
Primary school	15	18	18
Secondary school	29	27	30
High school	2	2	3
Preparatory	0	0	0
adult education site	75	81	68
School with Latrine	21	30	36
With drinking water	2	2	2
with HIV club	42	40	42

Table 13:- Distribution of school enrolment in siraro district 2015

S. No	School enrollment by sex				Enrollment ratio
1	Grade	plan	M	F	
2	0	18844	1507	1133	14
3	1-4	20849	14265	9933	111
4	5-8	18059	2854	1619	25
5	9-10	8030	519	280	10
6	11-12	1	0	0	0
7	adult education	81725	6244	5384	15

Water, sanitation & hygiene

In siraro woreda obviously there is shortage of drinking water which is only 38 % of population can get access to drinking water even if there is 95 water scheme/point (bono) in the woreda only 52 (55%) of it in use. in other hand there is also 26 bore hale water sources out of it only 13 (50%) only at services due-to lack of budget, materials & maintenance. In dry season when the shortage of water persists 13000 Lt of waters distributes daily by vehicle (bootee) to alleviate the condition followed by water shortage in the community

Table 14:-Drinking water in siraro district 2015

Drinking Water supply 2015 GC	Functional	not functional	Population benefited	%
Water scheme (water point)	52	43		38.48
Bore Hole	13	13		
Water distribution/winter	13000 Lit.			
Other	Bilate river			
			78000	

Regarding environmental sanitation & hygiene a lot of activity is going on in 2006 & 2007 ec 39260 (95%) house hold are using latrine, 8 kebls set free from open deification site the behavior of the community changed positively.

Table 15:- Wash activity in siraro district 2015

WASH activity	Plan	Achievement	%
Improved Latrine	42224	41326	98
Triggered kebeles	10	10	100
Triggered Group (Garee)	275	275	100
'ODF ' Free Kebeles	10	8	80
'ODF' Group	275	250	91
Latrine utilization	41326	39260	95

Culture and tourism

Do you know Siraro woreda? Before 1998 EC the woreda was administer under Shalla woreda of West Arsi zone in 1998 by the community demand come to independent woreda to the capital city Loke which is 64 KM far from Shashemen Town the eworeda has 202676 population in 2007 ec and many tourism area like Adabe Hot spring and Wogare Hot spring which is visited by many people for recreation and treatment purpose from many disease and generate income for the woreda. The other one is Korke Sinkile Park with different wild animals like korke Babune difrent types of birds which is the main income generation for the the woreda.

Infrastructures

In siraro woreda while one governmental & NGO Hospital giving service to the zonal community other 3 governmental and 1 NGO hospital are under construction in different woredas Governmental health center are 6, one satellite clinics & 28 Health posts are the back bone of the prevention our government policy under PHCU structure linked by Health post, Health center & rural hospital referral system. Additionally 17 small privet clinics are helping the worwda community as well.

Human resource & Health system

In the woreda there is 6 Health, 28 Health posts & 1 satellite clinics and all are governmental health facility. Even if there is Tow health extension worker in a Health post in Health center there is shortage of health professional especially in OPD departments. When we see health professional to population ratio One Health officer serves 1:18425 population while One BSC nurses help 13511 people and one mid wife for 370 pregnant mothers.

Table 16:- Siraro district Health profession & supporting staff 2015

S No	Department	Man power	Remarks
1	Head of Health office	1	BSC Nurse
2	Deputy	1	Clinical nurse
3	Health Promotion & Prevention	2	Env. dip
4	Family Health related case team	4	1/Bsc,2 clincal,1 pu/nu
5	Public Health case team	1	Env. H. diploma
6	Plan and program Case team/HMIS	2	Pu/nurse/HMIS
7	Training case team	2	Cet/dipl
8	Emergency worker	1	Certificate
9	Cleaner	1	
10	Guard	2	
11	Store keeper	2	
12	Communicable	6	2 Pu/nu/Bsc nu/ 2/clin Env.dip
13	H. service	3	Biol Degree/Clincal/Envi degree
14	Driver	4	

Table 17:-Siraro district Human power in Health facility 2015

S.No	By profession	Edu. Level	Sex		Remark
			M	F	
1	Physician	Degree	0	0	
2	Health Officer	Degree	10	1	
3	Nurse	Degree	12	3	
		Diploma	32	8	
4	Laboratory	Degree	1	1	
		Diploma	6	0	
5	Environmental Health	Degree	0	0	
		Diploma	0	0	
6	Pharmacy/Druggist	Degree	0	1	
		Diploma	2	1	
7	Midwives	Degree	0	0	
		Diploma	8	11	
8	HEW (All are Female)	Certi/Diploma	0	55	
9	Community Councilors	Cert.	0	0	
10	It/ HMIS personal	Dip	0	1	
11	Accountants	Dip	6	1	
	PUB nurses	Diploma	6	4	
12	Hum R Management	Dip	6	0	
13	Writing /reading		22	15	
14	H. Assistant	cert	1	0	

In the woreda AFI cases was 3680 (22.5%) which is the leading cause of morbidity in 2007 last six months OPD activity while skin infection and subcutaneous tissue problem was the list 627(4%) among the total patient seen in the OPD. Regarding under 5 years category Pneumonia is the leading causes of morbidity which is 1559 (23.4%) cases reported from OPD department while unspecified disease of the eye is the least 204(3%) in 2007.

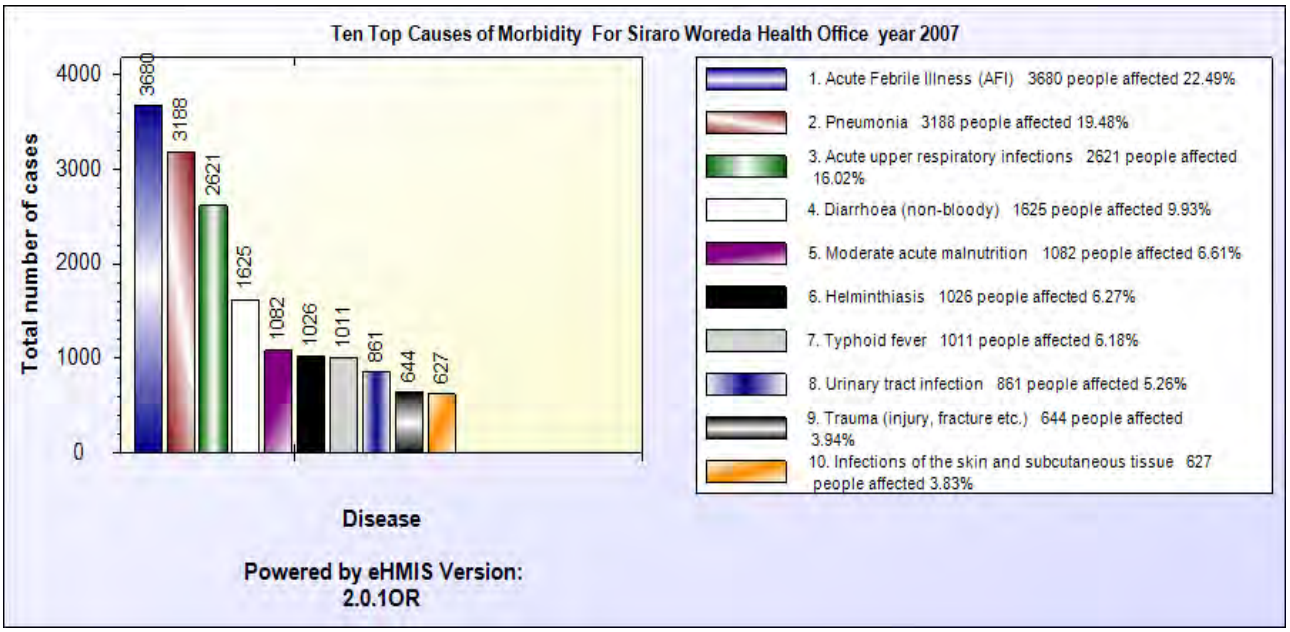


Figure 12:- Top ten diseases in 2015 siraro district

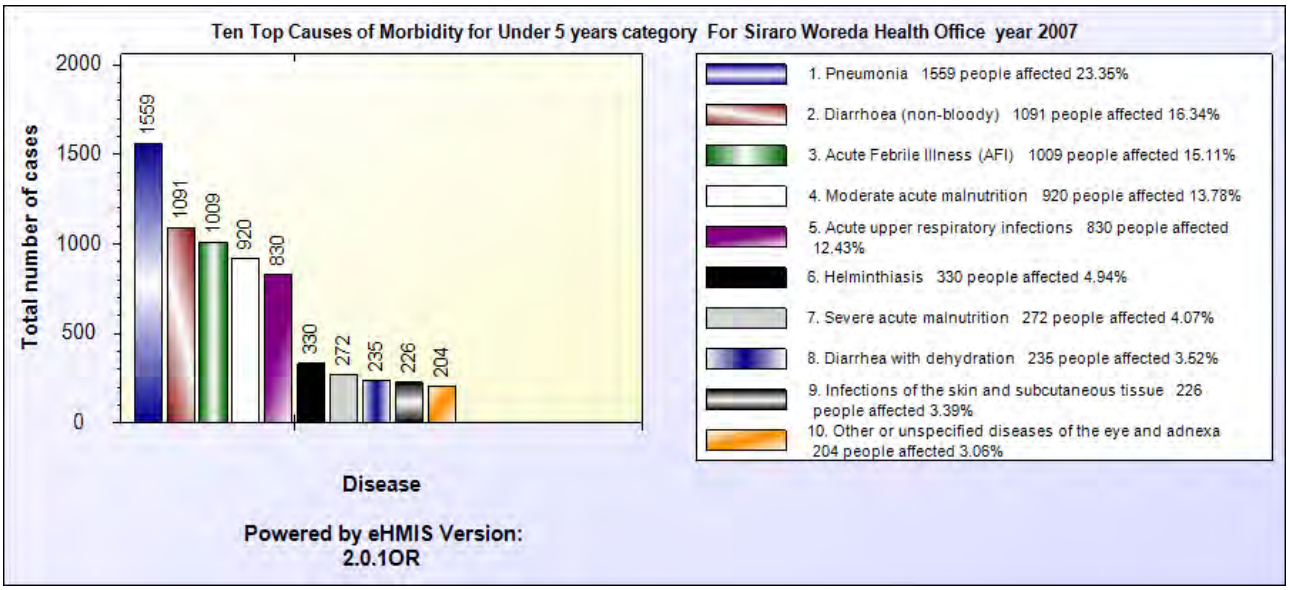


Figure 13:-Top ten causes morbidity of U 5years children in siraro district 2015

Family Health 20014/15 Gc

In achieving the millennium goal development the woreda health office plying their role as much as possible from main indicators ANC activity 8046(107%) mothers visit the health center for first time when all are tested for HIV only one mother result become positive and immediately linked to ART unit. The huge mobilization in the woreda for the MCH activity was minimizing maternal death due-to delivery as a result significant changes are registered for instance if we see Health facility delivery coverage only 8% in 2010 Gc while clean delivery was 92% but in 2014 gc it reversed completely to 84% for Health center delivery and only 12% for clean and home delivery.mor over that immunization activity was run properly when Penta three is 99 % PCV three was also 99% the main indicators Measles & fully immunized children coverage was 99 & 97 % respectively.

Table 18:-Family Health activity in siraro district 2015

Family Health Main indicators 2014/15 GC				
Main indicators		Plane	Achievement	%
ANC 1st visit		7499	8046	107
ANC 4th visit			6840	91
ANC Tested for HIV			8046	107
HIV +ve linked to ART			1	100
Family Planning			23514	71
Skilled delivery		6891	5727	84
BCG			7332	100
OPV	1	6283	6812	108
	3		6275	99.9
Penta	1		6812	108
	3		6275	99.9
PCV	1		6812	108
	3		6275	99.9
Rota	1		4079	65

	2		3955	63
Measles			6202	99
Fully IMM.			6094	97
PAB (Protected at Birth)			6698	107
Penta 1 to Penta 3 Drop out				8
Penta 1 to Measles Drop out				9

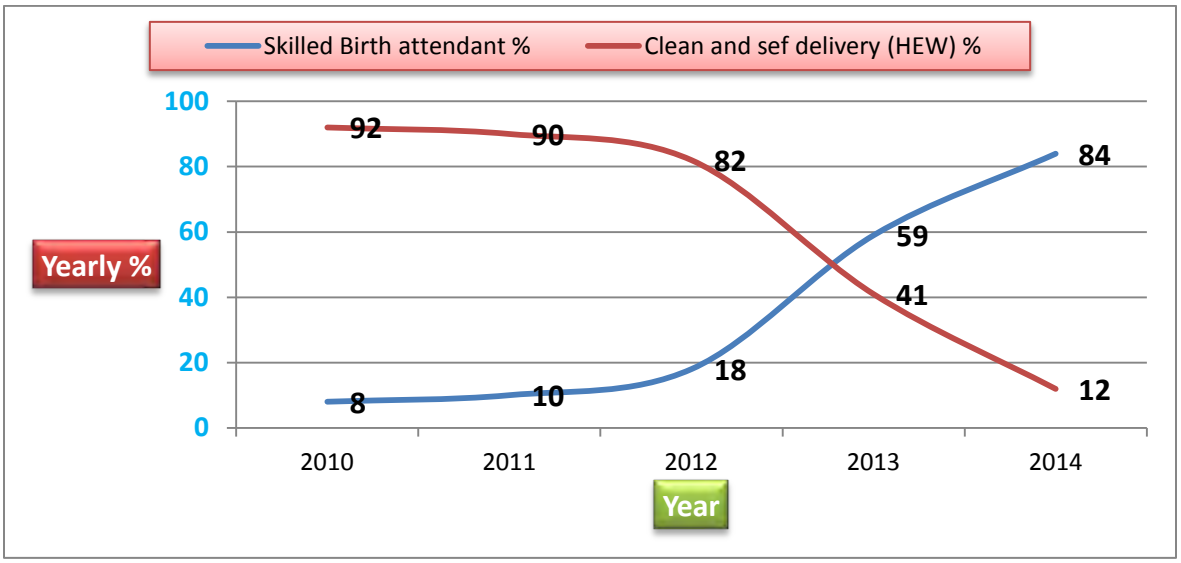


Figure 14:- Delivery attendant b/n skilled & safe delivery 2010-14 in siraro district

Endemic disease

Malaria

Siraro woreda is one of malarias area in west arsi zone to minimize morbidity & mortality in the woreda may anti malaria activity is going on like Environmental management, IRS (Indoor residual Spray), distributing insecticidal mosquito net, drug like Quartum and RDT (Rapid Diagnostic Test) by continuous unreserved effort the trends of malaria decline smoothly from July 2005-june 2006 ec .Regarding IRS 35208 (22%) from plan houses are sprayed and 136,239 population protected from malaria.

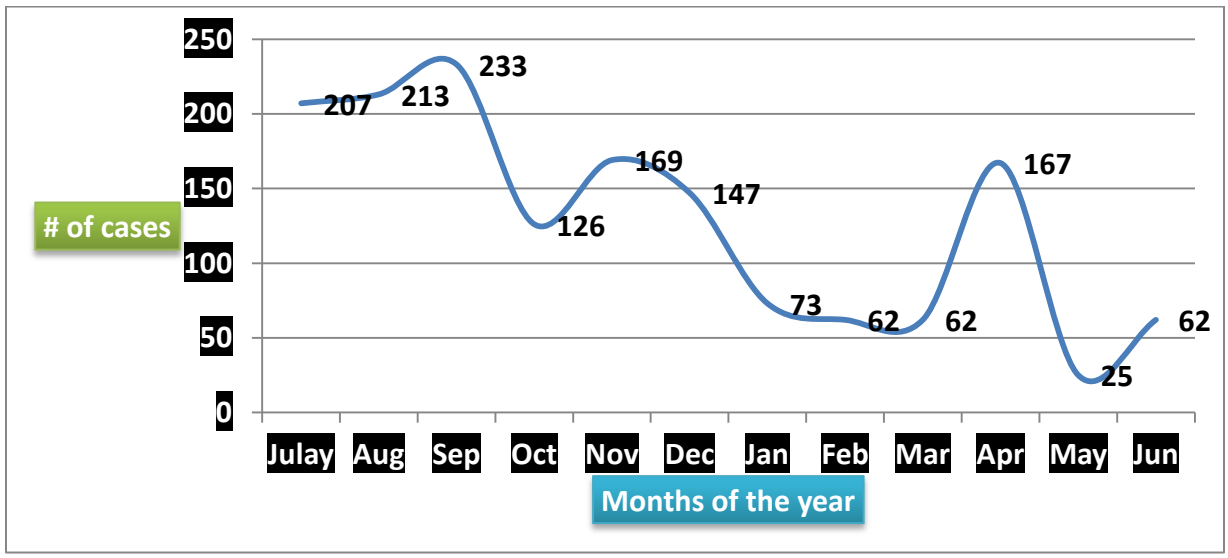


Figure 15:-Siraro district confirmed malaria cases 2005-2006 EPY

Table 19: Malaria activity in 2015

IRS coverage	*Plan*	*Achievement*	*%*
# of Kebele sprayed	22	22	100
# of unit structured	36145	35208	97
House hold covered	24097	472	97
Population protected	136239	136239	100
Pregnant women protected	3366	3366	100
Under 5 yr children protected	26369	26369	100

TB/leprosy

Tuberculoses is one of the indicators followed under HMIS is siraro woreda in 2006 ec performance 121 all forms TB cases identified 116 smear positive cases were reported the treatment cure rate was 121 (92%) from target. When we compare the last five consecutive year's activity of TB case detection, cure rate &treatment success rat yearl significant growth on performance is visible from chart.

Table 20:- Tuberculosis activity 2015

TB activity	Plan	Achievement	%
All forms TB case	529	121	41
Suspected TB cases	2190	2141	98
TB smear +ve	173	116	66
TB treatment cure rate	125	121	92
Treatment complete rate	24	24	100
Treatment complete rate	149	149	100

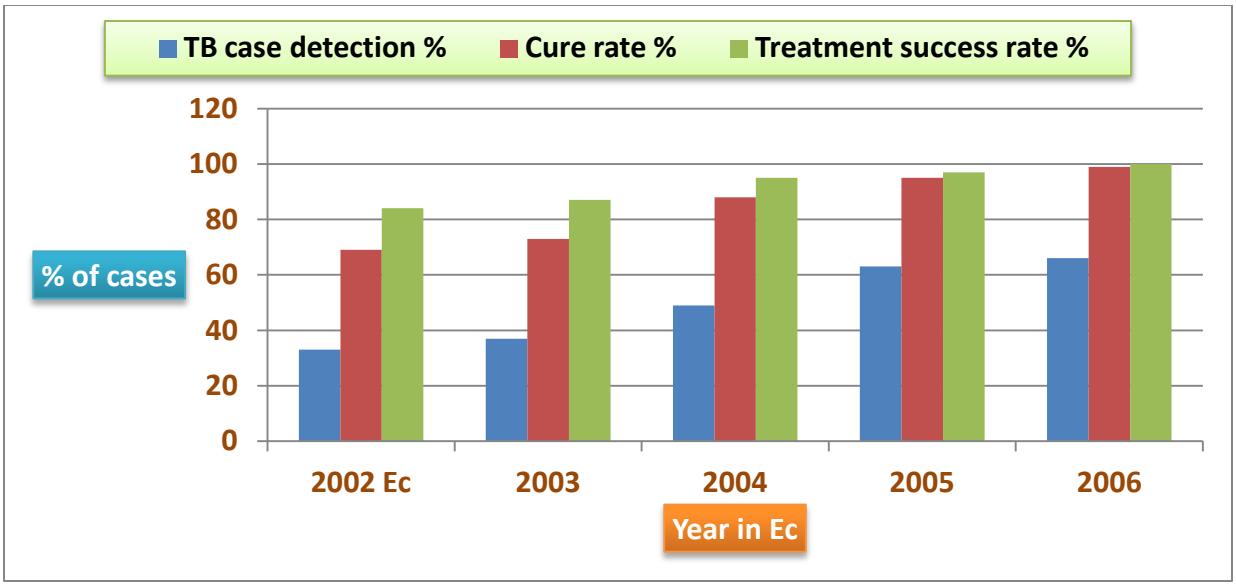


Figure 16:-Trends of TB case detection & treatment cure rate 2002-2006 EPY

HIV/ADIS

In 2006 ec 16855 individual were counseled and tested for HIV/ADIS 13 result positive client enrolled to ART in about 30 kebles CC (Community Conversation) were running 27710 individual were participated in this gathering. In other hand all woreda governmental civil worker convinced to mainstream HIV/ADIS activity beside their day today activity by this monthly contribute 2% of their salary per months in 2006 ec they contribute 67487 birr for different activity in protecting this pandemic disease.

Table 21: Hive activity 2015

HIV ADIS activity	Plan	Achievement	%
PIHCT	14287	16,855	> 100
VCT	22296	22,535	70
PLHIV Currently on ART	13	13	100
# of Kebele CC	30	30	100
Kebele CC Participant	28278	27710	98
# CC school	19	19	100
# of CC school group	95	95	100
School CC participant	5700	5187	91
Mainstreaming EThIO $ 2%	67,487	67,487	100

Public Health emergency management case team

Daily and weekly reportable disease focused by WHO are reported from 28 Health posts and 6 Health center one clinic according to the there was no major disaster last year except one suspected Measles epidemic 2007 EC which affects 25 children from 11/7/07 ec-01/8/2007 but no deaths

Nutrition

The 2011 EDHS estimated the national prevalence of stunting among children at 44.4 percent, the prevalence of underweight at 28.7 percent and wasting at 9.7 percent. The survey also revealed that the level of chronic malnutrition among women in Ethiopia is relatively high, with 27 percent of women either thin or undernourished—that is, having a body mass index (BMI) of less than 18.5 kg/m2. Similarly, the prevalence of anemia among women in the reproductive age group (15–49) was found to be 17 percent (CSA, 2011). Between 2000 and 2011 the prevalence of both underweight and stunting declined 32 and 23 percent, respectively. While this trend is clearly progressing in the right direction, Ethiopia needs to accelerate efforts to reach the Health Sector Development Plan's (HSDP IV) target of reducing the prevalence of stunting to 30 percent by 2015. Known high impact nutrition interventions must thus be scaled up and intensified. (8)

When comes to West arsi zone the condition of mal-nutrition case It is focused by federal minister of health, ORHB and Regional DPPC especially Shashemene town, Shalla woreda and Sirao woreda are reporting unusual increase in OTP and SC New admission. For such condition the change in rain season shortage of drinking water which is 38.8 % including mothers behavior towards child feeding knowledge are the main one specially mothers went long journey to fetch water for house hold consumption more than 6 hour in a day which intern mothers are separated long period of time from their children without care. In December 2014 the case shoots to 319 from 88 cases in November 2014 GC even if the cases decrease by 44% from previous month but slightly increases month by month as we can see from the graph. The woreda has 28 OTP sit and 6 SC sites which report weekly and monthly new admission of Malnutrition cases from Governmental Health facility. Regarding A.C.S of AFP no cases detected out of 2/100,000 children their age is below 15 years ,no NNT cases are detected out of 1/100 live births per year but the is > 100 % detection of suspected case of Measles cases 2/100,000 per total population regardless of age.

Table 22:- Active case search activity in siraro district 2015

Health Facility	Plan	Achievement	%
Senbete sinkile H. center	48	45	94
Loke satellite clinic	24	22	92
Basa H. center	24	20	83
Rophi H. center	48	46	96
Biftu H. center	24	21	88
Shasha H. center	24	18	75
Balela H. center	48	42	88
Total	240	214	89

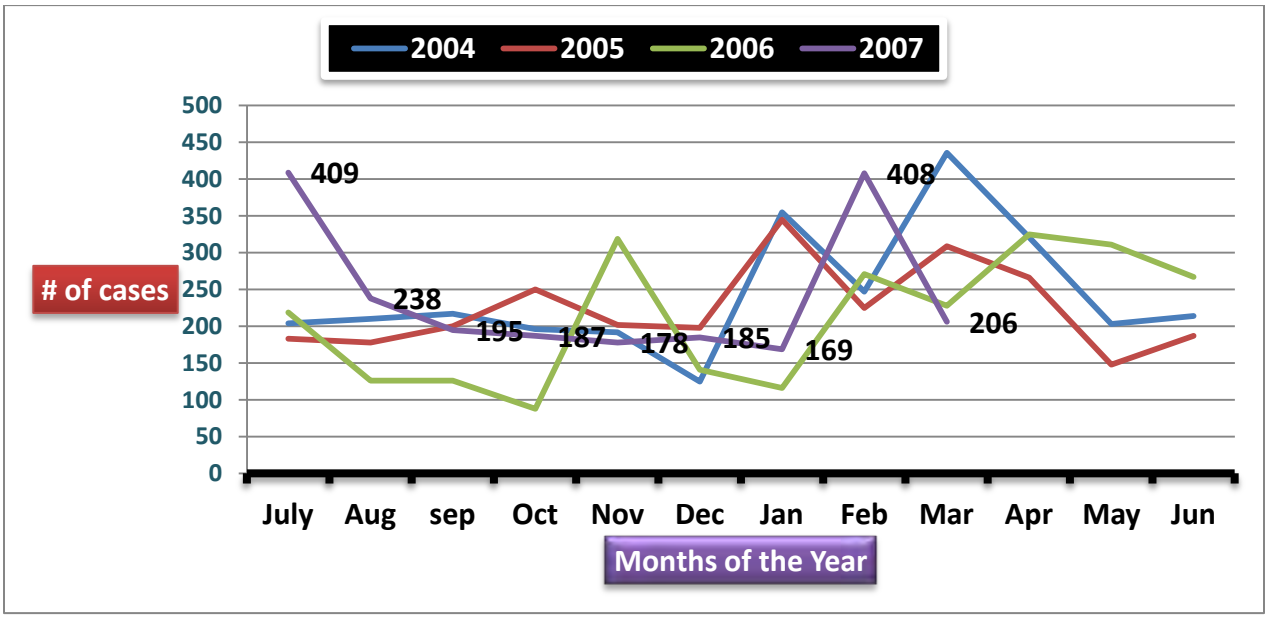


Figure 17:- Trends of OTP new admission in siraro district 2004-2007-EPY

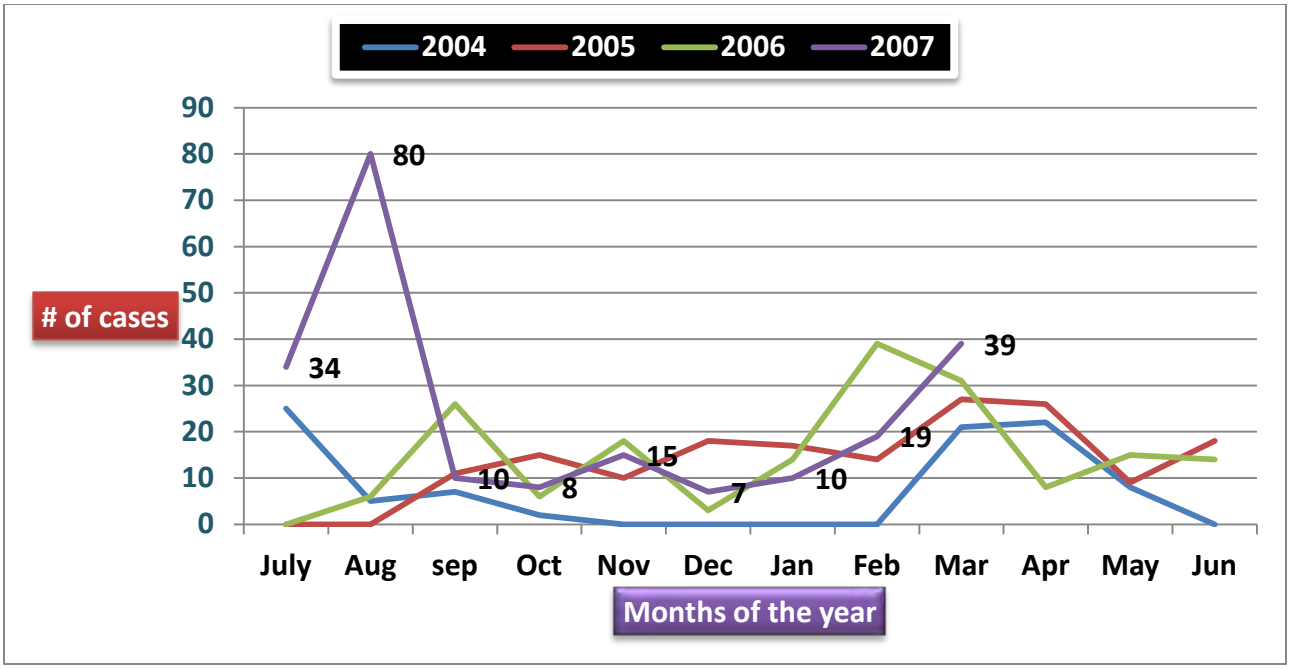


Figure 18:-Monthly new SC admission in siraro district 2004-2007 EPY

Figure 19:- New admission of SC cases during supervision 2015

Financial report

In One country development the contribution of finance is indispensable all activity and materials without the sufficient money not comes in reality as we can see from the table in Siraro woreda the allocation of general budget for running cost and purchasing drug in significantly increasing when the growth on population and number of health facility increases.

Table 23:- Financial activity 2015

Financial Budget by year	T. Population	Running cost	For Drug	# of H. center
1999 E.C	165918	672,252	14000	0
2000	170230	864,891	40000	0
2001	175681	1,292,732	68000	2
2002	180776	1,413,397	75000	2
2003	186019	1,807,119	60000	3
2004	191413	3,214,379	152000	6
2005	196994	5,432,000	32000	6
2006	202676	8,000,012	44900	6

Best practices in the district

In siraro district there is well organized 1123 women development army grouped into 5615 (1-5) groups , highly committed HEW (Health Extension Worker) & health worker with supporting staff .The H. facility distribution in the district is 1 rural Hospital (new contracted not yet start working) 1 satellite clinic 6 health center 28 H. posts with 17 privet small clinics. The district awarded brand new Toyota car from ORHB by their committed efforts in 2005/6 Ec before that they have 2 Ambulance 7 Motor bike and 56 Bicycles for transporting pregnant/laboring mother to the nearest health facility and routine activity. the community member have monthly meeting to review 16 packages more focused on Maternal and child health as good practice they contribute $600,000 birr to buy other new ambulance and 112300 KG different cereals for mother in weighting room and postnatal period in H. facility. More over that to minimize the shortage of water in health facility dealing with NGO like IRC (international Rescue committee) of the district roof catchment system applied for 28 H. post, 6 H. center & 1 satellite clinic with 5000 Lit of water container roto is installed. To play their role in the MDG (millennium goal

development) especially to minimize child & maternal mortality rate all TTBA (Trained Traditional Birth Attendance) identified and health education was given by health workers and religious leaders and convinced to decrease home delivery in 32 kebles by 2006 achieve 12 (37 %) & by 2007 nine month achievement is 17 (53 %) kebles be come home delivery free. By community mobilization they built waiting and PNC (post natal care) unit in each H. center for mothers in child birth and in 28 Health posts living room for H. E.W (health extension worker) .

water roof catchment

Woreda office with new care

Figure 10: Roof catchment water harvesting & new car awarded by good performance with new built district Heath office.

Figure 20:- Traditional ambulance for caring laboring mother in siraro district 2015

Figure 21:- Contributed serials from the community for mothers in weighting room after delivery 2015

Result

In achieving the millennium goal development the woreda health office plying their role as much as possible from main indicators ANC activity 8046(107%) mothers visit the health center for first time when all are tested for HIV only one mother result become positive and immediately linked to ART unit. The huge mobilization in the woreda for the MCH activity was minimizing maternal death due-to delivery as a result significant changes are registered for instance if we see Health facility delivery coverage only 8% in 2010 Gc while clean delivery was 92% but in 2014 gc it reversed completely to 84% for Health center delivery and only 12% for clean and home delivery.mor over that immunization activity was run properly when Penta three is 99 % PCV three was also 99% the main indicators Measles & fully immunized children coverage was 99 & 97 % respectively. In malaria & TB activity many end over are made to protect the community from squeal of this disease. In education office the enrollment of children in 1-4 grade is good but when the age and classes of student increase the absenteeism of student also significantly increasing. The other important issue is the woreda drinking water coverage it is only 38% with difficult long journey to fetch water for house hold purpose.

Conclusion and recommendation

The district Heath office perform visible & tangible in many activities the collaboration of different stake holders & the district administration office for the future there is a lot of activity to keep up the performance on hand and to improve some achievement like TB case detection Low drinking water coverage.

Reference

1. Health and related indictors 2006/7 EC

2. FMOH 2011 Family planning guideline

3. Ethio mini demographic & health survey 2014GC

4. WHO country cooperative report 2014

5. ORHB target aggregated 2015

6. Siaro District target aggregated report 2015

7. Siraro District Tourism culture department fact sheet 2015

8. National Nutrition Program June 2013-June 2015

9. FMOH Mini-DHS-2014

Chapter four Surveillance data analysis

Abstract

A F.P surveillance data analysis West hareghe zone form 2010-2014

Introduction

Acute Flaccid Paralysis (AFP) surveillance was adopted by World Health Organization (WHO) to monitor progress towards poliomyelitis eradication. EFRMOH routinely collects AFP surveillance data throughout the country in all Governmental & nongovernmental health facilities. The study discusses the epidemiology of AFP in West hareghe zone of oromia regional state from 2010-14 GC, evaluates performance of the AFP surveillance system, and identifies components that require strengthening in14 district health office, 2 city administration health offices, 2 Hospitals, 73 health centers & 415 health posts. In wet hareghe zonal health office 127 non polio/AFP cases was collected by AFP case based reporting formats & sent to EPHI lab.

Methods

A retrospective descriptive analysis was conducted on secondary AFP surveillance data from West hareghe zone for the period of 2010-2014.

Results

West hareghe zonal health office reports 127 AFP cases between 2010 and 2014 One woreda health office, two Hospitals, 73 Health centers 415 Health posts were reporting to zone but one woreda Health office (Hawi gudina) & One city administration Health office (Bedesa T) remain silent for the last five years . Of these cases, 59% were <5years of age and 29% were 5-11 years old. 60% were male. None of the cases were confirmed poliomyelitis.

Conclusion

The AFP surveillance system met most of WHO-specified epidemiological and laboratory performance standards. The AFP surveillance programme in west hareghe zone needs to address problems of delayed specimen arrival to the laboratory and incomplete documentation of laboratory findings in the zonal AFP surveillance activity.

Keywords: West Hareghe, acute flaccid paralysis, surveillance, evaluation, poliovirus

AFP surveillance data from West hareghe zone for the period of 2010-2014.

Introduction

Polio is caused by poliovirus (genus Enterovirus). There are three serotypes of polioviruses that cause poliomyelitis with different degrees of likelihood. Type 1 virus most frequently causes epidemics and is most often isolated from paralytic cases of poliomyelitis. Type 3, and to a lesser degree, type 2 viruses also cause paralysis. Types 2 and 3 viruses are more likely to be associated with vaccine-associated paralytic poliomyelitis (VAPP) than type 1. Humans are the only known reservoir of poliovirus, which is transmitted most frequently by persons with in apparent infections. There is no asymptomatic carrier state except in immune deficient persons Person-to-person spread of poliovirus via the fecal-oral route is the most important route of transmission, although the hand-oral route is possible. Poliovirus is highly infectious, with seroconversion rates among susceptible household contacts of children nearly 100%, and greater than 90% among susceptible household contacts of adults. Persons infected with poliovirus are most infectious from 7 to 10 days before and after the onset of symptoms, but poliovirus may be present in the stool from 3 to 6 weeks. Protective immunity against poliovirus infection develops by immunization or natural infection. Immunity to one type of poliovirus does not protect against infection with other poliovirus types. Immunity following natural infection or administration of OPV is believed to be lifelong. Infants born to mothers with high antibody levels against poliovirus are protected for the first few weeks of life only Poliovirus infects only human beings. There is no animal reservoir and the virus does not survive long in the environment outside of the human body. (1-5)

AFP is a clinical syndrome, typically characterized by rapid onset weakness, which may include respiratory and bulbar weakness. AFP is a broad clinical syndrome with an array of diagnostic possibilities, and may be the result of infectious or non-infectious agents. Surveillance is conducted in an attempt to identify cases of AFP and to investigate all reported cases for evidence to rule out poliomyelitis (polio), which is essential for maintaining polio-free status.AFP may be caused by a number of agents. The immune-mediated condition Guillain Barré Syndrome (GBS) is the most common cause of AFP. The causes of AFP, some of which lead to GBS, include, but are not limited to, enteroviruses (including poliovirus), adenoviruses, acute West Nile virus infection, Campylobacter, transverse myelitis,peripheral neuropathy, acute

non-bacterial meningitis, brain abscess, postpoliosequelae, tick paralysis, myasthenia gravis, porphyria and botulism.1, 2, 3*Poliomyelitis must be distinguished from other paralytic conditions by isolation of poliovirus from stool. Certification of polio free status of any country requires non-polio AFP (acute flaccid paralysis) rate of at least 1 per 100,000 children below 15 years and at least 80% adequate stool collection rate for three consecutive years. Advisory Committee on Polio Eradication (ACPE), WHO, in October 2005 recommended an operational target for non-Polio AFP rate of at least 2/100 000 for all endemic countries (1, 2)

Rationale

Routinely analysis of surveillance data is a key function for describing the status of epidemiology within the zone, characterize the disease burden, develop guidance to improve AFP surveillance control efforts, monitoring disease trends, and evaluating the effectiveness of Vaccination activity, disease control programs and policies. Results from data analysis can trigger public health action for the zone and regional health offices as well.

Objectives

2.2.1. Genera Objectives

To assess the detection & documentation of AFP cases in west harerghe zone of Oromia region from 2010-14 GC.

2.2. 2 Specific Objectives

To describe NPAFP trend in the zone from 2010-2014.

To describe & analyze data by time, place & person

To propose indicate recommendations for future action in the zone

Methods

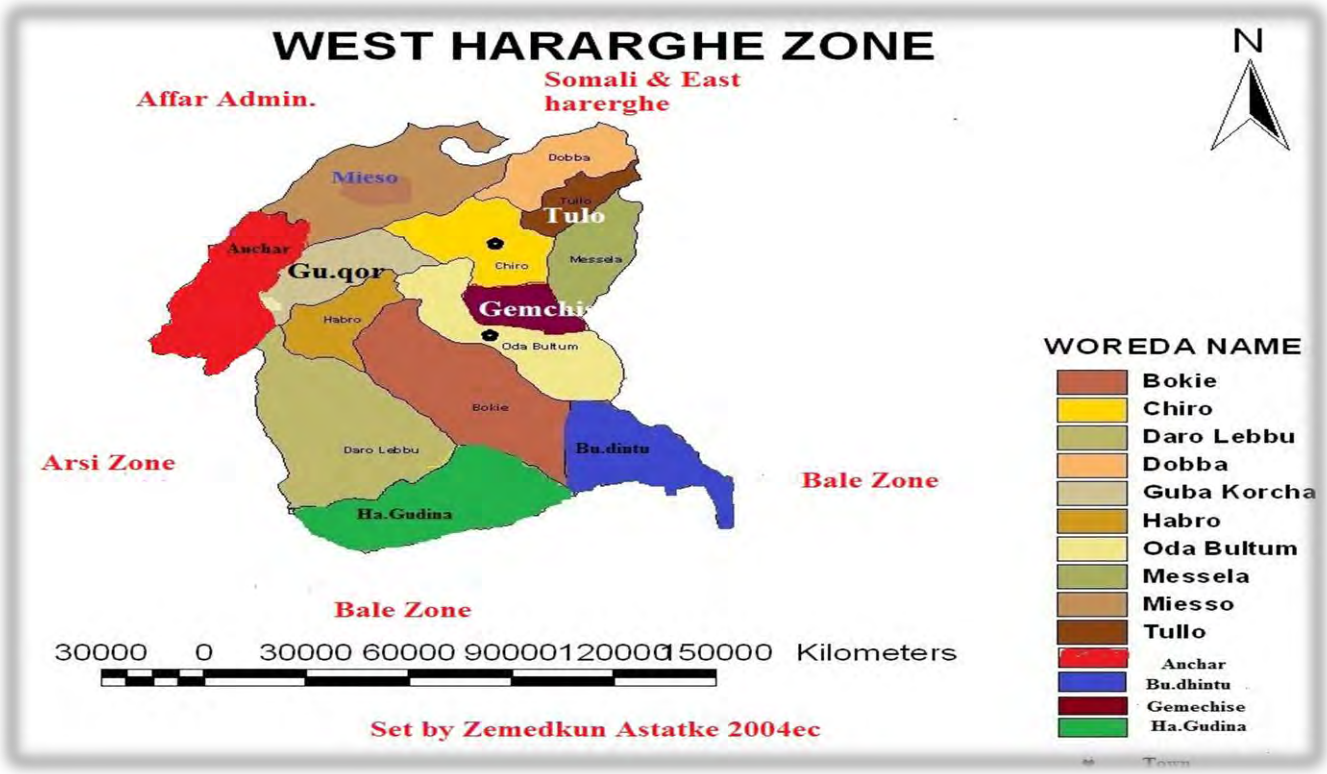
Case Definitions

Probable: Acute onset of a flaccid paralysis of one or more limbs with decreased or absent tendon reflexes in the affected limbs, without other apparent cause, and without sensory or cognitive loss.

Confirmed: Acute onset of a flaccid paralysis of one or more limbs with decreased or absent tendon reflexes in the affected limbs, without other apparent cause, and without sensory or cognitive loss; AND in which the patient:-

Has a neurologic deficit 60 days after onset of initial symptoms has died; or has unknown follow-up status

Study area



Map 5:-Map of West Harerge Zone Oromia

West hareghe zone has 2,333,514 population in 2014/15 EPY population (ORHB HMIS department) of this 1112386 was children age <15 years (47.67%) when we see the distribution or the residence 87% was rural & the zone bordered by north Afar reginal state,East east harerghe zon of oromial reginal state ,West Arsi zone & by south Bale zone of oromia reginal state. In14 woreda health office, 2 city administration health offices, 2 Zonal Hospitals, 73 health centers & 415 health posts surveillance data is collected and reported to zone.

Study period

We collected, analyzed and interpreted secondary data on AFP case for the past five years which is reported to WHO office through EPHI laboratory from west Harerhge zone different health facility by AFP/polio case based format with in 72 hour in good condition of specimen including 4-8 C0 of temperature from 2010-14 GC.

Study design

Cross-sectional descriptive study design was used to analyze 5 years trends of AFP/polio cases from immediately and weekly (case based) reported surveillance data of the west hareghe zone from 2010-14 GC.

Study subject

The study subjects were all suspected cases AFP/polio (all cases registered on line lists & case-based forms) from 2010-14 in west hareghe zonal health office.

Data analysis' Methods

The five years of data were analyzed by using Microsoft Office Excel 2007 to organize and analyze the data appropriately from 2010-14 GC.

Dissemination of result

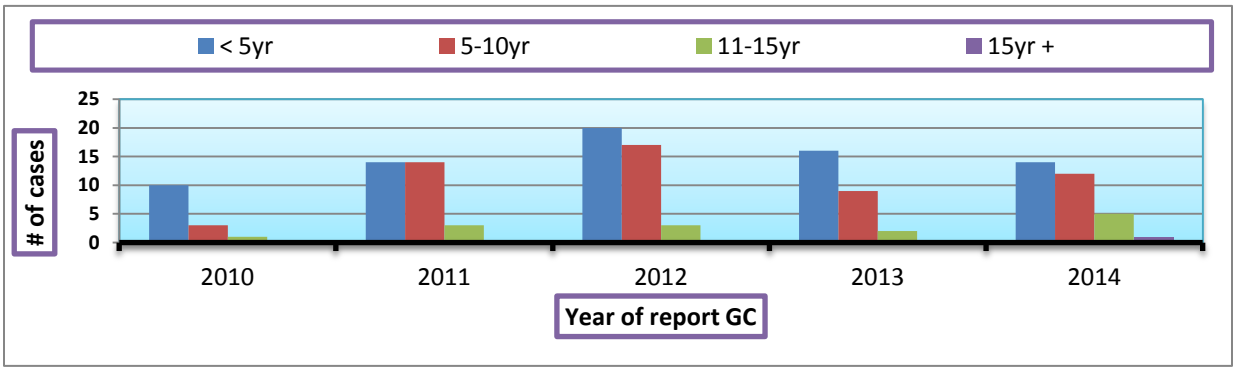
Immediate field supervisor and Mentors commented the prepared Proposal and data collection tools. Both the hard and soft copy of the data collected were compared and crosschecked for assuring the completeness, reliability and validity of the data. After data collection, immediate oral presentation was provided for field supervisor to assure the quality of the data & after accomplishing of the hole document disseminated to the monitor, the coordinators & west hareghe zonal health office on time.

Ethical consideration

Written ethical clearance was promptly obtained from the (ORHB) Oromia Regional Health bureau, PHEM core process to west hareghe zonal health office. The purpose and objective of the study for the requirement of data was briefly explained to the zonal health offices staff & convinced prior to asking for consent to conduct the study.

Results

West hareghe zonal health office reports 127 AFP cases between 2010 and 2014 ,14 woreda health office, two Hospitals, 73 Health centers & 415 Health posts were reporting to zone but one woreda Health office (Hawi gudina) & other One city administration Health office (Bedesa town) remain silent for the last five years . Of those cases, 59% were <5years of age and 29% were 5-10 years old. 60% were male.



. Figure 1:-Distribution of AFP/polio cases by age in west hareghe zone from 2010-1014 GC

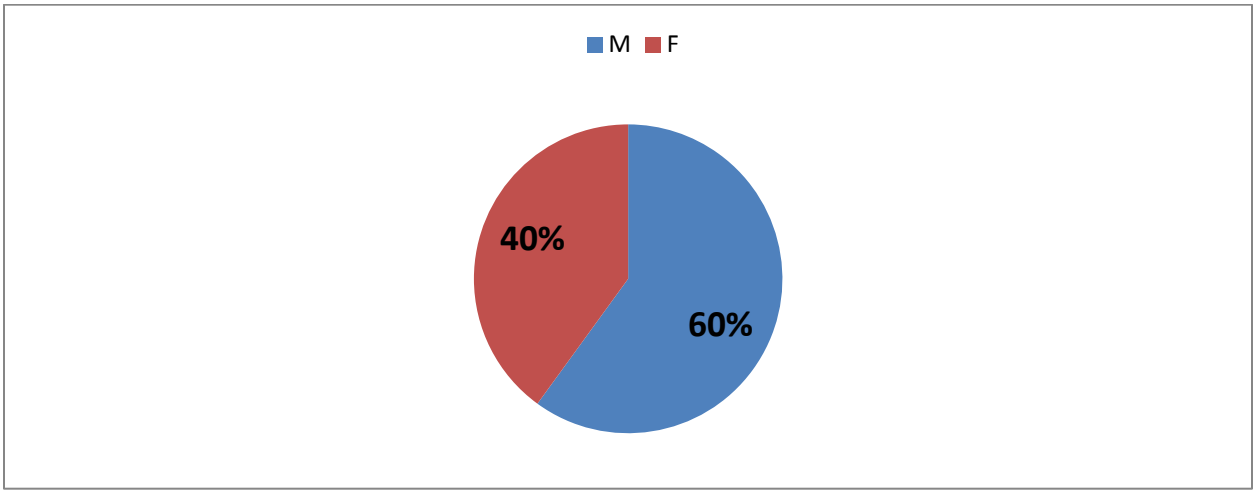


Figure 2:-* Proportion *of male & female of AFP/polio cases in west harerghe zone from 2010-2014 GC.

Non-polio AFP cases/100,000 children <15years in 2010-14 were 3 which is above the standards of National & WHO target.

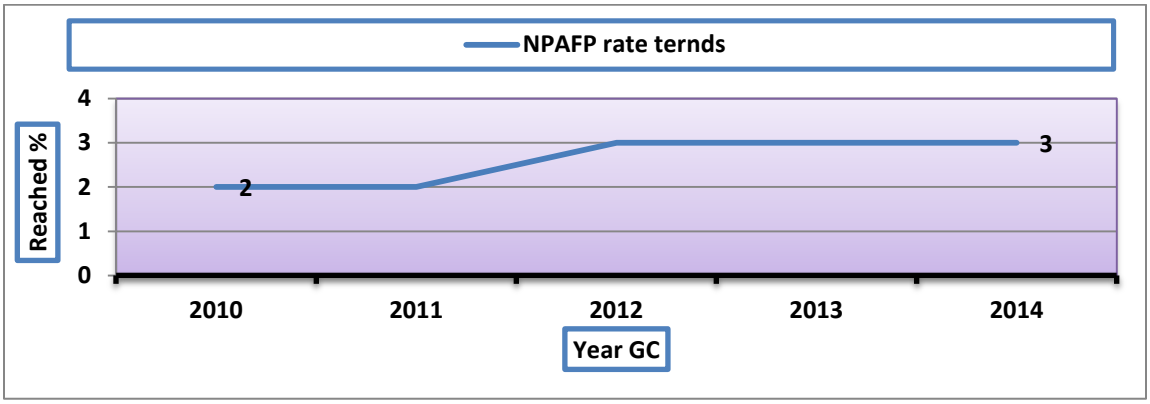


Figure 3:- Trends Non AFP/Polio rate in west hareghe zone from 2010-2014 GC

When we see the trends of stool adequacy rate it met the WHO-specified targets except 2012 which is below the target (80%) standards of specimens collection, reached the laboratory within 72hours of being sent (WHO target is ≥80%).

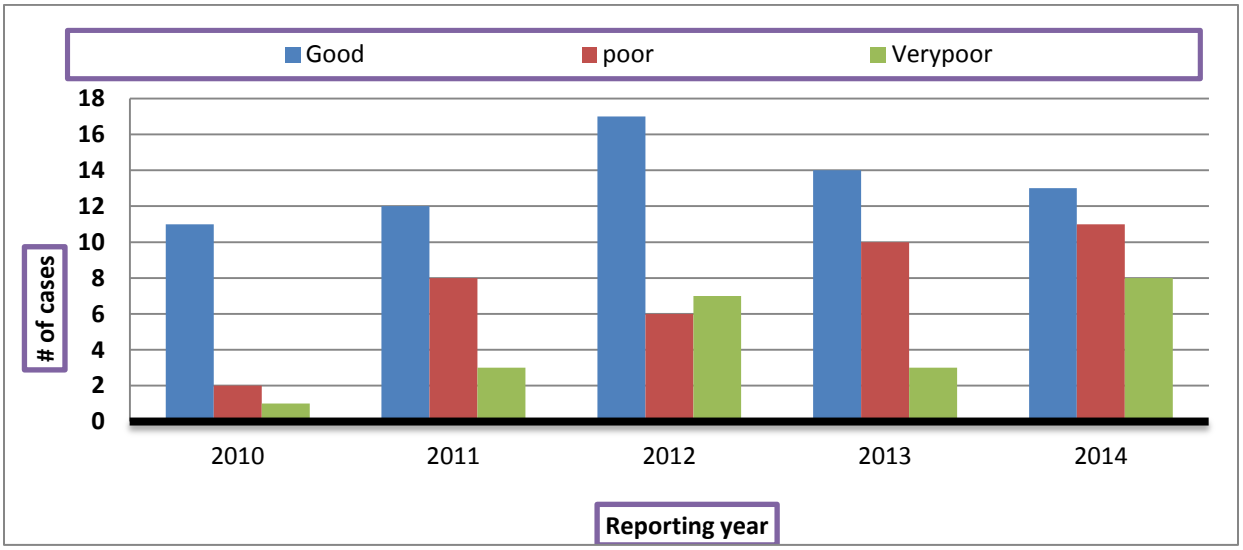


Figure 4:- The condition of stool (specimen) reach to the national Lab. From Health facility 2010-2014 GC

Case detection is the process of identifying cases and outbreaks. Case detection can be through the formal health system, private health systems or community structures. Case definitions and a functioning rumour verification system are vital for case and outbreak detection. In west hareghr zonal health by the help of HEW using community case definition awareness was created about the problem of poliomyelitis and is prevention (Vaccination) that is why the coverage of target vs. achievements of NAFP/polio case detection were above the national and WHO target except > 80% except 2010 which is 78 %.When we compare detection of cases by woreda Habro,Mieso & Tull district reports 17%,15% % 14% respectively but Anchar woreda & Boke woreda reports the lowest coverage within the last five year 7% for each.

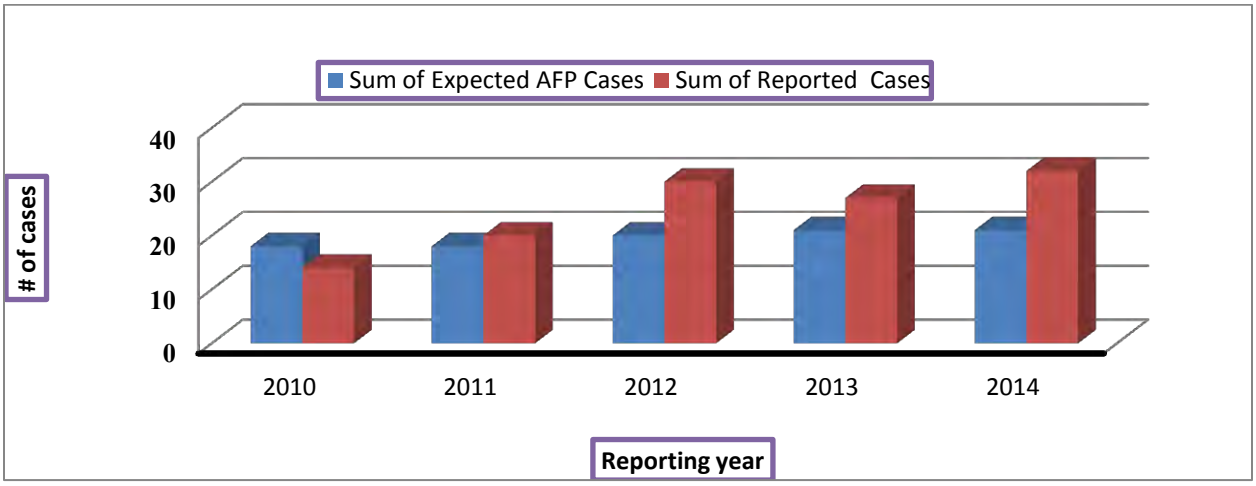


Figure: - West Hareghe zone AFP case detection and reporting from target by year 2101-14 GC

Table 1:- West hareghe zonal health office distribution of AFP/polio reporting woreda by year from 2010-14.

	Reporting year					
Name of woreda	2010	2011	2012	2013	2014	Grand Total
ANCHAR	0	0	5	1	2	8
Bedesa Town	0	0	0	0	0	Silent
BOKE	1	1	2	2	1	7
BURKA DHINTU	0	0	0	2	0	2
CHIRO	1	0	1	1	1	4
CHIRO (TOWN)	0	0	0	1	0	1
DAROLEBU	1	2	2	0	3	8
DOBA	0	3	1	1	2	7
GEMECHIS	1	3	1	1	1	7
GUBA KORICHA	2	3	3	1	6	15
HABRO	1	6	6	4	4	21
Hawi Godina	0	0	0	0	0	Silent
MESELA	0	1	1	2	2	6
MIESO	6	2	6	3	2	19
ODABILDIGLU	0	0	1	1	3	5
TULO	1	2	1	7	6	17
Grand Total	14	23	30	27	32	127

Among 127 cases most of it were collected by health center staff 49% next to hospitals 34% when we see by vaccination status 3-5 doses of OPV is given in 2012-14 except low status in 2010-11 of 3 doses of OPV in the last 5 years expected vs. reported cases good from 2011-14 it shows increment yearly except low performed in 2010. Trends of stool adequacy were all above expected except 60% in 2012 & the trends of NAPAFP rate were all above expected level. Stool condition when reach to the lab.(EPHI) were in good condition Like labeling, linkage, time within 72 hour ,amount of stool & correct temperature 4-8C0 but the condition were worse in 2013 & 2014 poor & very poor condition of stool at arrival was registered.

Table 2:-Distribution of AFP Polio cases reporting Health facility by year 2010-14 GC west hareghe zone of O.R.H.B.

	Reporting facility				
Reporting year	H. centers	Hospitals	Health posts	Wo.H.O	P .clinic
2010	6	5	3	0	0
2011	10	12	0	1	0
2012	12	12	3	2	1
2013	17	7	1	1	1
2014	17	7	3	6	0
Total	62	43	10	10	2

Completeness of reporting sites refers to the proportion of reporting sites that submitted the Surveillance report irrespective of the time when the report was submitted. This is measurable in situations where the surveillance system is such that the number of reporting sites or expected surveillance reports is known, as in the case of "zero reporting". Examples include zero reporting of notifiable conditions, weekly or daily reporting of surveillance data. Completeness of case reporting refers to the match between the number of cases reported and the actual number of cases. This can be obtained by comparing the number of the reportable conditions reported to the next higher level over a period of time with the number of cases recorded in the patient register over the same period of time. In a system where the level of reporting of detected cases is very high, the completeness of case reporting will be directly related to the sensitivity of the surveillance system. The single most important measure of timeliness is whether data are submitted in time to begin investigations and implement control measures. Timeliness of reporting should be measured against standards developed by each country according to our country the target was 80 % the reporting rate was above the expected national target in 20014-15 from WHO wk 28 /20014 –wk 25/2015except Wk 39,49 & 51 respectively .(7)

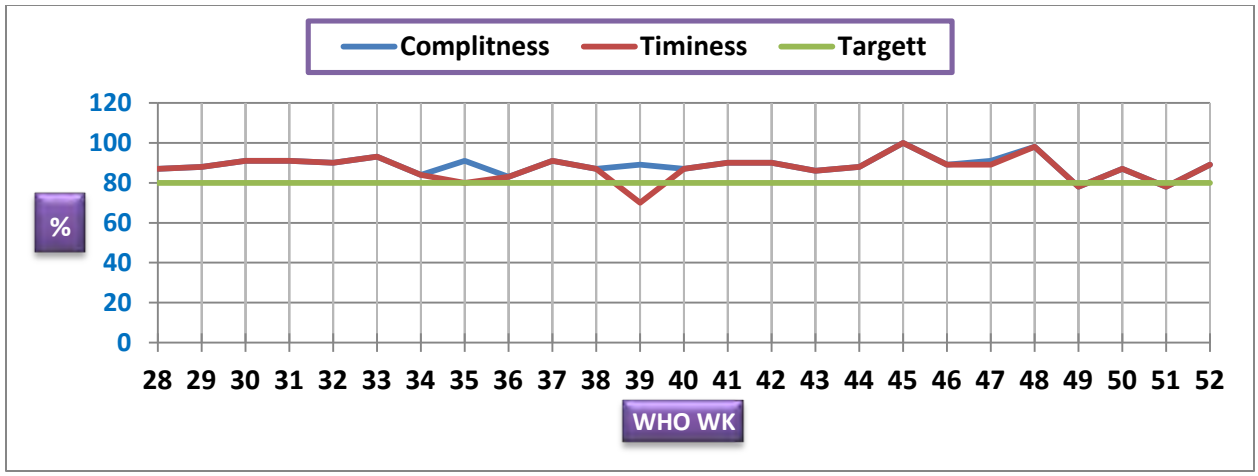


Figure 6:- west harehghe zonal completeness & timeliness of reporting from W.H.O wk 28-50 2014/15 GC

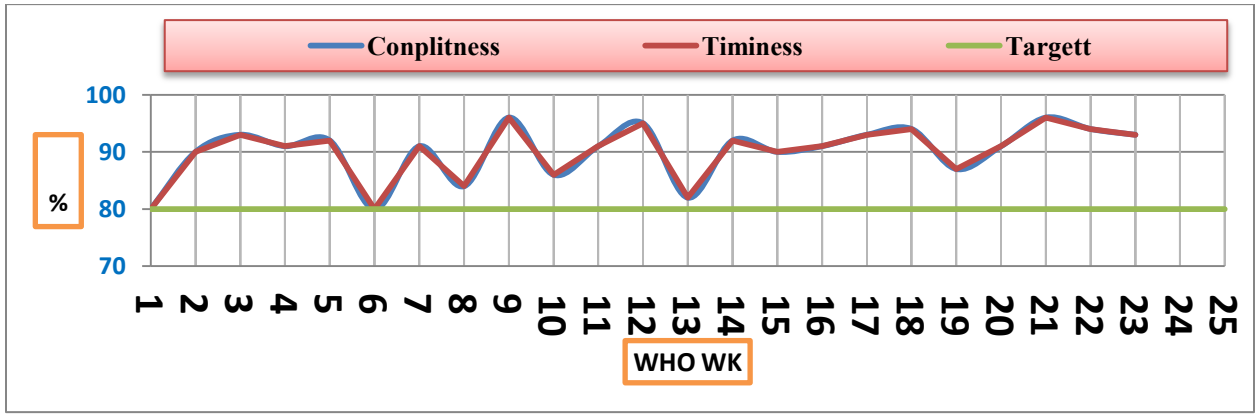


Figure 7:- west harehghe zonal completeness & timeliness of reporting from W.H.O wk 1-25 2014/15 GC

Strengthening routine immunization systems to achieve the Global Vaccine Action Plan (GVAP) coverage targets is fundamental to the polio endgame. Improvements in routine immunization coverage against poliovirus are essential to minimize the risk of VDPV emergence following OPV cessation and to optimize the impact of IPV. Given the inherent weaknesses of health systems in many OPV-using countries GVAP envisages the strengthening of both fixed site delivery of routine vaccination programmes and sustainable outreach activities. The detection and investigation of Acute Flaccid Paralysis (AFP) cases remains the core strategy for detecting both wild and vaccine-derived polioviruses, to guide SIA strategy, to facilitate certification and to validate the absence of circulating VDPVs. (1-3, 6 & 7). In west hareghe zone routine and SIA OPV vaccination was ongoing the 126 case based reported case were given different doses of

vaccination. in year 2010 & 2011 low coverage of OPV > 3 doses but from 2012 – 2014 increasing significantly.

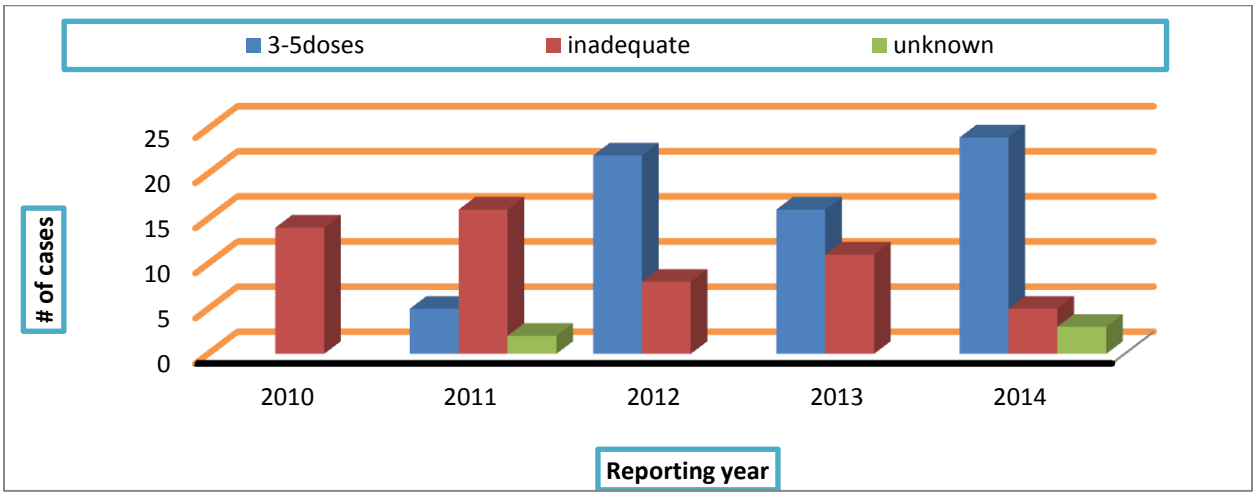


Figure: - tOPV dose given in the zone by year 2010-2014

Discussion & Conclusion

The study indicated that the AFP surveillance system was efficient over the past five years in west hareghe zone, meeting most of the WHO established epidemiological and laboratory indicators. The system has its strength in timely transportation of stool specimen, stool specimens arriving in the lab in good condition, good laboratory performing standards,. In addition to maintaining these best practices, the two most important AFP surveillance indicators, proportion of stool adequacy and non-polio AFP rates have to be strengthened to better enhance the overall performance especially in Doba woreda & Gemechise woreda which failed to meet most of the targets. Long-term surveillance is required to provide a high degree of confidence in freedom from poliovirus infection in the community. In this regard, clinicians, surveillance officers and health workers involved in the AFP surveillance activities have to be strengthened through sensitization meetings and motivation to detect, investigate, collect, transport, report and conduct 60-days follow up to fully meet the WHO standards for the eradication goals.

Recommendation

According to WHO indicators most of it above the regional & national coverage but silent woredas has given du-attention & on job training by local PHEM officer & WHO surveillance officer most cases were reported from Health facility & hospital but the grass root community served by Health extension Worker less reported needs supervision & on job training too. Attention is needed to Hawigudina woreda & Bedesa town which silent for the last 5 years

Reference

1. AFP guideline for Ethiopia 2009

2. PHEM guideline for Ethiopia 2012

3. Vaccine & Biological WHO 2004

4. AFP guideline for Nigeria 2007

5. UNICEF AFP annual report 2013

6. EFRMOH polio immunization guideline 2014

7. Communicable disease surveillance guideline response system 2006 (WHO)

8. POLIO ERADICATION ENDGAME (2013-2018) strategy 2015 (WHO)

9. Ethiopia polio weekly update Wk 9 2008

Chapter five Protocol/proposal for epidemiologic research project

Assessment of Knowledge, Attitude, Practices towards Scabies prevention and control strategies- Anchar district, west hareghe zone Oromia Region, March2016

Introduction

Scabies is a contagious ecto-parasite of the skin caused by the mite Sarcoptes scabiei var. hominis. Approximately 130 million cases of scabies occur worldwide each year. The incidence of scabies can increase during natural and manmade disasters (1-3)

Infestation begins when one or several pregnant female mites are transferred from the skin of an infected person to the skin of an un-infested person. After transfer from the skin of an infected person, or, rarely, from fomites, to the skin of an un-infested person, the adult female mite travels on the skin surface seeking a burrow site. At a suitable location, the pregnant female mite burrows into superficial layers of the skin, forming a slightly elevated narrow tunnel where it deposits eggs. The eggs progress through larval and nymphal stages to form adults in 10 to 17 days. The adults migrate to the skin surface and mate. The males die quickly and the females penetrate the skin and repeat the cycle. The mite requires human skin to complete its life cycle and is unable to survive off the host at room temperature for more than 2 to 3 days.

The severity of scabies infestation is directly related to the number of mites residing on the skin and the length of time between initial infestation and subsequent diagnosis and treatment. If diagnosis and treatment are delayed, the number of live mites multiplies resulting in heavier or atypical infestations.

Scabies usually is spread by direct, prolonged, skin-to-skin contact with a person who has scabies. Contact generally must be prolonged; a quick handshake or hug usually will not spread scabies. Scabies is spread easily to sexual partners and household members. Scabies sometimes is spread indirectly by sharing articles such as clothing, towels, or bedding used by an infested person. An infested person can spread scabies even if he or she has no symptoms. Humans are the source of infestation and animals do not spread human scabies. On a person, scabies mites can live for as long as 1-2 months. Off a person, scabies mites usually do not survive more than 48-72 hours. Scabies mites will die if exposed to a temperature of 50°C (122°F) for 10 minutes.

Scabies affects people of all races and social classes. Scabies can spread easily under crowded conditions where close body and skin contact is common. Institutions such as schools, refugee camps, sanitarium and prisons are often sites of scabies outbreaks. Some immunocompromised, elderly, neurological disabled, or debilitated persons are at risk for a severe form of scabies called crusted, , scabies. Persons with crusted scabies have thick crusts of skin that contain large numbers of scabies mites and eggs. The mites in crusted scabies are much more numerous (up to 2 million per patient). (5)

Because they are infested with such large numbers of mites and therefore persons with crusted scabies are very contagious to other persons. The mite can survive for much longer than the conventional 2 to 3 days inn the thick skin shade. So in addition to spreading scabies through brief direct skin-to-skin contact, persons with crusted scabies have also a high probability to transmit scabies indirectly by shedding mites that contaminate items such as their clothing, bedding, and furniture. Persons with crusted scabies should receive quick and aggressive medical treatment for their infestation to prevent outbreaks of scabies.

Case Definitions and Outbreak Definition

Suspected case: A person with signs and symptoms consistent with scabies.

Confirmed case: A person who has skin scraping in which mites, mite eggs or mite feces have been identified by a trained health care professional.

***Contact*:** A person without signs and symptoms consistent with scabies who has had direct contact (particularly prolonged, direct, skin-to-skin contact) with a suspected or confirmed case in the two months preceding the onset of scabies signs and symptoms in the case.

Statement of the problem

The impact of the severe drought in Ethiopia attributed to El Niño weather conditions ensuing high levels of malnutrition that increased the potential for diseases outbreak. Currently Ethiopia is experiencing scabies outbreak in drought affected areas where there is shortage of safe water for drinking and personal hygiene as a result of direct impact of the drought.

In this regard, the Federal Ministry of Health (FMOH) in collaboration with partners is planning to respond that aims to rapidly stop community level transmission of scabies outbreak using multi-sectoral intervention approach in affected and high risk districts selected based on nutrition and scabies outbreak risk criteria. Planned interventions include Health, WASH and Communication for development. (2-5)

Since Oromia reginal bureau receive scabies report from different zones about scabies. In west harerghe zone locally called “chito” attacks more than 1500 individuals from miner to sever complication from September – January 2016 in four different district of the zone namely Habro,hawi gudina ,Guba qoricha, Oda bultum,Boke , tulo & Anchar distirct . All government health facility was running out of stock the community does not know where to go for cure & privation so that other used local treatment by indode & iret which is locally available detergents for cure.

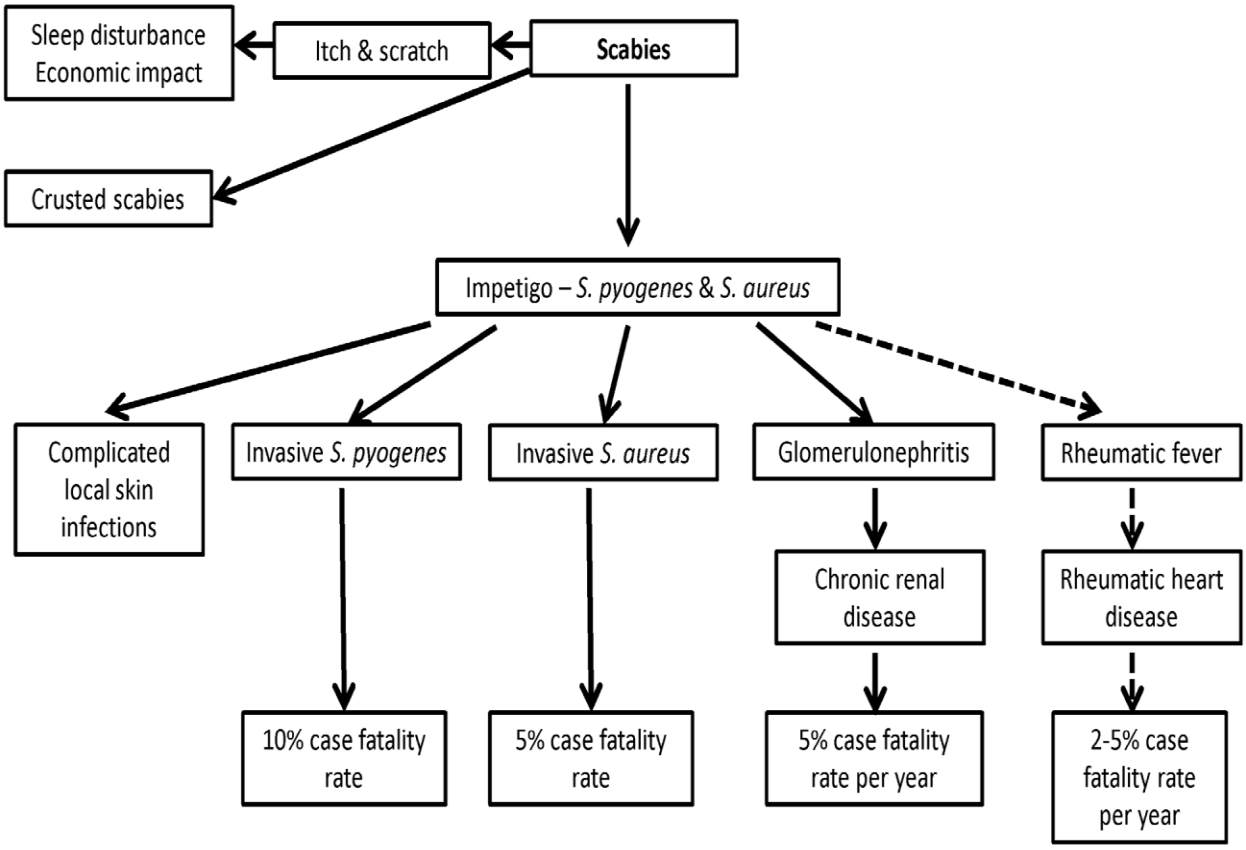
Significance of the study

The main objective of disease prevention & control programmes is to stop local transmission of communicable disease, and surveillance is a principal strategy for achieving this. The capacity of communicable disease surveillance systems to provide accurate information on the distribution and trends of disease varies from one district to another. Moreover, surveillance is mainly influenced by the extent to which patients seek treatment, whether patients use public sector health facilities, the proportion of patients that receive a diagnostic test, and the completeness of recording and reporting systems.

Assessment of disease surveillance system and control measures at regional and zonal level, especially in those district with high disease transmission will remain crucial to obtain reliable estimate of surveillance and control measures status.

In this case, epidemiological assessment of communicable disease like scabies surveillance and control interventions at community level in this district is necessary to measure the status of scabies KAP among respondents (> 15 years of age) in this district, towards prevention and control efforts, and to identify the gaps and intervene accordingly. Moreover, this will contribute for the improvement of the district health provider's surveillance knowledge and control strategy.

Table shows the severity of complicated scabies



Objectives

General objective

To assess Knowledge, Attitude and Practices of communities towards scabise prevention and control strategies in Anchar district west hareghe Zone.

Specific objectives

To assess knowledge of the communities towards scabies disease transmission

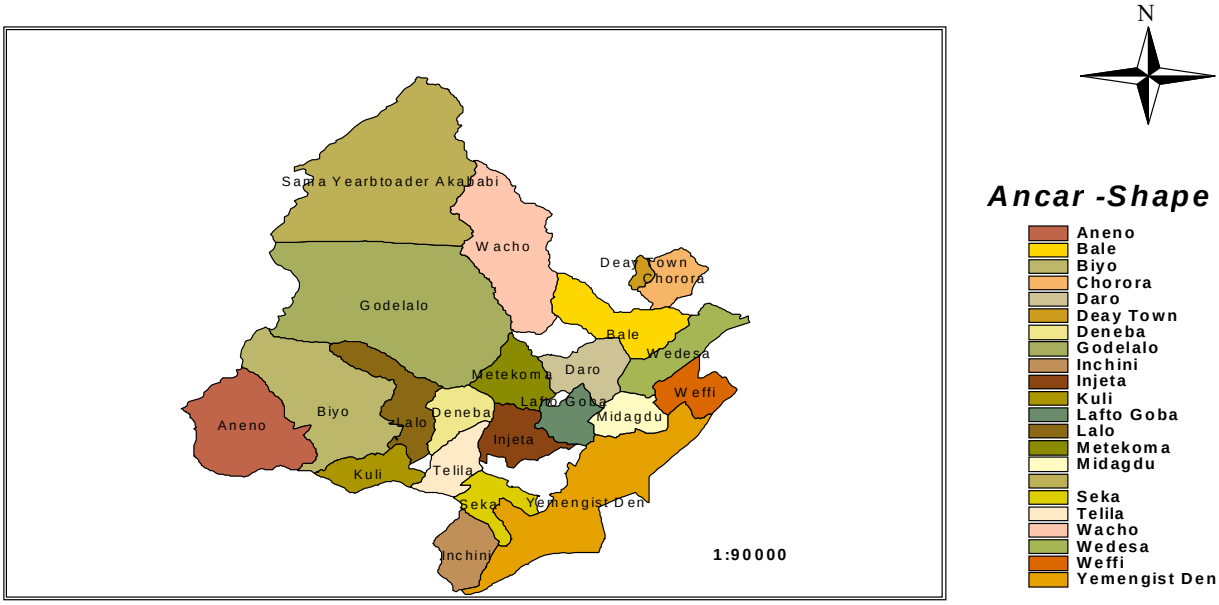
To assess communities attitude towards scabies prevention and control activities

To determine communities practice in scabies prevention and control responsibilities

Methods and Materials

Study area and period

The study area, Anchar is one of 15 districts from west harege Zone, which were 325 Km far from Addis Ababa and 126 KM from zonal Capital chiro district. Surrounded by it is bounded by Mi'eso woreda in the north, Aseko woreda In the south, Fentale woreda In the West And Daro lebu and Guba qoricha woreda in the. The population of was 104616 (Central Statistical Agency). There were a total of 5 health centers and 23 health posts in the area. The study will be conducted March through July 30/ 2016.



Map of Anchar woreda

Study Design and Data Collection

A community based descriptive cross sectional study design will be used to assess knowledge; attitude and practice of the community towards scabies prevention and control strategies. Semi-structured questionnaire will be administrated to conveniently selected HH in urban & rural Kebeles; and document reviews will be used to collect data.

Source Population:

All households living in Anchar district of west hareghe Zone;

Study population:

Households in the selected Kebeles of the district;

. **Sampling Procedure**

The total (21 rural and 2 urban) kebeles in the District initially be stratified into rural and urban areas. Then, 10 rural and 1 urban kebeles will be selected by lottery from the total kebeles in the district. Each kebele will be considered as one cluster. In each kebele there were three zone for that Population bases simple random sampling method will be used to recruit study subjects. H.H registry or family folder will be used as sampling frame. Randomly selected households with targeted age group will be included in the study. If random selection falls to households with no eligible age group the next house hold will be included to the study house hold

Sample Size Determination*:*

The sample size will be determined by considering the proportion of at 50% "P" derived from a previous study in Ethiopia with 95% confidence level and 5% marginal error. The sample will be calculated by using single proportion formula.

$$n = \frac{z^{2\alpha}/2\ P\ (1-P)}{d^2}$$

Where $z^2\alpha/2=1.96$, p=50% and d=0.05

$$n = \frac{(1.96)^2 0.5(1-0.5)}{(0.05)^2} = 380$$

10 % non Reponses rate = 38

n = 418

Where

n= the number of mother/caretaker to be interviewed

d= margin of error

P= proportion of participant previously KAP survey conducted

. **Data Analysis:**

Data will be analyzed using Microsoft Excel and SPSS version 21 and geographic information system (GIS) to display the study area.

Quality Control

Training will be given for all data collectors prior to data collection period. Close supervision will also be conducted during data collection. The investigator will check missed and incorrect data and revisiting will be conducted to fill missed information.

Ethical Considerations

Primarily this proposal will be submitted to Oromia regional health R.B for approval. After all written consent will be given for each study participants; their willingness will be asked before interview will begin. Any personal and political related information will be kept and used confidentially only for study purpose.

Dissemination of findings

Results will be submitted to Ethiopia Field Epidemiology Training Program. To help in future Interventions the result will be communicated to governmental and non-governmental bodies. These include the Anchar district Health Office, west harerghe Zonal Health Department, Oromia Regional Health Bureau,

Expected outcomes

The factors that may influence people against prevention & control of scabies will be clearly identified and documented. The result used for the community towards good attitude.

Work plan

Table 24:- Giant chart of the EPi project activity in west hareghe zone 2016

Phase	Activity	Time period for each task in 2016																					
		March (week)				April (week)				May (week)				Jun (week)				July (week)					
i	Proposal preparation																						
ii	Submit draft proposal to mentors, for comments																						
iii	Accept comments and suggestions from mentors,																						
iv	Submit proposal to the school for approval																						
v	Data collector selection, training																						
vi	Data collection																						
vii	Data analysis																						

viii	Present draft complied result for comment																			
ix	Present compiled work																			

Budget

Table 25:- Cost breakdown for epi project 2015

	Budget Category	Measurement	Quantity	Number of days	Unit Cost in EBR	Total Cost
1. Training						
1.1	Principal investigator	Person x days*unit cost	1	5	400	2000
1.2	Field Supervisors	Person x days*unit cost	3	7	200	4200
1.3	Data collectors	Person x days*unit cost	7	10	200	14000
1.4	Data entry clerk	Person x days*unit cost	2	15	200	6000
Sub total						26200
2. Transport						
2.1	Fuel	Lt	593	1	20	11860
2.2	Car Rent	Number	1	15	1500	22500
Sub total						34360
3. Stationary/Supplies						

3.1	Questionnaire duplication	Questionnaire	500		4	2000
3.2	Flip chart paper	Each	2		85	170
3.3	1 pack Pen	Pack	2		170	340
3.4	Pencil	Pack	1		20	20
3.5	Eraser	Number	5		21	105
3.6	Sharper	Number	5		25	125
3.7	Marker	Pack	2		100	200
3.8	Printing paper (pack)	Pack	6		120	720
3.9	Printing and Binding	Pack	5		150	750
Sub total						1920
Total						62480
Contingency 5%						3124
Grand Total						67524

References

1. Multispectral scabies outbreak response guideline FMOH 2015
2. EliNinon Implication & scenarios WFP 2015
3. Management of scabies outbreak In health center California 2008
4. The FMOH Poverty reduction strategy Annual report 2005
5. Scabies protocol in prisoner clinical practice guide line 2014
6. Scabies prevention & control Michgan 2005
7. The Mgt of scabies infection in the community norther group 2015
8. Europeans guideline for the Mgt of scabies 2015

Annex1:- **Questionnaire for KAP of Communities towards Scabies Prevention and Control Strategies, Anchar district of west hareghe zone, March 2016**

Date data collection _____ Area location/Latitude_____ longitude: _____

SOCIO –DEMOGRAPHY		
s/n	Questions	response
1	Age	###
2	Sex	1. Male 2. Female
3	Education	1. Illiterate 2. Primary 3. Secondary 4.Other ___
4	Occupation	1. Farmer 2. Merchant 3. Other___
5	Marital status	1. Single 2. Married 3. Divorced 4. Other__
6	House hold size/bed room #	_____
7	Religion	1. Christian 2. Muslim 3.Protestant 4.Other___
8	Income source per month Income status 5000+ 1000	###
9	Respondent position in the H.H	_____
Determinants		
11	Do you access water 40 let/individual daily for H.H purpose?	1. Yes 2. No 3. Other__
2	Do you access a water 20 let/individual daily for	1. Yes 2. No 3. Other__

	drinking?	
3	How often have bath?	1. Wkly 2. 1-2 wk 3. More than 2 wk
4	Was there scabies case in your home the last one month?	1. Yes 2. No
5	If yes, if yes how much in number?	1. One 2. Two 3. More than two
6	Are there any scabie cases in your area the last months?	1. Yes 2. No
7	Was Health education about scabies give by H.E worker?	1. Yes 2. No
8	What advices you got from health personnel?	_____
KNOWLEDGE		
1	What is the cause of scabies case mean?	----------
2	Where is the preferable site that scabies con reside in your body?	_____
3	What is the mode of transmission for scabies?	1. person to person cases 2. From food 3. through contact with case 4.Curse 5. Don't know
4	How it can be prevented scabies?	_____
5	What are the symptoms of scabies disease?	1.Fever 2.itching 3.Pusy wounds inter finger 4. Fever + Rigors + Headache 5. deformed fingers 6. Other specify

6	What is the possible treatment for scabies disease?	1.modern medicine 2.Stay at home 3.traditional medicine 4.any(specify)_____
7	Do you think that scabies complicated if un treated?	1. Yes 2. No
8	How soon after suspected scabies would you seek treatment?	_____
9	Have you ever heard about scabies prevention and control strategies?	1. Yes 2. No
10	If yes from whom	_____
11	Who is the most susceptible is for scabies?	1. <5 years 2. Pregnant 3.18-45 Ages 3.All ages 4.Other(specify)_____
ATTITUDE		
1	Do you think scabies can be prevented by good personal hygiene?	1. Yes 2. No
2	Do you think that scabies car treated by only modern medicine?	1. Yes 2. No
3	Was scabies curse ore caused by biological causes?	1. Curses 2. By biological causes
4	Do you believe that scabies transmitted person to person?	1. Yes 2. No
PRACTICE		
1	Where is your most practice during scabies epidemic?	_____
2	Do you always use sop & water during washing?	1. Yes 2. No
3	Do you seek modern treatment if your family got	1. Yes 2. No

	scabies?	
4	If someone from your household gets sick, where do you take first?	1. HF 2. Stay home 3.Traditional healer 4.Other(specify)____
5	Have you participated in personal hygiene against scabies?	1. Yes 2. No
6	If not, why not?	_____
7	If so, what is your experience in preventing scabies?	_____

Chapter six abstract for scientific presentation

Abstract

Introduction

Scabies Outbreak Investigation in Anchar District, West HareghеZone, Oromia Region, Feb, 2016

Background: scabies is highly contagious, water scars disease related with poor social economic condition and lack of clean and enough water in the community. In January, 2016 a roumer of scabies cases reported from west hareghe zone and we investigated the outbreak to characterize it, identify risk factors, and implement public health control measures.

Methods: We conducted a descriptive and analytic case-control study with 22 cases and 44 unmatched controls study design active cases was Line listed, ACS in to health facilities were conducted by reviewing OPD registration and HMIS reports. We defined suspected cases of scabies. P-value and 95% confidence interval for odds ratio were used in deciding the significance of the associations.

Results: We identified a total of 490 scabies cases. The outbreak was not confirmed by laboratory but scabies was easily diagnosed by trained person. The overall attack rate of this outbreak was 46/ 1000 populations. Age specific attack rate was high in range 5-14 years 131(26.7%) and 188(38.4%) was Male. In bivariate analysis, living in crowded area was significantly associated by [Odds Ratio (OR) =4.4; 95% CI (11, 17)], sharing contaminated close during night [OR=6.3; 95% CI (2, 20)], was significant risk factors associated with contracting scabies.

Conclusions: Travel history during epidemic of scabies can disseminate the cases to scabies free area, health facility ACS can identify the active cases and decreased the communicability of disease area to area. We recommend strong ongoing active case surveillance of the disease health education on treatment and prevention of scabies to be enhanced and continued in the community by health workers and local NGO's.

Key words: Scabies, Outbreak, Risk factors, mite.

Abstract

A F.P surveillance data analysis West hareghe zone form 2010-2014

Introduction

Acute Flaccid Paralysis (AFP) surveillance was adopted by World Health Organization (WHO) to monitor progress towards poliomyelitis eradication. EFRMOH routinely collects AFP surveillance data throughout the country in all Governmental & nongovernmental health facilities. The study discusses the epidemiology of AFP in West hareghe zone of oromia regional state from 2010-14 GC, evaluates performance of the AFP surveillance system, and identifies components that require strengthening in14 woreda health office, 2 city administration health offices, 2 Hospitals, 73 health centers & 415 health posts. In wet hareghe zonal health office 127 non polio/AFP cases was collected by AFP case based reporting formats & sent to EPHI lab.

Methods

A retrospective descriptive analysis was conducted on secondary AFP surveillance data from West hareghe zone for the period of 2010-2014.

Results

West hareghe zonal health office reports 127 AFP cases between 2010 and 2014 One woreda health office, two Hospitals, 73 Health centers 415 Health posts were reporting to zone but one woreda Health office (Hawi gudina) & One city administration Health office (Bedesa T) remain silent for the last five years . Of these cases, 59% were <5years of age and 29% were 5-11 years old. 60% were male. None of the cases were confirmed poliomyelitis.

Conclusion

The AFP surveillance system met most of WHO-specified epidemiological and laboratory performance standards. The AFP surveillance programme in west hareghe zone needs to address problems of delayed specimen arrival to the laboratory and incomplete documentation of laboratory findings in the zonal AFP surveillance activity.

Keywords: West Hareghe, acute flaccid paralysis, surveillance, evaluation, poliovirus

Chapter seven Borena field report

Field report from Borena zone of oromia region Moyale district From September-December 2015

REF MYL/SCPllO/SI/VOL, 11/94/2015

Date 21th August 2015

RE: CHOLERA ALERT

It has come to the attention of this office that is cholera outbreak in the neighboring county Wager (about 200 KM from Moyale) where several cases have been diagnosed. Death reported & other hospitalized. Moyale being adjacent & in close proximity, spill over of the disease is anticipated or feared. Therefore by the copy of this notice we request your humble office to be in high alert.

Stamp

Malicha Boru

Sub county Public Health officer Keniya Moyale County

Background to Moyale Ethiopia district oromia

Moyale district is found in the Borana Zone of Oromia Regional State. Its capital town is situated at 775 km south of Addis Ababa bordering to northern Kenya. The total population of the District is estimated 163,984_ 2008 EPY among this 68.74 male. The rural population comprises nearly 75% of the total population while the remaining 20% are urban residents.

The topography of Moyale district includes scattered volcanic cones and gently undulating & flat plains. The altitudinal range varies from 900 – 1,600 meters above sea level. Agro-Ecology of the district is semi-arid & Dry arid.

Rainfall pattern in Moyale is bi-modal in character, where there are two rainy seasons in a year. About 60% of the total annual rainfall is received in the long rainy season, which extends from mid March to mid April, while the remaining rainfall is received in short rainy season of month of October only. The rainfall pattern can be characterized as erratic, unpredictable, and unreliable. Average annual rainfall ranges from 400mm to 700mm with wide variation in area and time.

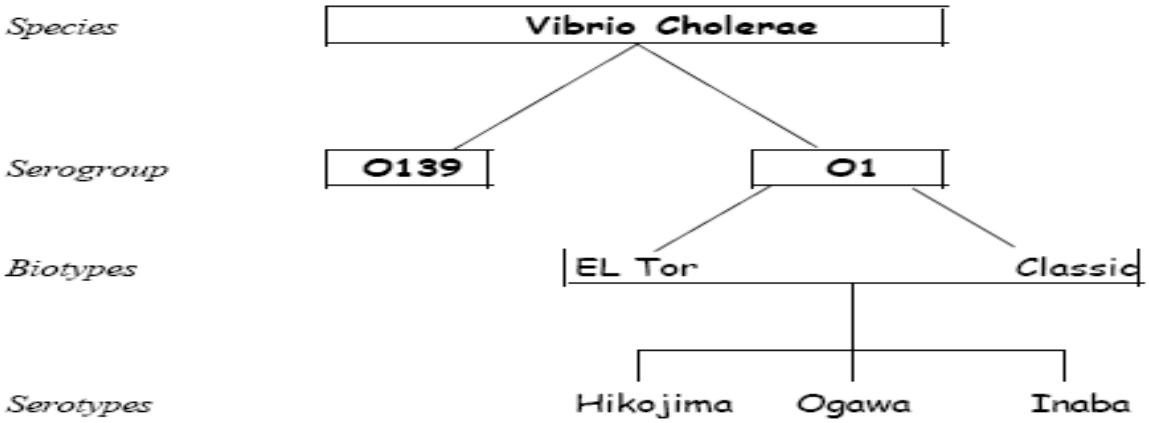
The semiarid and dry arid climatic ecosystem of Borana has created two subsistence production systems: pastorals, and Agro-pastorals, the interactions of which constitute the bases for local food supply, sustainable and subsistence livelihood. Borana is a land of extensive type of livestock production characterized by seasonal movement, herd diversification, and overstocking tendency, the justification of which are optimum utilization of the scarce rangeland resources (pasture, browse, and water). Livelihood is largely dependent on livestock and livestock

products. About 96% of Borana pastoral community food is obtained either directly or indirectly from livestock and livestock products. Originally, the lowlanders were exclusively pastoralists, however, fundamental shifts in pastoral style of life are underway today especially cultivation of crops are being practiced in areas having Average rainfall and water collecting landscapes, which is Agro-pastorals.

Map of Borena zone

Map 6:- Map of Borena Zone Oromia

Moyale district have 18 rural & 3 urban kebles regarding health facility 1 rural hospital 6 type B health center & 18 health posts. 18 OTP & 3 SC sites were running treating Mal-nutrition cases in weakly bases. The wreda undergone 4th round CHD screening activity of 2005 EPY starting on the middle of August 2015 which we got chance to help and visit the registers at heath posts. The raw data of CHD 1-4 analyzed soon. The annual latrine water coverage was 40 & 28% respectively in 2007. AWD/cholera is an acute enteric disease characterized by the sudden onset of profuse Painless watery diarrhea or rice-water like diarrhea often accompanied by vomiting, which can rapidly lead to severe dehydration and cardiovascular collapse. It is caused by the gram-negative bacteria called vibrio cholerae,



History of Cholera in the zone

In February 5th 2009, Borana zone was an entry point of AWD to Oromia region.

The 1st case was reported from Moyale woreda, kebele 02 on February 05, 2009

Eventually involved 7(W. Arsi, Arsi, E/ Shoa, E/Hararge and recently W/Hararge and N/Shoa)zones, 21 Woredas

6188 cases and 77 deaths were reported until November, 2009 with CFR 1.3.

Main activity in moyale woreda of Borena Zone from 29/8/2015 GC

After the moyale county public health of Kenya notify the moyale woreda health office of borena zone about the emerging outbreak in neighboring county approximately 225 KM all Kenya ethiosomalia & moyale woreda of oromia health office & administration with the community leaders was doing a lot of tasks against the expected epidemic after we arrive the woreda :-

Revitalize the existing both task force & assigned technical task force

The District task forces conduct their meeting every other day in oroimia & Ethio Somalia administration office.

All government (public servant) got orientation on AWD prevention and their contribution.

Total sanitation campaign performed every 2 week on Saturday 6:00 AM -11:00 Morning

Hotel & restaurant inspection done weekly bases

Since there more than 1000 shallow deep well are used for dirking food preparation du-to lake of E/power more than a month chlorination of water performed days by trained environmental health workers.

One rural hospital 6 Heath centers & 9 Health posts supervised for malnutrition performance and knowledge about AWD case definitions was posted.

About 55 Health workers from Mio, Direa & moyale woreda AWD training for 2 days given 8 were female which are might be entry area.

Resource mapped the NGO's working in the woreda participated

11 health workers formerly working on Ebola screening were trained & assigned to the port as Cho-Ebola screening team.

Preparedness plane reviewed corrected

Daily plan developed delivered to the decision makers.

One CTC established as preparedness outside the moyale health center & graded.

Every other days we were cross the border to Moyale Kenya health office to international cross border meeting & for update of the situation. Lastly accordingly Mr Malicha Boru the head of sub city public health officer from Jan. 2015-August 29/2016 there was a total of 300 cases, 6 death (2 female) of cholera & was7 admitted in CTC of Wajir sub city hospital.

The rationale to establish C T C in moyale district.

Surveillance needs preparedness.

There is a lot of active cases in Kenya

Their CTC in short reneges from Moyale etio town.

High population movement from moyale to Ethiopia & vise versa.

Daily transportation from both sides.

Low latrine utilization and coverage < 40%

Low potable water coverage < 28 %

The coming holiday (Eth.new year) a lot of people cons to Ethiopia.

A lot of daily worker come to moyale from different place of Ethiopia & pass to Kenya daily.

Highly population density….

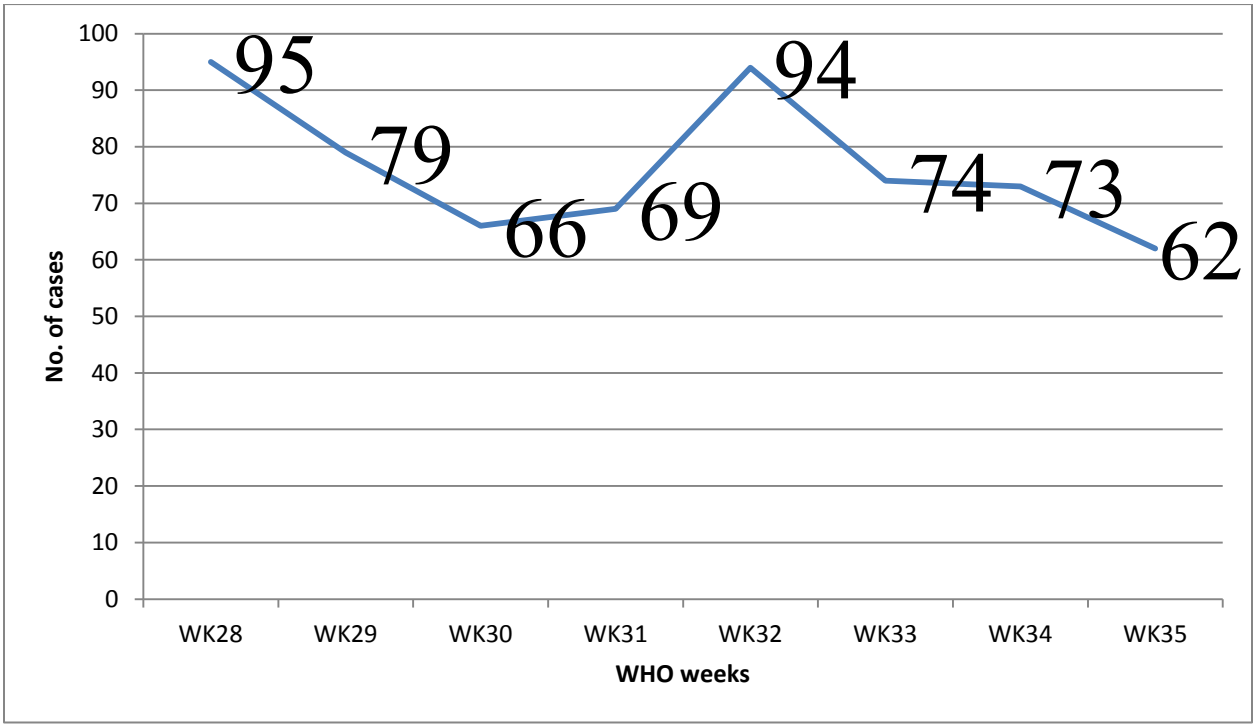
A lot of fruit & vegetables imported from Kenya to Ethiopia daily bases.

A lot of street food is used daily.

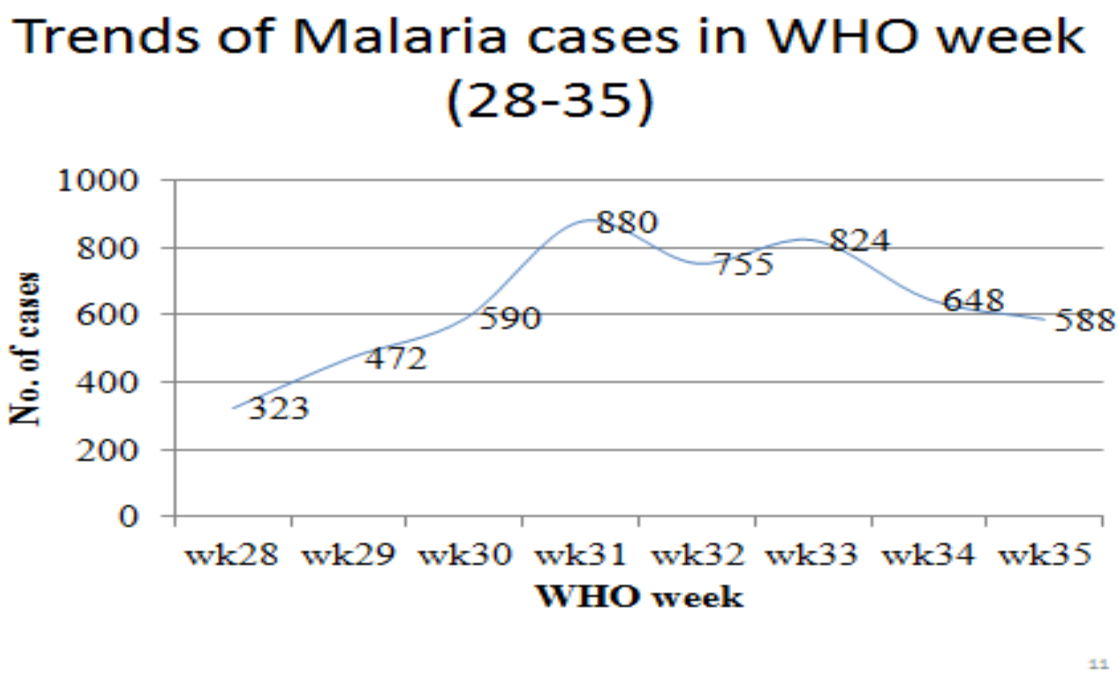
Figure 22; _ CTC established in moyale district of Borena zone oromia 2015

S/N	High risk woreda	Latrine coverage	Latrine utilization	Standard latrine	ODF Kebeles in NO.	Remark
1	Moyale	43	43	28	0	
2	Mio	66	66	37	7	
3	Dilo	21	19	19	2	
4	Dire	43	43	26	1	
5	Das	41	29	12	0	
6	Taltele	37	37	9	0	
zone		62	60	40	13	

Table 26:- latrine coverage 2015 in borena zone 2015



Tends of Dysentery in borena zone from Wk 28-35 2015



Trends of malaria in borena zone 2015

Malaria prevention activity done in boreba zone 2015

ITNS coverage 91%

ITNS utilization 71%

Abet chemical already expired

Health education on malaria was planned to cover 67,234 HH, the achievement was 62,629(93%)

Table 27:-Spray on high risk area 2015

S/N	Name of woreda	Planned Kebeles	Planned unit structure	Sprayed unit structure	Percentile	Allocated bud jet
1	Abaya	8	10320	3260	31%	50,000
2	Galena	10	14278	13168	92%	140,000
3	Taltele	7	9360	0	0	70,000
Total		25	29280	11340	39%	260,000

Trainings

Currently oromia regional state gives PHEM basic training for all zonal, districts & some privet Health facilities including all hospitals following the urgency of disaster seen in weekly report and data analysis resident was informed to prepare give training with the staff from April 4-21 /2016 in three different woreda nalmy Adama , shahemene And Nekemte town. 317 participants was taken the training for four consecutive days in three round residenc were given the training acordig to their schedule

Table 28:- PHEM basic training for all Oromia district & zonal Focal person 2016

Name zone or district	participant N= 139	%
Arsi zone	27	19
Asela Twon	2	1
Burayu T	1	1
Finfine Zuria	10	7
East Hareghe zone	21	15
west hareghe zone	20	14
legetafo T	1	1
South west shoa zone	16	12
Sebeta T	1	1
North shoa zone	17	12
West shos zone	22	16
Sulta T	1	1

From May 10-13/2016 Shashemene T

N0	Name zone or district	N= 76	%
1	Bale	18	24
2	Borena zone	12	16
3	Gujii zone	12	16
4	East shoa zone	17	22
5	West shoa	17	22

From May 16-19/2016 Nekemte T

N0	Name zone or district	N= 102	%
1	Horo guduru wolega zone	12	12
2	Iluababore zone	23	23
3	jimma zone	19	19
4	Kelem wolega zone	11	11
5	East wollega zone	16	16
6	west wollega zone	21	21

NB: - pre/post test was not prepared for the urgency of the emergency

Figure 23:- Picture to demonstrate shortage of water is moyale district 2015

Shortage of water in moyale zone since there was no water treatment chemical in the zon water office and reginal health office was requested.

Figure 24:-Borena zonal task force meeting ever other days during disaster period 2015

Chapter eight Scientific Manuscript for
Peer Reviewed Journals

Chapter nine Scientific Manuscript for Peer Reviewed Journals

Introduction

Scabise is a contagious Ecto-arasite of the skin caused by the mite Sarcoptes scabiei var. hominis. Approximately 130 million cases of scabies occur worldwide each year. The incidence of scabies can increase during natural and manmade disasters (1-3)

Infestation begins when one or several pregnant female mites are transferred from the skin of an infected person to the skin of an un-infested person. After transfer from the skin of an infected person, or, rarely, from fomites, to the skin of an un-infested person, the adult female mite travels on the skin surface seeking a burrow site. At a suitable location, the pregnant female mite burrows into superficial layers of the skin, forming a slightly elevated narrow tunnel where it deposits eggs. The eggs progress through larval and nymphal stages to form adults in 10 to 17 days. The adults migrate to the skin surface and mate. The males die quickly and the females penetrate the skin and repeat the cycle. The mite requires human skin to complete its life cycle and is unable to survive off the host at room temperature for more than 2 to 3 days.

The severity of scabies infestation is directly related to the number of mites residing on the skin and the length of time between initial infestation and subsequent diagnosis and treatment. If diagnosis and treatment are delayed, the number of live mites multiplies resulting in heavier or atypical infestations.

Scabies usually is spread by direct, prolonged, skin-to-skin contact with a person who has scabies. Contact generally must be prolonged; a quick handshake or hug usually will not spread scabies. Scabies is spread easily to sexual partners and household members. Scabies sometimes is spread indirectly by sharing articles such as clothing, towels, or bedding used by an infested person. An infected person can spread scabies even if he or she has no symptoms. Humans are the source of infestation and animals do not spread human scabies. On a person, scabies mites can live for as long as 1-2 months. Off a person, scabies mites usually do not survive more than 48-72 hours. Scabies mites will die if exposed to a temperature of 50°C (122°F) for 10 minutes.

Scabies affects people of all races and social classes. Scabies can spread easily under crowded conditions where close body and skin contact is common. Institutions such as schools, refugee camps, sanitarium and prisons are often sites of scabies outbreaks. Some immunocompromised, elderly, neurological disabled, or debilitated persons are at risk for a severe form of scabies called crusted, , scabies. Persons with crusted scabies have thick crusts of skin that contain large numbers of scabies mites and eggs. The mites in crusted scabies are much more numerous (up to 2 million per patient). (5)

Because they are infested with such large numbers of mites and therefore persons with crusted scabies are very contagious to other persons. The mite can survive for much

longer than the conventional 2 to 3 days in the thick skin shade. So in addition to spreading scabies through brief direct skin-to-skin contact, persons with crusted scabies have also a high probability to transmit scabies indirectly by shedding mites that contaminate items such as their clothing, bedding, and furniture. Persons with crusted scabies should receive quick and aggressive medical treatment for their infestation to prevent outbreaks of scabies.

Back ground

According to west hareghe zonal health office roumer of scabies case reported to oromia regional state in January 2016 G.C from four district namely Ancha ,habro, Guba qoricha and Hawi gudina. When the investigation team arrive to Anchar district health extension in telils ,kercha ,Itisa & Hibe kebele from Dindin & Bedyi PHCU line listed more than 500 cases without date of onset & date seen in health facility interview 120 community member about the current condition since they can't get modern medicine either health post nor health center they obliged to use local treatment.

During investigation health education given to the community about personal higen , the use of modern medicine and the severity of the disease

Anchare is one of the 16 woreda in west Hararge zonal administration which found in remote area nearby awsh regional state thedistrict has 2 urban and 23 rural kebeles. It has 104616 total populations five health center in the woreda which all are functional with 23 Health posts.

General objectives

To describe scabies burden and identify risk factors associated with this outbreak also control and prevention of future outbreak in anchar district of west Hareghe zone Oromia region.

Specific objective

To verify scabies outbreak in the district.

To identify the risk factors associated with the current condition.

To propose control measures against scabies transmission.

Study area and period

The investigation was carried out from Feb 14-march 1/2016 in anchar district of west Haerghe Zone, which is located 325 Km far from Addis Ababa and 126 KM from zonal Capital chiro district. Surrounded by it is bounded by Mi'eso woreda in the north, Aseko woreda In the south, Fentale woreda In the West And Daro lebu and Guba qoricha woreda in the east. The population of was 104616 (Central Statistical Agency)

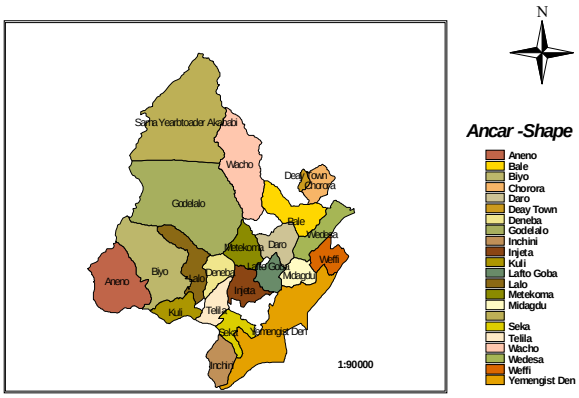


Figure3. **Map of Anchar district West Hareghe Oromia**

Study Design:-

Unmatched 1:2 case control study design was used. A total of 22 cases and 44 controls selected.

Study Population:-

Study population of the investigation was all scabies & non cases in Anchar district and fulfills the standard case definition the control selected when they are not diseased by scabies curently.

Sample size & Samples size procedure

Un-matched case-control study in the ratio of 1:2 (22 case and 44 controls) was conducted to describe potential household's risk factors for infection.

Data collection Methods

Structured questionnaire was used in order to collect basic epidemiological information: symptoms, date of onset of disease, medical care, and age group affected, Religion of the family, exposure history of the case & control. The cases are selected by their general history of case definition while the control selected by their exposure but not have the history of scabies currently sigh and symptom relatively not caught by this disease.

Data quality

Line listing & woreda health profile is used for describing scabies cases in terms of time, place and person. However, all data were checked for completeness before the entry and analysis

Case Definitions and Outbreak Definition

Suspected case: A person with signs and symptoms consistent with scabies (itching).

Confirmed scabies case: A person who has a skin scraping in which mites, mite eggs or mite feces have been identified by a trained health care professional.

***Contact*:** A person without signs and symptoms consistent with scabies who has had direct contact (particularly prolonged, direct, skin-to-skin contact) with a suspected or confirmed case in the two months preceding the onset of scabies signs and symptoms in the case.

Index Cases the first which comes to the attention of health worker or the community.

Data processing and analysis:-

The data was descriptive and analytic stud is used the data interred & cleaned analyzed using Epi-Info version 7.1 and excel 2010 format.

Ethical Consideration

Written ethical clearance was obtained oromia regional state and from the respective zone and district. Oral consent from the study participants identified and confidentiality assured and no personal details was recorded or produced on this documentation. Not shared unnecessarily for third parties.

Dissemination of the result

There was meeting to debrief the finding of the investigation to the district, Zone and region. Written report of the investigation was submitted to the region, resident advisor and to the EFELTP program coordinator of Addis Ababa University step by step.

Result

Descriptive epidemiology According to the Dindin & bedey PHCU directors in anchar district starting September 2015 scabies cases was seen in different Kebles, the cases increasing daily as see in the figure 1 due to lack of drugs & shortage of water for personal hygiene which create room for daily contact with cases in field, school & bedding. Since the community knows there is no the necessary drugs for cure in all health facilities they were stay at home or seek traditional healers for cure so that numerous number of cases were under reporting in weekly PHEM or monthly HMIS reports. Still new cases were seen hear & there in all visited kebles of anchar woreda which needs immediate responses. As we can see from figure 1 a total of 490 cases were registered from only few kebels near by health posts. Among them 266 (54.3%) of cases registered in telila health post Post of Bedey PHCU the rest were from other kebels in Dindin PHCU. As we see from Figure 2 while 249 (51%) of case were five to fourteen years of age the transmission of cases were increases in school age children. from a total cases 267 (54.5%) were female. See figure 3. Within interviewed cases and control ether is no difference in access to clean water and using soap or ashes for proper hand washing droughts following Elinon whether changes may the cause vulnerability for scabies happened everywhere above expected levels.

Intervention began lately after we disclose the case to the zonal health office and zonal WHO officer we organize local NGO and the community for urgent reply against the current epidemic. Instant provision of drug for the sick and community awareness was implemented all Health extension worker in H.P level, H.C PHEM focal person and district PHEM focal person orented about the current condition to strengthen ACS in the community including PHF.

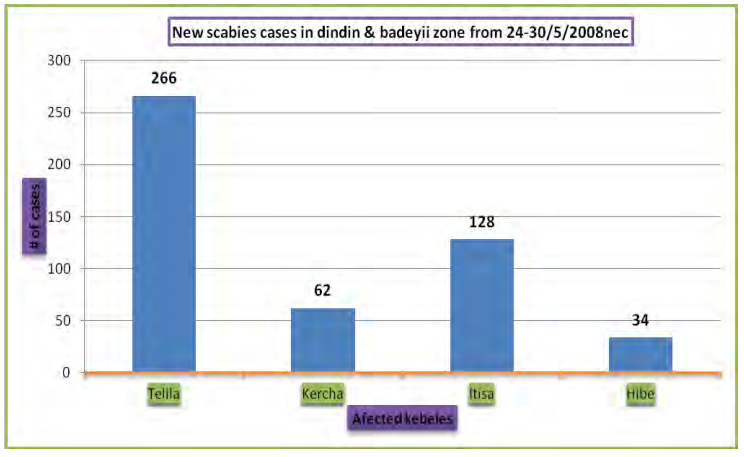


Figure :- 1scabis cases linelisted in foure difrent H.post anchar woreda

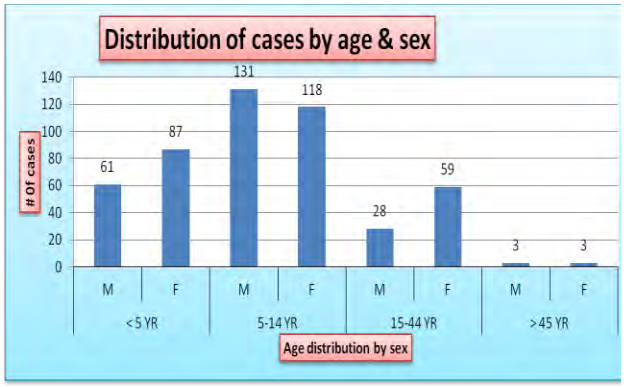


Figure:-2 scabies cases distribution by age and sex in anchar district 2016 GC

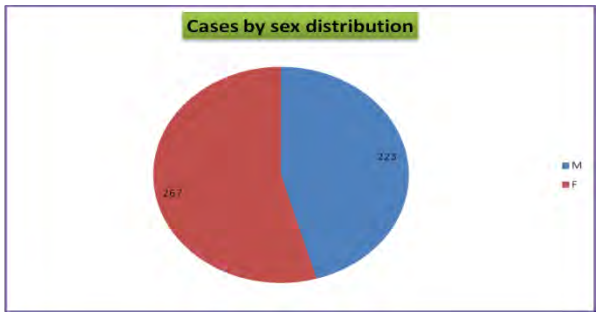


Figure :- 3 sex distribution of scabise cases in anchar woreda 2016

Analytic Epidemiology

A total of 22 scabies cases and 44 apparently healthy controls were included into this study. The mean age of cases and controls were 6.8 and 6.2 years respectively. The median age of cases and controls were 6 & 5.5 months respectively (ranging from 2 year up to 20 years). Among twenty two interviewed cases 11 (50%) was male and 11 (50 %) were female. The most reported symptoms were Itching rash, fever, 22(100%), the major complications reported were 11(50%) experienced abscesses and infected wound, and none of them developed sever complication like renal failure. Out of the total 22 cases interviewed 18 (81%) not visits health facilities for medical cure they choose local treatment.

In bi-variate analysis, having travel history to active cases area was significantly associate to risk factor [OR=4.4; 95% CI (2,14), P=0.02], sharing contaminated closes with scabies mite during night time contribute for the transmission of scabies [OR=6; 95% CI (2,20) P=0.0001], house hold cases long stay with cases in house also significantly associated with scabies [(OR)=5.2; 95% CI (2,17), P=0.004], crowded living condition living more than 5 H.H together for one bed room contribute the transmission of scabies was significant [OR= 4.3; 95% CI [1,17] P= 0.02] , Conclusion

Scabies disease was not reported as epidemic more than decayed in west hareghe zone the change in the weather condition contribute to drought as a result mal-nutrition and other disease following scarcity of water manifested in the vulnerable communality as we clearly stated in the result section the epidemic were not unclosed timely until high number of cases line listed at H.P level the disease distributed through the district cases were without medical care served only by loc healers or stay at home.

Lack of clean water leads to poor personal hygiene which fevers easily transmission through long term contact and sharing contaminated closest during night and school. People moves place to places for different reasons was contribute the transmission of cases from one area to others crowded living condition during

epidemic fevers stay together for longer time interns facilitate the transmission of cases from sick person to apparently healthy individuals knowledge of prevention of scabies by personal hygiene has no difference between cases and controls.

Recommendations

Since this year weather change create drought and malnutrition has to be assessed and treated accordingly. Improve scabies active surveillance by training the health workers on active surveillance system resource mapping available at hands can organize the efforts of community NGO's

And governmental body towards mitigation of current condition health education and the assessment of KAP of the community has to be assessed for better results.

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Bulletin & others

HIGH LIGHTS OF THE WEEK

- **Suspected measles, clinical and confirmed malaria cases were increased as compared to wk 11 .**

I. Introduction

This bulletin serves to summarize weekly surveillance data and performance of ORHB/PHEM on epidemic prone diseases and other public health emergencies. It comprises completeness, timeliness and reporting trends of priority diseases and present response activities. It also provides feedback on surveillance activities for week 12, 2016 GC.

II. Weekly Surveillance Report

Report completeness and timeliness of government health facilities were 92 % and 80% respectively. All zones and towns reported timely, except West Arsi and East harerghe zones. Completeness of all zones and towns were above the target (Fig: 1).

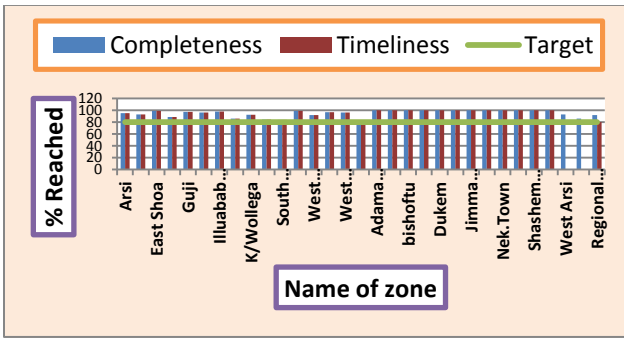

Figure 1: Report completeness and timeliness by zones/towns, Oromia,Week 12, March, 2016

Regional report completeness and timeliness of the past fifteen consecutive weeks were above the target except for the timeliness of week 50, 51, 2, 5 , 7 and 8 (Fig: 2).

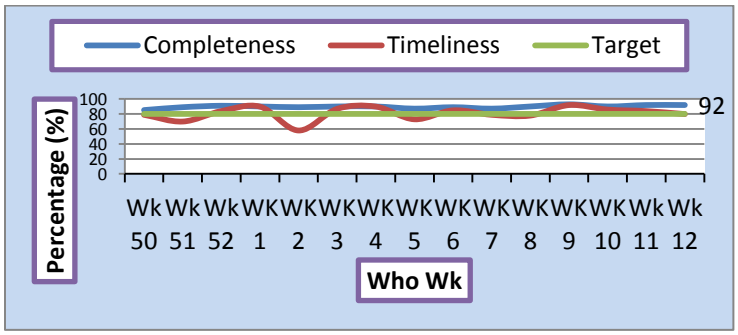

Figure 2: Trends of regional surveillance report completeness and timeliness by week, Oromia, March, 2016

III. Diseases condition

1.Malaria

In this week, a total of 3098 clinical and confirmed malaria cases were reported. Among the total clinical and confirmed malaria cases 3108 (100%) of them were confirmed cases. Of the total confirmed cases 1847 (59.4%) of them were plasmodium falciparum. Confirmed malaria cases were increased by 106 3.5%) as compared to week eleven. A total of 25172 were laboratory tested, yielding a positivity rate of 12.3%. Among the total confirmed malaria cases, the highest number of cases was reported from Borana Zone 580 (19%) followed by East Shoa 434(14%), west wollega zone 237(8%) west shoa 189 (6%), kelem wollega 176 (6%) west arsi 175(6%) east Wollega 161(5%) and Jimma 155 (5%),

Zones. Abaya, Galena, and Dugda dawa from Borana Zone; Adama and Fantale, Boset from East Shoa Zone; Begi,Babogaya and Manesibu from West wolega zone were woredas that contributed for high number of malaria cases. As compared to week ten, confirmed malaria cases were increased in Borena, East Shoa and West wollega Zones (Fig3-5).The on and off type of currently raining condition might favour for the increased number of cases.Therefore, strict follw-up is mandatory. Trends of clinical and confirmed malaria cases for the last twelve consecutive weeks are indicated below.

Figure 3: Trends of confirmed malaria case from week 52, 2015 to 12, 2016,

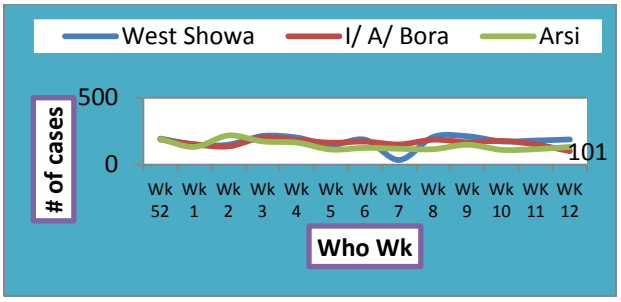

Figure 4: Trends of confirmed malaria cases (Pv + Pf) by selected zones, week 52-12, Oromia ,

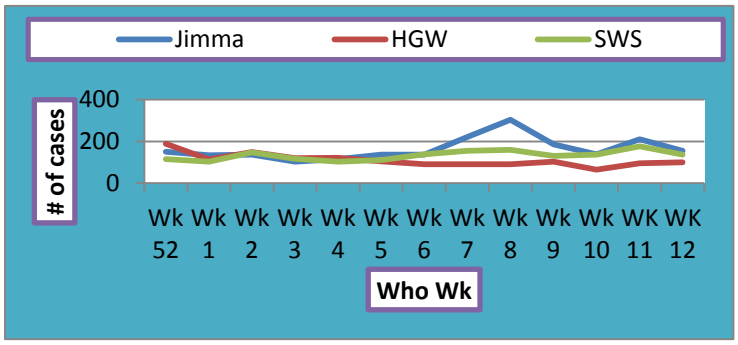

Figure 5: Trends of confirmed malaria cases (Pv + Pf) by selected zones, week 52-12,

2. Dysentery (diarrhea with blood)

In this week, a total of 2212 dysentery cases were reported. Cases were increased by 193 (9.6%) as compared to week eleven. The highest number of cases was reported from Gujji Zone 175 (8%), followed by west shoa 169(8%) east shoa 162 (6%), Arsi zone 1148(7%) East harerge,Jimma & North shoa zone reports 127 (6%) respectively.Uraga,negele town & Kercaafrom gujji zone kuyu hospital,Kuyu district & Hidabu abote from north shoa zone Mojo, kombolcha &dugda from East shoa zone were ontributing highest case. Trends of the last seventeen consecutive weeks of dysentery cases are shown below (fig: 5).

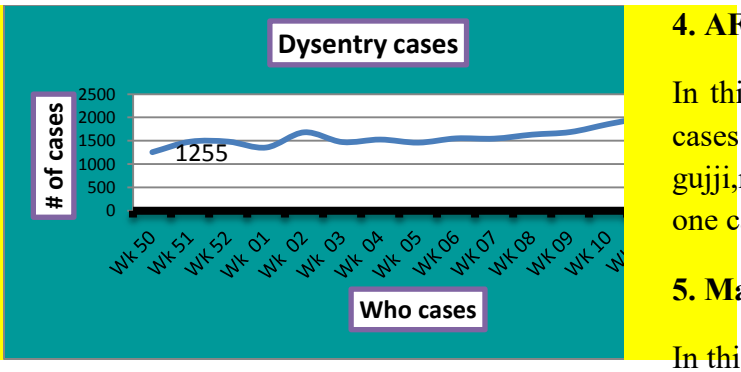

Figure 8: Trends of dysentery cases by week (Wk 50-12), Oromia,March ,2016

3. Measles

In this week, a total of 170 suspected measles cases were reported to the region. The suspected cases were increased by 18 11.8%) as compared to week 11. Majority of the cases were reported from Horro Guduru Gujji zone 57(34%) followed by West harerge zone 22(22%) HGW zone 19 (11%) and Arsi zone 14 (8%) zones

Shakiso Town, Girja and Hambella from Guji zone, Abaya Choman from Horro Guduru Wollega, Anchar from weast hareghe zone were woredas that contributed for high number of suspected measles cases. Trends of the past thirteen consecutive weeks of suspected measles cases are shown below (Fig: 9).

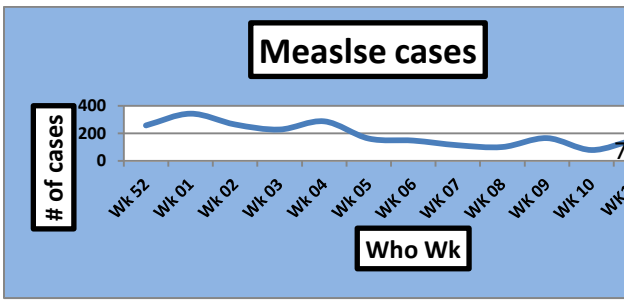

Figure 9: Trends of suspected measles cases by week,Oromia, March,2016

4. AFP/Polio

In this week, a total of four suspected AFP cases were reported to the region. Arsi gujji,north shoa &weast sha zone report one cases each.

5. Malnutrition

In this week, a total of 2482 new SAM cases were reported to the region. SAM cases were increased by 39 (1.6 %) as compared to week eleven (fig: 10). Among the total cases, 238 (10.6%) of them were treated at stabilization center. The highest numbers of cases were reported from East Hararge 504 (20%), followed by West arsi 395 (16%), West Hareghe 385 (16%), Guji 232(9%) and Arsi 220(9%) zones. (Fig-11). Grawa (52) Kersa (37) ,haramaya (33) andGoro gutu (32) from East Hararge, Chiro rural(64), Gemechis(56) and Habro (40) from West Hararge, Siraro(124),Shalla(96) and Shashemene(124) from West Arsi Zone; were woredas contributed for high number of SAM cases that need attention. Trends of the past eleven consecutive weeks of SAM cases were indicated below (Fig: 10).

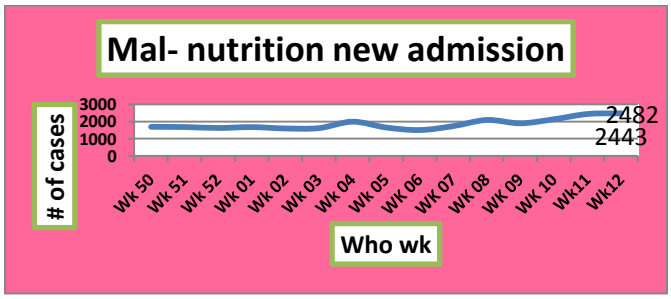

Fig: 10: Trends of SAM cases by weeks, Oromia, March, 2016

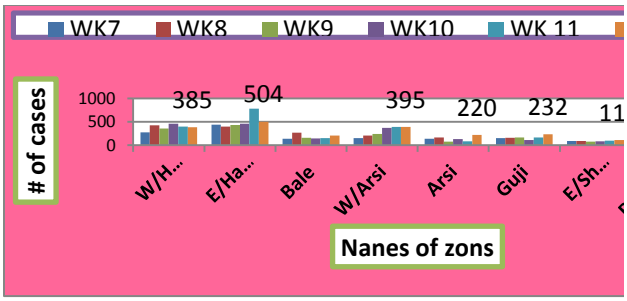

Fig: 11: Trends of SAM cases by selected zones of Oromia, March, 2016

6. Meningococcal Meningitis

In this week, four suspected meningococcal meningitis cases were reported to the regine , IluAbabora (3) West Hregi Daro lebu woreda (1)

7. Rabies

four suspected rabies case was reported from Arsi zone.

8. Anthrax

In this week no anthrax case was reported to region.

9. Relapsing fever

In this week, a total of sixty five relapsing fever cases were reported. Fifty two cases were reported from Wast wollega zone,ten cases were from ,two from weast harerghe zone & one case from Gujji zone.

10. Maternal deaths

Twelve maternal deaths were reported to the region. West Arsi (6), East shoa (2), East Hararge(2) , Arsi & weas wollega reported one cases each.

11. Others

One hundred two dog & and animal bite were reported to the region From arsi zone 25,HGW 60,dog bite Jima (6)animal bite,West arsi (9) dog bite & Weast wollega (2)hepatitis cases.

12. Response Activities

Based on weekly surveillance report, feed-back was given to all zones and towns timely.

Daily follow-up of rumors of epidemic prone diseases and other public health emergencies are followed regularly.

Necessary efforts have been carried out at all levels, in order to minimize the current nutrition emergency problem

AWD outbreak investigation and response is under way

Health and nutrition task force meeting is conducted, issues discussed and action points shared with partners every

Annex 1:- Measles outbreak investigation questioner

NAME OF OUTBREAK ----------UNIQUE ID----------

Hello, my name is _____. I work for ORHB. We are doing an investigation of a measles outbreak. The purpose of these questions is to get information for public health action. Would you be willing to participate? If YES, ask screening questions. If NO, thank the person for their time (FINISHED).

1. What is the name of the case or control? _____ (full name)

2. What is your relation to (NAME)? The case ☐ The control ☐ Mother ☐ Father ☐ Other (specify) _____

3. SCREENING QUESTIONS: Has had any of the following symptoms over the past three months?

Rash: ☐ Yes ☐ No Fever: ☐ Yes ☐ No

Runny nose: ☐ Yes ☐ No Red eyes: ☐Yes ☐ No

Cough: ☐ Yes ☐ No Joint pain: ☐Yes ☐ No

Conjunctivitis: ☐ Yes ☐ No Large lymph nodes: ☐Yes ☐ No

THE FOLLOWING SEVEN QUESTIONS SHOULD BE FILLED OUT FOR ALL PARTICIPANTS

Q #	Questions and filter	Coding and category
4	*Respondent category*	☐ Case ☐ Control
5	*Data collector name*	
6	*Date of data collection*	_____/_____/_____ (Month/ Day/ Year)
7	Kebele	
8	Got	
9	*Latitude*	
10	*Longitude*	

CLINICAL PRESENTATION *(for case ONLY)*		
11	What is the date first saw a rash on body	/ /
12	Was (NAME) in their home village when (NAME) became ill?	☐ yes ☐ No go to Q
13	Where was (NAME) when the illness started?	District:_____Kebele: _____ Purpose of trip:_____
14	Did (NAME) visit a health facility for this illness?	☐ Yes (date went to facility____/____/____) ☐ No (skip to Q14) (Month/ Day/ Year)
15	How long was (NAME) sick before visiting the health facility?	_____ in days/hours
16	Was (NAME) admitted to a healthfacility?	☐ Yes --- date admitted:_____/_____/_____ (☐ No
17	At the health facility, was (NAME) given treatment?	☐ Yes (go to Q18) ☐ No (skip to Q20)
18	Was the respondent given… (READ ALL)	☐ORS ☐Antibiotics ☐Vitamin A ☐ Supplementary food ☐TTC ointment ☐ Anti-pyretics ☐ Other _____
19	*Outcome*	☐Alive ☐ death
20	Did (NAME) have any of the following complications when (NAME) was sick with measles or in the month after the rash? (READ ALL)	Diarrhea: ☐ yes ☐ No Blindness : ☐ yes ☐ No Ear infection:☐ yes ☐ No Convulsions ☐ yes ☐ No PNEUMONIA: A major illness with fever, cough, shortness of breath and chest pain:☐ Yes ☐ No Change in vision: ☐ yes ☐ No OTHER: _____
21	Did (NAME) travel four days prior to or four days after rash onset?	☐ Yes (go to next question 22) ☐ No (skip to Q 23)

Name of data collecter_____signiture_____Date_____

ALL OF THE FOLLOWING QUESTIONS SHOULD BE ASKED OF CASES AND CONTROL		
23	How old is (NAME)?	_____months ____ years
24	What sex is (NAME)?	☐ Male ☐ Female
25	Has ever attended school?	☐ Yes (go to question 26) ☐ No OR ☐ Not Applicable - (mark N/A on Q28)
26	What is the highest level of education ?	☐ KG ☐ Primary ☐ Secondary ☐ Tertiary ☐ Not applicable
27	When the last time (NAME) went to school?	___ day _____ weeks _____ months AGO OR DATE: _____/_____/_____ (Month/ Day/ Year)
28	What is (NAME)'s occupation?	☐ Farmer ☐ Merchant ☐ Housewife ☐ Unemployed ☐ Government ☐ Pastoralist ☐ Not applicable ☐ Other __
29	What is (NAME)'s ethnicity?	☐ Oromo ☐ Tigre ☐Amhara ☐Gurage☐ Other (specify) _____
30	What is (NAME)'s religion?	☐ Orthodox ☐ Protestant ☐ Muslim ☐ Catholic ☐ Other_____
31	What is the education level of the FATHER of (NAME)?	☐ Illiterate ☐ Primary ☐ Secondary ☐ Tertiary ☐Don't know
32	What is the education level of the MOTHER of (NAME)?	☐ Illiterate ☐ Primary ☐ Secondary ☐ Tertiary☐Don't know
33	*What is the main material of the roof? RECORD OBSERVATION*	☐ NO ROOF ☐ THATCH/LEAF/MUD ☐ RUSTIC MAT/PLASTIC SHEETS ☐ WOOD PLANKS ☐ CORRUGATED IRON /METAL ☐ ROOFING SHINGLES ☐ OTHER (SPECIFY) _____
34	Does your household have… (READ ALL)	Electricity? ☐ Yes ☐ No A watch/clock? ☐ Yes ☐ No A radio? ☐ Yes ☐ No A television? ☐ Yes ☐ No A mobile telephone? ☐ Yes ☐ No A table? ☐ Yes ☐ No A chair? ☐ Yes ☐ No

Annex 2:- Questioner for Scabies data collection

.Data collector information: Name:_____ Phone number: _____

1. *Date of Data collection:*_____
   *Region*_____ *Zone*_____ *District*_____ *Kebele* _____ *Got* _____

   House: Longitude:_____ *Latitude:*_____

2. *Who is answering the questionnaire?*

   ☐ Parent/ guardian of sick person ☐ Sick person ☐ other (please specify) _____

3. *Respondent category*: ☐ case ☐ control active case: Yes☐ No ☐

1.2. Socio-demographic information

1. Patient Name_____
2. Patient phone number: _____
3. Age**:** years_____ months ____
4. Sex**:**☐ Male ☐ Female

5. Father's occupation : ☐ Farmer ☐ Merchant ☐ Unemployed ☐Government ☐Student ☐ Pastoralist ☐ Other _____
6. How much is your annual income? ----------
7. Parents of case/control's education :

   Mother ☐ Illiterate ☐ Primary ☐ Secondary ☐Tertiary

   Father: ☐ Illiterate ☐ Primary ☐ Secondary ☐ Tertiary
8. Family size in # : > 5 per house assume over crowding _____

1.3. <u>Knowledge Questions</u>

1. What is Scabies, or are you not sure? ☐ Yes ☐No ☐ Don't know
2. How do you think Scabies is transmitted? You can pick more than one response:

   ☐Through skin contact ☐ by sharing clothes of ill person ☐close contact with an ill person ☐Other _____
3. How do you think Scabies can be prevented? :

   ☐ Personal hygiene& sanitation ☐Avoid contact with Scabies patient ☐ local healing ☐other-
4. Who do you think can be affected by Scabies, or are you not sure?

   ☐ Children less than 5 years old ☐ Children between 5-18 years ☐ People over 18 years old ☐ Any age groups of both male and women ☐don't know ☐ other (specify):_____
5. Do you think good personal hygiene can prevent scabies? ☐ Yes ☐No ☐ Don't know
6. Where did you go first when you get Scabies? ☐ Health Facility ☐ Traditional Healers ☐ Holy Water ☐ Stayed at home ☐other :(Specify)_____
7. How do you think Scabies can be cured? ☐ Using modern medicine ☐ Using traditional Medicine ☐ Holly water ☐By feeding nutritious foods ☐ Keeping the sick person indoor ☐ Other (Specify)_____

1.4. Clinical presentations *<u>(for case ONLY)</u>*

1. What were the symptoms?

   A. skin rash: ☐ Yes ☐ No
   B. red bumps and blisters: ☐ Yes ☐ No
   C. tiny red burrows: ☐ Yes ☐ No
   D. relentless <u>itching</u>: ☐ Yes ☐

2. When is the date you first saw a rash on your body? : ____/_____/_____
3. Were you in your home village when you first noticed you were ill?

   ☐ Yes (skip to question 15) ☐ No (go to next question)
4. Where were you when the illness started?

District;_____Kebele; _____

5. How long have you had a rash? (Duration of rash) _____days

6. Do you still have the rash? ☐Yes ☐ No

7. Did you visit health facility for this illness?

☐ Yes (date went to facility____/____/____) ☐ No (go to question # 8)

8. How long were you sick before visiting the health facility? _____ In days/hours

   a. Treatment given? ☐ yes ☐ No, if yes
   ☐5% Permethrin cream ☐ 25% benzyl benzoate lotion ☐10%Sulfur ointment
   ☐10% Crotamiton cream ☐1% lindane lotion

9. Did you have the following Complications

   a. Secondary infection? ☐ Yes ☐ No

   b. Bacterial skin infection such as impetigo? ☐ Yes ☐ No

1.5.**Exposure(Risk factors)**

1. Have ever have any skin contact with Scabies disease case (the last two month)
   ☐ Yes ☐ No
2. Have you ever had a sexual contact with a Scabies partner (the last two month)
   ☐ Yes ☐ No
3. At what frequency did you wash your body ……..
4. Have you ever travel to a place with a scabies epidemic area (the last two month)
   ☐ yes ☐ No
5. Have you share any clothes with friends with Scabies case ☐ yes ☐ No
6. How many members of family living together ……
7. Is there other case of scabies in the house Yes/No
   If there is a case how much in number _____
8. How many sleeping rooms (beds) ……
9. Did you have the following access for personal hygiene?
   Water ☐ yes ☐ No Toilet ☐ yes ☐ No

Annex 3:- Questionnaires for health system evaluation

REGIONAL /ZONAL LEVEL QUESTIONNAIRE

Identifiers:

Assessment team Respondent

Date

Surveillance System Interviewer

_____

General

Availability of a National Surveillance Manual

Are there a national manual/ guideline for surveillance? ☐ Yes ☐ No

If yes, describe (latest… update, year)

_____

Case Detection and Registration

Do you have standard case definitions for the priority diseases like AFP /polio NNT, and measles?

Yes ☐ No ☐ Unknown ☐ Not applicable ☐

If the answer is yes for Q #3, observe the presence of the standard case definition for each priority disease._____

Data reporting::

Presence of recommended reporting forms in the zone at all times over the past Year

Are the Federal/ Regional health bureau responsible for providing surveillance forms to the health facilities? Yes ☐ No ☐ Unknown ☐ Not applicable ☐

If yes, have you lacked appropriate surveillance forms at any time during the last Year?

_____

What are the reporting areas for the surveillance system?

Governmental health facilities

NGO health facilities

c. Private health facilities

d. Others_____

Was there any report of the immediately reportable diseases in the past 1 month?

Yes/ No

If yes, for Q 5, with in what time is the report received after detection of the diseases?

Less than 1 hour

2-24 hour

1- 2 days

3- 7 days

After 1 week

Percent of districts that have means for reporting to next level by paper based,e-mail, telephone, fax or radio _____%

How do you report weekly, monthly and other formations to higher level?

Paper based

Mail

Fax

Telephone

Radio

Electronic

Other

Did you have address of regional PHEM officers? Yes /No

How frequently are you communicating with the regional/zonal PHEM officers on emergencies and other daily activities?

A) Daily

B) Weekly

Did you have address of woredas/health facility PHEM officers? Yes/ No (if yes observe the lists and their address of woreda and H.F PHEM officers)

How frequently are you communicating with the woredas/health facility PHEM officers on emergencies and other daily activities?

A) Daily

B) Weekly

C) Every 2 week

D) Monthly

E) Quarterly

F) Every 6 month

G) Yearly

H) Others_____

When do you expected to receive weekly report from woredas /health facilities? Every ☐ Monday

☐ Tuesday

☐ Wednesday

☐ Thursday

☐ Friday

☐ Saturday

☐ Sunday

☐ I don't know

13. When are you expected to send weekly report to the Regional/zonal PHEM unit?

☐ Monday

☐ Tuesday

☐ Wednesday

☐ Thursday

☐ Friday

☐ Saturday

Sunday

☐ I don't know

How is the Zone communicating the woredas/health facility PHEM officers in case of immediately reportable diseases?

☐ By e-mail

☐ By phone

☐ By fax

☐ Regular weekly report

☐ Others------

Data analysis

Have you trained on surveillance system? Yes ☐ No ☐

If answer for Q 1 is yes a) when_____ b) Topic_____ c) For how long_____

How many woredas have assigned trained surveillance officer as focal person? ___ % of coverage

If Q #4 is no, how surveillance activates were done at woreda level? _____

_____

Was data compiled and analyzed ? Yes/ No (if yes observe documents)

Did you have computer on your department (PHEM unit)? Yes ☐ No ☐

What is the data entry and compilation instrument?

Manual

Computer

Other_____

Did you have computer skill on A) Ms word B) Ms excel C) MS power point D) Epi-info

Did you analyze data of the surveillance system (cased based, routine, outbreak ….)? Yes ☐ No ☐

If answer for Q 10 is yes, observe whether or not data is analyzed by time, place and person epi-curve spot map

If you analyze surveillance data how frequently? A) weekly B) every two week C) Monthly D)quarterly E) every 6 month F) annually G) No regular time

Did you perform trend analysis for priority diseases? Yes/ No

If yes for Q #13, observe and list the diseases which has line graph

_____

Did you notify the results of your analysis to the higher level PHEM? Yes/ No

Did you notify the results of your analysis to the lower level PHEM? Yes/ No

If answer for Q #16 is No, what is the reason?

☐ Lack of knowledge

☐ Shortage of time

☐ Less attention to data analysis

☐ Shortage of materials

☐ Analysis is not familiar

☐ Negligence

☐ Other----------

Outbreak Investigation

How many outbreaks were occurred in 2015 GC? _____

How many of them were investigated _____ list the diseases _____

Did you have outbreak investigation check list? Yes ☐ No ☐

If the answer no for Q #3 how did you know possible factors for the outbreak?

_____

Was sample is taken to lab exam & where? Yes/

☐ Regional laboratory ☐ Hospital

☐ EPHI

☐ Health center

☐ Other----------

Who was responsible to investigate an outbreak? ☐ rapid response team ☐ HEW ☐ staffs of woredas health office ☐ experts organized randomly ☐ health facility staffs ☐ other_____ _____

Is zonal rapid team functional during Epidemic? Yes / no

Fill the table below for question #2 if there is epidemic ds.

Outbreake_____
date_____

S. NO	Name of out break	Place(Kebele /woreda	NO of cases			NO of deaths			Start date of outbreak	Investig ation	Remark
			M	F	U5	M	F	U5			
1											
2											
3											
4											
5											

Had you faced any challenge in outbreak investigation in 2015 ? Yes ☐ No ☐

If answer for Q 9 is yes, a) list the challenges_____ _____ _____

b) List the alternatives that you take to tackle the challenges._____ _____ _____

Epidemic preparedness(relevant for epidemic prone diseases)

Did you have plan for epidemic response and preparedness? Yes ☐ No ☐ (if yes observe)

Were there emergency stocks of drugs and supplies at all times in the past 1 year? Yes ☐ No ☐ (if yes observe any document for evidence)

If answer for Q 2 is No, how did you control epidemics? ----------

Had you experienced shortage of drugs, vaccines and supplies in 2015? Yes ☐ No ☐

Was an epidemic management committee established at zonal level? Yes ☐ No ☐

Did the epidemic management committee have regularly scheduled meeting time? Yes ☐ No ☐ (if yes observe minute book)

How many woredas are established epidemic management committee and meet regularly? __

Was Rapid response team established at zonal level? Yes ☐ No ☐

Did the Rapid response team have regularly scheduled meeting time during epidemics? Yes ☐ No ☐ (observe minute book or other document)

Did you have case management protocol for epidemic prone diseases? Yes ☐ No ☐ Not applicable ☐ (check)

Do have multi sectoral emergency preparedness and response task force committee?

Yes ☐ No ☐ Not applicable ☐

If Yes for Q 11, in what frequency did the task force meet during outbreaks?

_____

Were partners working together with your office on emergencies? Yes ☐ No ☐

If answer for Q 143is yes, what type of supports did they give to your office?

_____
_____
_____
_____

Was there a budget for epidemic response in the last year? Yes/No

Was budget is assigned **IRS** in 2015? Yes /No

Had you faced any Challenges on epidemic response and preparedness in 2015? Yes ☐ No ☐

If answer for Q 19 is yes,

a) List the challenges

_____
_____
_____
_____

b) What measures did you take to tackle the challenges?

_____
_____
_____
_____

Response to epidemics

Does the zonal health office responded for epidemics within 48 hours of notification of most recently reported outbreaks? Yes ☐ No ☐ (observe any documents)

Is epidemic management committee evaluating their epidemic preparedness and response activities during the past year? Yes ☐ No ☐ (check written document)

Supervision and Feedback

Did you have supervision plan in 2015? Yes ☐ No ☐ (check documents)

If answer for Q 1 is No, how did you supervise?

_____

_____
_____

If Q #1 is yes, did you supervise the woredas and health facilities? Yes ☐ No ☐

If Q #3 is No, what is the reason?

_____
__

If Q #3 is yes, how many times did you supervise each woredas and health facility in 2005/6 EFY? Woreda----------. Health facility----------

Had you received supervision from regional PHEM unit of in the past year or currently?

Yes ☐ No ☐

If Q #6 is yes, how many times in 2015? ----------

Did you have regular supervision checklist? Yes ☐ No ☐

Did you send feedback of your supervision findings to the woredas and health facilities which commenting/indicating their strong and weak sides? Yes ☐ No ☐ (check)

If Q # 9 is No, why?

_____
_____

If answer for Q # 9 is yes, for how many woredas and health facilities and sessions did you send a feedback in 2004 EFY? Woreda_____ health facilities_____

If Q #13 is yes, how many feedbacks did you received in 2004 EFY? _____

Had you faced any challenge on supervision and feedback in 2004 EFY? Yes ☐ No ☐

If answer for Q #13 is yes,

a) List the challenges._____
_____

_____
_____
_____
_____

b) List the measures that you take to tackle the challenges _____

Resources

Percent of sites that have:

Data management

Computer

Printer

Photocopier

Data manager

Telephone service

Fax

Radio call

Satellite phone

Budget line
_____

Logistics
_____
_

Surveillance

Do you have a computerized surveillance network at this level?

Yes ☐ No ☐ Not applicable ☐

Budget for surveillance

Is there a budget line for surveillance in the zonal Health office budget?

Yes ☐ No ☐ Not applicable ☐

If yes, what is the proportion: _____ %

How could surveillance be improved?
_____
_____
_____
_____

Questionnaire for Attributes and level of Usefulness:

Total population under surveillance_____ 2015

What is the incidence / Prevalence of 20115 -in your area/region

Malaria _____cases _____Death _____

AFP(polio) _____cases _____Death_____

Measles _____cases _____Death _____

Meningitis_____cases_____Death_____

Mal-Nutrition_____Case_____Death-_____

Level of Usefulness of the Surveillance System for these selected priority diseases

Does the surveillance system help?

To detect outbreaks of priority diseases early on time to permit accurate diagnosis?

Yes ☐ No ☐

To estimate the magnitude of morbidity and mortality related to these diseases, including identification of factors associated with these diseases? Yes ☐ No ☐

Permit assessment of the effect of prevention and control programs? Yes ☐ No ☐

Observe (confirmation):

interventions and diseases trends analyzed --- Available //Not available

Describe Each System Attributes:

A. Simplicity:

A. Is the case definition of the priority diseases (NNT, measles, AFP….) easy for case detection by all level health professionals? Yes ☐ No ☐

B. The surveillance system allows all levels of professionals to fill data? Yes ☐ No ☐

Does the surveillance system help to record and report data on time? Yes /No

Does the surveillance system (Reporting format) have necessary information for investigation? Yes ☐ No ☐

How long does it take to have laboratory confirmation of

Measles

AFP (Polio)

Malaria

Others _____

Flexibility:

Can the current reporting formats be used for other newly occurring health event (disease) without much difficulty? Yes ☐ No ☐

Do you think that any change in the existing procedure of case detection and reporting formats will be difficult to implement? Yes No

Comment:_____
_____
_____
_____
_____

Is the system easy to add new variables? Yes ☐ No ☐

Is the surveillance system easy to integrate with other systems? Yes ☐ No ☐

Is the surveillance system easy to add new disease on report? Yes ☐ No ☐

Is the system easy to add new information technology? Yes ☐ No ☐

C.Data Quality: (Completeness of the reporting forms/and validity of the recorded data)

Are the reporting site / data collectors trained/ supervised regularly? Yes ☐ No ☐

Observe: Review the last months report of these diseases

Average number of unknown or blank responses to variables in each of the reported forms

_____
_____

Percent of reports which are complete(that is with no blank or unknown responses) from the total reports

_____
_____

3. Are all woredas reporting (including late report)? ☐ Yes ☐ No

4. Percent of woredas that send report of each week in 2005 EFY. ----------

5. Are all hospitals reporting? ☐ Yes ☐ No

6. Percent of hospitals that send report of each week in 2005 EFY. ----------

Total weekly reports received from woredas/Hospitals (including late reports, from July 2014—June, 2015) (for Zonal health desk)

18					44					
19					45					
20					46					
21					47					
22					48					
23					49					
24					50					
25					51					
26					52					

WHO epid. Wk	N^{O} of woredas expected to report	N^{O} of woredas that report (including late report)	N^{O} of Hospitals expected to report	N^{O} of hospitals that report (including late reports)	WHO epid. Wk	N^{O} of woredas expected to report	N^{O} of woredas that report (including late report)	N^{O} of Hospitals expected to report	N^{O} of hospitals that report (including late reports)
1					27				
2					28				
3					29				
4					30				
5					31				
6					32				
7					33				
8					34				
9					35				
10					36				
11					37				
12					38				
13					39				
14					40				
15					41				
16					42				
17					43				

D. Acceptability:

Do you think all the reporting agents accept and well engaged to the surveillance activities?

Yes ☐ No ☐

If yes, how many are active participants (of the expected including all private clinics)? __/__

If No for Q #1, what is the reason for their poor participation in the surveillance activity?

Lack of understanding of the relevance of the data to be collected

No feedback / or recognition given by the higher bodies for their contribution;

i.e. no dissemination of the analysis data back to reporting facilities

Reporting formats are difficult to understand

Report formats are time consuming

Other:_____

_____

_____

4. Were all participants using the standard case definition to identify cases? Yes/ No

If yes, what is your evidence _____?

5. Were all the reporting agents send their report using the current and appropriate surveillance reporting format? Yes ☐ No ☐ (if yes observe the documents)

6. Were all the health professionals aware about the surveillance system? Yes/No (if yes how they awared)

E. Representativeness:

What is the health service coverage of the district/ zone/ region? _____%

Do you think, the populations under surveillance have good health seeking behavior for these diseases? Yes ☐ No ☐

Was the surveillance system enabled to follow the health and health related events in the whole community? Yes ☐ No ☐

If answer for Q 3 is no, who do you think is well benefited by the surveillance system? ☐ The urban ☐ the rural ☐ both

If yes for Q 4, do you think that rural and urban communities are equally benefited in surveillance system? Yes ☐ No ☐, if no why _____

Are all the Socio demographic variables included in the surveillance reporting format? Yes /No

If the answer for Q 6 is No, which a) Sex---------- b) age group----------C) ethnic group---------- d) religion---------- is less represented?

Timeliness: 1. Are all woredas /health facilities reporting on time? Yes ☐ No ☐

2. Percent of woredas that report on time. ----------

3. Are all Hospitals reporting on time? Yes ☐ No ☐

4. Percent of hospitals that report on time. ----------

Weekly Zonal reports received on time for 2006 EFY report by WHO epidemic week (to be field at Zonal health department)

WHO epid wk	N^{O} of woredas expected to report	N^{O} of woredas that report on time	N^{O} of Hospitals expected to report	N^{O} of Hospitals that report on time	WHO epid wk
1					27
2					28
3					29
4					30
5					31
6					32
7					33
8					34
9					35
10					36
11					37
12					38
13					39
14					40
15					41
16					42
17					43
18					44

19					45	Identifiers			
20					46	Assessment team			
21					47	District			
22					48	Date			
23					49	region/province			
24					50	Interviewer country			
25					51	Respondent			
26					52	surveillance system			

_____

_____

G. Stability:

Was any new restructuring affected the procedures and activities of the surveillance of these diseases? Yes ☐ No ☐

Was there lack of resources that interrupt the surveillance system? Yes / No if yes what was it and how do you solve it_____

_____

Was there any time /condition in which the surveillance is not fully operating? Yes/ No

If the answer yes for Q #3 When/what is the condition that talks the system not to function properly?----------

---

Is there a surveillance officer or focal person (PHEM unit)? Yes / No Number _____

DISTRICT (INTERMEDIATE LEVEL) QUESTIONNAIRE

_____

_____

General

<u>Availability of a National Surveillance Manual</u>

Is there a national manual/ guideline for surveillance system?

Yes / No / Not applicable / Unknown

If yes, describe (last update, diseases included, case definitions, surveillance and control, integrated or different for each disease):

_____

_____

_____

_____

<u>Case Detection and Registration</u>

Do you have standard case definitions for the Country's priority diseases like AFP (polio), malaria, and measles?

Yes ☐ No ☐ Unknown ☐ Not applicable ☐

If the answer is yes for Q #3, observe the presence of the standard case definition for each priority disease. Yes ☐ No ☐ `

If answer for Q 4 is No, for which disease(s) did you lack the case definition? _____

Data reporting

Presence of recommended reporting forms in the woreda at all times over the past 6 months

Is the Federal/ Regional health bureau responsible for providing surveillance forms to the health facilities? Yes No Unknown Not applicable

If yes, have you lacked appropriate surveillance forms at any time during the last 6 months? Yes No Unknown Not applicable

What are the reporting entities for the surveillance system?

Public health facilities

NGO health facilities

Military health facilities

Private health facilities

Others_____

Was there any report of the immediately reportable diseases in the past 1 month? Yes/ No

If yes, for Q 9, with in what time is the report received after detection of the diseases?

Less than 1 hour

2-24 hour

1- 2 days

3- 7 days

After 1 weekPercent of health facilities that have means for reporting to next level by e-mail, telephone, fax or radio_____
_____

How do you report weekly, monthly and other formations to higher level?

Mail

Fax

Telephone

Radio

Electronic

Other

Did you have address of Zonal PHEM officers? Yes /No

How frequently are you communicating with the Zonal PHEM officers on emergencies and other daily activities?

☐ Daily

☐ Weekly

☐ Every 2 week

☐ Monthly

☐ Quarterly

☐ Every 6 month

☐ Yearly

☐ Others----------

Did you have address of HC/HP PHEM focal persons? Yes /No

How frequently are you communicating with the HC/HP PHEM focal persons on emergencies and other daily activities?

☐ Daily

☐ Weekly

☐ Every 2 week

☐ Monthly

☐ Quarterly

☐ Every 6 month

☐ Yearly

☐ Others----------

Did you have case based reporting formats for out breaks? Yes ☐ No ☐ Not Applicable☐

Was there guideline for specimen collection, handling and transportation to the next level? Yes/No ☐ Not Applicable

Did you have line list for reporting outbreaks? Yes ☐ No ☐ Not Applicable ☐

Did you face shortage of surveillance reporting and recording formats? Yes ☐ No ☐

If yes, which form

_____
_____

When are you expected to send weekly report to the Zonal PHEM unit?

☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday ☐ I don't know

When are you expected to receive weekly report from HCs/HPs?

☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday

☐ I don't know

How is the woreda communicating the HCs/HPs PHEM officers in case of immediately reportable diseases? ☐ by e-mail ☐ by phone ☐ by fax ☐ regular weekly report ☐ others

Did you send summary or short report to the administrative /program leaders or other responsible organs on planning, prevention and control activities addressing Important issues at community level that have arisen through the surveillance system? Yes ☐ No ☐

If answer for Q 24 is yes to whom did you send?

_____
_____
_____

If you faced any problems on communicating and reporting, list them_____

_____
_____

Mention the alternative solutions that you take to tackle the problems you listed on the above?

_____
_____

Do you have assigned surveillance officer for PHEM activities and working on? Yes /No If no, who is responsible for PHEM activities?

_____

If yes for Q 28, did he train on surveillance system? ☐ Yes ☐ No

If answer for Q 29 is yes a) when---------- b) Topic----------c) For how long? --------
---

Did you conduct any onsite training / orientation about surveillance system for the HC and HP PHEM focal persons? Yes ☐ No ☐

Was data compiled? Yes ☐ No ☐

Did you have computer on your office? Yes ☐ No ☐

Did you have computer on your department (PHEM unit)? Yes ☐ No ☐

What is the data entry and compilation instrument? ☐ Manual ☐ Computer ☐ other----------

Did you have computer skill on ☐ MS word ☐ MS excel ☐ MS power point ☐ Epi-info

Did you analyze the data collected from surveillance system? Yes ☐ No ☐

If answer for Q 37 is yes, did you described data by, ☐ time ☐ place ☐ person

If yes for Q 38, for which disease

_____

Did you have denominators for data analysis? ☐ total population ☐ male ☐ female ☐ under five

Please indicate the frequency of your data analysis.

☐ Weekly

☐ Every two week

☐ Monthly

☐ Quarterly

☐Every 6 month

☐ Annually

☐ No regular time

Did you notify the results of your analysis to the higher level PHEM? Yes/No

Did you notify the results of your analysis to the lower level PHEM? Yes/No

If answer for Q 38 is No, what is the reason?

☐ Lack of knowledge

☐ Shortage of time

☐ Less attention

☐ Shortage of materials

☐ Analysis is not familiar

☐ Negligence

☐ Other----------

How can reporting system be improved?

_____

_____

_____

_____

Do you have an action threshold for any of the country priority diseases?

Yes No I don't know

If yes, what is it? _____cases _____% increase _____rate

(Ask for 2 priority diseases)_

_____

_____

Epidemic preparedness

Did you have plan for epidemic response and preparedness? Yes ☐ No ☐

Did you have emergency stocks of drugs and supplies? Yes ☐ No ☐

If answer for Q 49 is No, how did you control epidemics? _____

Had you experienced shortage of drugs, vaccines and supplies in 2004 EFY? Yes / No

Was woreda epidemic management committee established? Yes ☐ No ☐

Did the epidemic management committee have regularly scheduled meeting time? Yes ☐ No ☐

Was Woreda Rapid response team established? Yes ☐ No ☐

Did the Rapid response team have regularly scheduled meeting time during epidemics? Yes ☐ No ☐

Did you have case management protocol for epidemic prone diseases? Yes ☐ No ☐

Did your PHEM have multi sectoral emergency preparedness and response task force committee? Yes ☐ No ☐

In what frequency did the task force meet during outbreaks? _____

Were partners working together with your office on emergencies? Yes ☐ No ☐

If answer for Q 59 is yes, what type of supports did they give to your office? _____

_____

_____

Was there a budget for epidemic response? Yes ☐ No ☐

Had you a car assigned for emergencies (PHEM)? Yes ☐ No ☐ Not functional☐

If answer for Q 62 is NO, how did you address emergencies? _____

_____

_____

Had you faced any Challenges on epidemic response and preparedness in 2004 EFY? Yes ☐ No ☐

If answer for Q 18 is yes, a) list the challenges_____

_

b) What measures did you take to tackle the challenges? _____

☐ Regional laboratory

☐ Hospital

☐ EHNRI

☐ Health center

☐Contracted private laboratory

☐ Other----------

Who was responsible to investigate an outbreak?

☐ Rapid response team

☐ HEWs

☐ Staffs of woreda H.O

☐ Experts organized randomly

☐ Health facility staffs

☐ Other----------

If answer for Q 66 is yes how many out breaks did you investigated in 2006 EFY? ____

Outbreak investigation

Had you investigated any outbreak in 2004 EFY? Yes ☐ No ☐

Did you have outbreak investigation check list? Yes ☐ No ☐

If answer for Q 67 is No, how did you know possible factors for the outbreak? ----------
---

Where was laboratory confirmation of cases done?

S.No	Name of out break	Place (Kebele/woreda)	No of cases			No of deaths			Start date of the out break	Investigation date
			M	F	U5	M	F	U5		
1										
2										
3										
4										

Had you faced any challenge in outbreak investigation in 2006 EFY? Yes ☐ No ☐

If answer for Q 72 is yes, a) list the challenges_____

__

_____

_____

_____

_____

b) List the alternatives that you take to tackle the challenges._____

_____

_____

Responses_____

_____

Has the district implemented prevention and control measures based on local data for at least one reportable disease or syndrome?

Yes ☐ No ☐ Unknown ☐ Not applicable ☐

Does the district responded within 48 hours of notification of most recently reported outbreak (from written reports)

Yes ☐ No ☐ Unknown ☐ Not applicable ☐

Does the district achieved an acceptable case fatality rate for most recent outbreak (Observe from outbreak report)

Yes ☐ No ☐ Unknown ☐ Not applicable ☐

Has epidemic management committee evaluated their preparedness and response activities during the past year? (observe written report to confirm)

Yes ☐ No ☐ Unknown ☐ Not applicable ☐

Supervision and Feedback_____

_____

Did you have supervision plan in 2004 or 2005 EFY? Yes ☐ No ☐

If answer for Q 78 is No, how did you supervise? _____-

_____

_____

If answer for Q 78 is yes, did you supervise the health centers (HCS) and health posts (HPs) according to your plan in 2004 or 2005 EFY? Yes ☐ No ☐

If answer for Q 80 is No, what is the reason? _____-

_____

_____

_____

_____

If answer for Q 80 is yes, how many times did you supervise each health center (HC) and health post (HP) in 2005 or 2006 EFY? Health center_____ health post_____

Had you reviewed about surveillance practice by higher level supervision? Yes /No

Did you have regular supervision checklist? Yes ☐ No ☐

If answer for Q 84 is No, how did you supervise the health centers and health posts?

_____

_____

Were you supervised by higher level officers in 2005 or 2006 EFY? Yes ☐ No ☐

If answer for Q 86 is yes how many times in 2005 or 2006 EFY? _____

Did you send feedback of your supervision to the health centers (HCS) and health posts (HPs) commenting/indicating their strong and weak sides? Yes /No (observe)

If answer for Q 88 is No, why_____

_____

_____
_____
_____
_____

If answer for Q 88 is yes, for how many HCs and HPs did you send a feedback in 2005 or 2006 EFY? HC---------- and health post----------

Had you received feedback from higher level supervisors in 2005/ 2006 EFY? Yes/ No

If answer for Q 91 is yes how many feedbacks did you received in 2005 or 2006 EFY? _

Had you faced any challenge on supervision and feedback in 2005/06 EFY? Yes/No

If answer for Q 93 is yes a) list the challenges_____
__

_____
_____
_____
_____

b) List the measures that you take to tackle the challenges_____

_____
_____
_____
_____

Training
_____
_____

Have you been trained in disease surveillance?

Yes ☐ No ☐ Unknown ☐
Not applicable ☐

If yes, specify when, where, how long, by whom?
_____
_____

What percent of your personnel in the district have been trained in surveillance and epidemic management?
_____

Resources_____
_____

I. Percent of sites that have:

Logistics

Electricity

Bicycles

c. Motor cycles

d.Vehicles

Data management

Stationery

Calculator

Computer

Printer

Statistical package

Communication

Telephone service

Fax

B radio

Computers that have modems

Information education and communication materials

Posters

Megaphone

Flipcharts or Image box

VCR and TV set

Generator

Screen

Projector (Movie)

Other:

Satisfaction with surveillance system_____

with surveillance system

Are you satisfied with the surveillance system?

Yes ☐ No ☐ Unknown ☐ Not applicable ☐ If no, how can the surveillance system be improved?

Opportunities for integration

What opportunities are there for integration of surveillance activities and functions (core activities, training, supervision, guidelines, resources etc)

_____
_____
_____
_____

Questionnaire for Attributes and level of Usefulness:

Total population under surveillance_____ in 2006 EFY

What is the incidence / Prevalence of 2006 -in your area/region

Malaria _____cases _____Deaths _____

AFP(polio) _____cases _____Deaths _____

Measles _____cases _____Deaths _____

Meningitis_____cases_____Deaths_____

Level of Usefulness of the Surveillance System for these selected priority disease

3. Does the surveillance system help? Yes ☐ No ☐

To detect outbreaks of priority diseases early on time to permit accurate diagnosis?

Yes ☐ No ☐

To estimate the magnitude of morbidity and mortality related to these diseases, including identification of factors associated with these diseases? Yes ☐ No ☐

Permit assessment of the effect of prevention and control programs? Yes ☐ No ☐

Observe (confirmation):

interventions and diseases trends analyzed --- Available //Not available

Describe Each System Attributes:

A. Simplicity:

Is the case definition of the priority diseases (malaria, measles, AFP….) easy for case detection by all level health professionals? Yes ☐ No ☐

The surveillance system allow all levels of professionals to fill data? Yes/No

Does the surveillance system help to record and report data on time?

Does the surveillance system (Reporting format) have necessary information for investigation? Yes ☐ No ☐

How long it takes to fill the format? a, <5 minute b-10-15 minutes c- >15 minutes

How long does it take to have laboratory confirmation of

Measles

AFP (Polio)

Malaria

Others _____

B. Flexibility:

8. Can the current reporting formats be used for other newly occurring health event (disease) without much difficulty? Yes ☐ No ☐

9. Do you think that any change in the existing procedure of case detection and reporting formats will be difficult to implement? Yes ☐ No ☐

Comment:

_____
_____
_____
_

10. Is the system easy to add new variables? Yes ☐ No ☐

11. Is the surveillance system easy to integrate with other systems? Yes ☐ No ☐

12. Is the surveillance system easy to add new disease on report? Yes ☐ No ☐

13. Is the system easy to add new information technology? Yes ☐ No ☐

C. Data Quality: (Completeness of the reporting forms/and validity of the recorded data)

14. Are the reporting site / data collectors trained/ supervised regularly? Yes ☐ No ☐

Observe: Review the last months report of these diseases

Average number of unknown or blank responses to variables in each of the reported forms

_____

Percent of reports which are complete(that is with no blank or unknown responses) from the total reports _____

Are all health facilities reporting (including late report)? ☐ Yes ☐ No

Percent of health facilities that send report of each week in 2004 EFY. --------

Total weekly reports received from Health centres/health posts (for woreda health office)

WHO epid. wk	N° of HPs that report	N°of HPs that do not report	N° of HCs that report	N°of HCs that do not report	WHO epid. wk	N° of HPs that report	N°of HPs that do not report	N° of HCs that report	N°of HCs that do not report
1					27				
2					28				
3					29				
4					30				
5					31				
6					32				
7					33				
8					34				
9					35				
10					36				
11					37				
12					38				
13					39				
14					40				
15					41				
16					42				
17					43				
18					44				
19					45				
20					46				
21					47				
22					48				
23					49				
24					50				
25					51				
26					52				

D Acceptability:

Do you think all the reporting agents accept and well engaged to the surveillance activities? Yes/No

If yes, how many are active participants (of the expected including all private clinics)? _____/_____

If No for Q #1, what is the reason for their poor participation in the surveillance activity?

Lack of understanding of the relevance of the data to be collected

No feedback / or recognition given by the higher bodies for their contribution;

i.e. no dissemination of the analysis data back to reporting facilities

Reporting formats are difficult to understand

Report formats are time consuming

Other:

_____
_____
_____

4. Were all participants using the standard case definition to identify cases? Yes/ No

If yes, what is your evidence?

_____

5. Were all the reporting agents send their report using the current and appropriate surveillance reporting format? Yes/ No (if yes observe the documents)

6. Were all the health professionals aware about the surveillance system? Yes/No (if yes how they awared)

E. Representativeness:

What is the health service coverage of the district? _____%

Do you think, the populations under surveillance have good health seeking behavior for these diseases? Yes / No

Was the surveillance system enabled to follow the health and health related events in the whole community? Yes /No

If answer for Q 3 is no, who do you think is well benefited by the surveillance system? ☐ The urban ☐ the rural ☐ both

If yes for Q 4, do you think that rural and urban communities are equally benefited in surveillance system? Yes/ No , if no why

_____

Are all the Socio demographic variables included in the surveillance reporting format? Yes ☐ No ☐

If the answer for Q 6 is No, which a) Sex---------- b) age group---------- c) ethnic group---------- d) religion---------- is less represented?

F. Timeliness:

Are all health facilities reporting on time? Yes ☐ No ☐

Percent of health facilities that report on time. ----------

Weekly health facilities reports received on time for 2006 EFY (to be field at woreda health department)

WHO epid wk	N^{O} of HCS expected to report	N^{O} of HCs that report on time	N^{O} of HPs expected to report	N^{O} of HPs that report on time	WHO epid wk	N^{O} of HCS expected to report	N^{O} of HCs that report on time	N^{O} of HPs expected to report	N^{O} of HPs that report on time
1					27				
2					28				
3					29				
4					30				
5					31				
6					32				
7					33				
8					34				
9					35				
10					36				
11					37				
12					38				
13					39				
14					40				
15					41				
16					42				
17					43				
18					44				
19					45				
20					46				
21					47				
22					48				
23					49				
24					50				
25					51				
26					52				

G. Stability:

Was any new restructuring affected the procedures and activities of the surveillance of these diseases? Yes/ No

Was there lack of resources that interrupt the surveillance system? Yes / No if yes what was it and how do you solve it

_____
_____

Was there any time /condition in which the surveillance is not fully operating? Yes/ No

If the answer yes for Q #8 When/what is the condition that talks the system not to function properly?----------
---

Annex 4:- HEALTH Profile QUESTIONNAIRE

Identifiers

Assessment team Type of health facility

Date District

Interviewer Region/province

Respondent Country

Name of health facility

Surveillance system

Is there a national manual for surveillance at this site?

Obs Observe national surveillance manual:

Yes ☐ No ☐ Unknown ☐ Not applicable ☐

Case detection and registration

Observe the existence of a clinical register

Yes ☐ No ☐ Unknown ☐ Not applicable ☐

Observe the correct filling of the clinical register during the previous 30 days

Yes ☐ No ☐ Unknown ☐ Not applicable ☐

Do you have a standard case definition for: (each priority disease) like AFP (polio), measles, malaria?

Yes ☐ No ☐ Unknown ☐ Not applicable ☐

Observe the standard case definition for: (each priority disease)

Yes ☐ No ☐ Unknown ☐ Not applicable ☐

Observe the respondent correctly diagnosing one of the country's priority diseases using a standard case definition

Yes ☐ No ☐ Unknown ☐ Not applicable ☐

(Select one of the priority diseases in the facility's clinical register and ask how they diagnosed it — interviewer should have the standard case definition from MOH)

Case confirmation

Are you able to collect sputum Y N U N/A

Stool Y N U N/A

Blood Y N U N/A

CSF at this facility? Y N U N/A

Observe the presence of materials required to collect

Stool Y N U N/A

Blood / serum Y N U N/A

CSF Y N U N/A

Do you have the capacity to handle sputum, stool, blood/serum and CSF until shipment at this facility?

Yes ☐ No ☐ Unknown ☐ Not applicable ☐

Observe presence of functional cold chain at health facility

Yes ☐ No ☐ Unknown ☐ Not applicable ☐

Observe presence of transport media for stool at health facility

Yes ☐ No ☐ Unknown ☐ Not applicable ☐

Observe presence of packing materials for shipment of specimens at health facility

Yes ☐ No ☐ Unknown ☐ Not applicable ☐

Data reporting

Which communication material did you have?

☐ E-mail

☐ Wired phone

☐ Mobile

☐ Radio

☐ Fax

☐ Other----------

Did you have address of Zonal/woreda PHEM officers? ☐ Yes ☐ No

How frequently are you communicating with the Zonal/woreda PHEM officers on emergencies and other daily activities?

☐ Daily

☐ Weekly

☐ Every 2 week

☐ Monthly

☐ Quarterly

☐ Every 6 month

☐ Yearly

☐ Others----------

When are you expected to send weekly report to the Zonal/woreda PHEM unit?

☐ Monday

☐ Tuesday

☐ Wednesday

☐ Thursday

☐ Friday

☐ Saturday

☐ Sunday

☐ I don't know exactly

How is your facility communicating the Zonal/woreda PHEM officers in case of immediately reportable diseases? ☐ By e-mail ☐ By phone

☐ By fax

☐ Regular weekly report

☐ Others----------

Did you send summary or short report to the administrative /program leaders or other responsible organs on planning, prevention and control activities addressing Important issues at community level that have arisen through the surveillance system? ☐ Yes ☐No

If answer for Q 18 is yes, to whom did you send?

If you faced any problems on communicating and reporting, list them----------
---

Mention the alternative solutions that you take to tackle the problems you above? ----------
---

Have you lacked appropriate surveillance forms at any time during the last 6 months?

Yes ☐ No ☐ Unknown ☐ Not applicable ☐

Observe that the last monthly report agreed with the register for 4 diseases (1 for each targeted group [eradication; elimination; epidemic prone; major public health importance])

Obs Measles Y N U N/A

Obs Malaria Y N U N/A

Obs AFP (polio) Y N U N/A

Obs Meningitis Y N U N/A

Percent of sites that reported each reporting period to the next higher level during the past 3 months

Number of reports in the last 3 months compared to expected number

Obs Weekly: /12 times the number of sites

Obs immediately: /-- times the number of sites

On time (use national deadlines)

Obs Number of weekly reports submitted on time:-_____ /12 times the number of sites

Obs Number of immediately reports submitted on time: ___/-- times the number of sites

How do you report to higher level?

Mail

Fax

Telephone

Radio

Electronic

Other

Strengthening reporting

How can reporting be improved?

_____
_____

Data analysis_____
_

Is there assigned focal person for surveillance activities? Yes/ No

If no for Q 28 how do you do surveillance activities? _____

_____
_____

If yes for Q 28, did he trained on surveillance system? Yes/ No

If answer for Q30 is yes a) when----------? b) Topic----------? c) For how long? ----------

Was data compiled? Yes /No

Did you have computer on your office? Yes / No

Did you have computer on your department (PHEM unit)? Yes /No

What is the data entry and compilation instrument? ☐ Manual ☐ Computer ☐
other_____
_____

Did you have computer skill on ☐ Ms word ☐ Ms excel ☐ MS power point ☐ Epi-info

Did you analyze data of the surveillance system? Yes /No

If answer for Q 37 is yes, did you describe data by ☐ time ☐ place ☐ person

Did you have denominators for data analysis? ☐ total population ☐ male ☐ female ☐ U5

Please indicate the frequency of your data analysis.

☐ Weekly

☐ Every two week

☐ Monthly

☐ Quarterly

☐Every 6 month

☐ Annually

☐ No regular time

Did you notify the results of your analysis to the higher level PHEM? Yes /No

If answer for Q 41 is No, what is the reason?

☐ Lack of knowledge

☐ Shortage of time

☐ Less attention given

☐ Shortage of materials

☐ Analysis is not familiar

☐ Negligence

☐ Other----------

Did you perform trend analysis (Observe the presence of line graph of cases by time)

Yes ☐ No ☐ Unknown ☐ Not applicable ☐

Do you have an action threshold for any of the Country priority diseases?

Yes ☐ No ☐ Unknown ☐ Not applicable ☐

If yes for Q 44, what is it (Ask for at least 2 priority diseases)? _____cases ____ % increase _____rate

Epidemic preparedness_____
_____

Did you have plan for epidemic response and preparedness? Yes/ No

Did you have emergency stocks of drugs and supplies? Yes/ No

If answer for Q 47 is No, how did you control epidemics? _____

Had you experienced shortage of drugs, vaccines and supplies in 2004 or 2005 EFY?
Yes No I don't know

Did you established epidemic management committee? ☐ Yes ☐ No ☐ Not Applicable

Did the epidemic management committee have regularly scheduled meeting time? Yes/ No

Did you establish Rapid response team? ☐ Yes ☐ No ☐ Not Applicable

Did the Rapid response team have regularly scheduled meeting time during epidemics? Yes/No

Did you have case management protocol for epidemic prone diseases? ☐ Yes ☐ No ☐

Was there a budget for epidemic response? ☐ Yes ☐ No

Any Challenges on epidemic response and preparedness in 2006/07 EFY? Yes / No

If answer for Q 56 is yes, a) list the challenges_____
__

_____
_____
_____
_____

b) what measures did you take to tackle the challenges?_____

Epidemic response_____
_____

Is there any outbreak occurred in your area in 2006/07 EFY? Yes/ No how many _____

If yes for Q 58, how many of them were investigated in 2006/07 EFY? _____

Did you have outbreak investigation check list? Yes/ No

If answer for Q 59 is No, how did you know possible factors for the outbreak? ----------
---

Where was laboratory confirmation of cases done?

☐ Regional laboratory

☐ Hospital

☐ EHNRI

☐ Health center

☐Contracted private laboratory

☐ Other----------

Has the health facility implemented prevention and control measures based on local data for at least one epidemic prone disease?

Yes ☐ No ☐ Unknown ☐ Not applicable ☐

Did they achieved acceptable case fatality rates (e.g. 10% for Meningococcal CSM 1% for Cholera) during the most recent outbreak

Observe that the health facility achieved an acceptable case fatality rate for most recent outbreak

Yes ☐ No ☐ Unknown ☐ Not applicable ☐

Supervision and Feedback

Were you supervised by higher level (regional, zonal or woreda) officers in 2006/7 EFY? Yes /No (observe at least one feedback report)

If answer for Q 65 is yes, how many times in 2006/07 EFY? ----------

Had you received feedback from higher level supervisors in 2007/705 EFY? Yes /No

If answer for Q 67 is yes, how many feedbacks did you received in 2006/07 EFY? ----------

Had you faced any challenge on supervision and feedback in 2005/06 EFY? Yes /No

If answer for Q 69 is yes a) list the challenges.----
---

b) List the measures that you take to tackle the challenges. ----------

How many meetings has this health facility conducted with the community members in the past six months? _____

Observe the minutes or report of at least 1 meeting between the health facility team and the community members within the six months

Yes ☐ No ☐ Unknown ☐ Not applicable ☐

Resources_____

Logistics

Electricity

Bicycles

Motor cycles

Vehicles

Data management

Stationery

Calculator

Computer

Software

Printer

Communication

Tel. service

Fax

Radio call

Computer with modem

Information education and communication materials Posters

Megaphone

Flipcharts or Image box

VCR and TV set

Generator

Screen

Projector (Movie)

Other:

Protection materials (list)

_____ _____

Questionnaire for Attributes and level of Usefulness:

Total population under surveillance_____ 2006/7

What is the incidence / Prevalence of 2006/7 -in your area/region

Malaria _____cases _____Deaths _____

AFP(polio) _____cases _____Deaths _____

Measles _____cases _____Deaths _____

Meningitis_____cases_____Deaths___ _____

Level of Usefulness of the Surveillance System for these selected priority diseases

Does the surveillance system help?

To detect outbreaks of priority diseases early on time to permit accurate diagnosis? Yes/ No

To estimate the magnitude of morbidity and mortality related to these diseases, including identification of factors associated with these diseases? Yes/ No

Permit assessment of the effect of prevention and control programs? Yes/ No

Describe Each System Attributes:

A. Simplicity:

Is the case definition of the priority diseases (malaria, measles, AFP….) easy for case detection by all level health professionals? Yes/ No

The surveillance system allows all levels of professionals to fill data? Yes/No

Does the surveillance system help to record and report data on time?

Does the surveillance system (Reporting format) have necessary information for investigation? Yes/No

How long it takes to fill the format? a, <5 minute b-10-15 minutes c- >15 minutes

How long does it take to have laboratory confirmation of

Measles

AFP (Polio)

Malaria

Others _____

B. Flexibility:

Can the current reporting formats be used for other newly occurring health event (disease) without much difficulty? Yes/ No

Do you think that any change in the existing procedure of case detection and reporting formats will be difficult to implement? Yes /No

Comment:_____
_____
_____
_____
_____

Is the system easy to add new variables? Yes /No

Is the surveillance system easy to integrate with other systems? Yes /No

Is the surveillance system easy to add new disease on report? Yes /No

Is the system easy to add new information technology? Yes /No

C. Data Quality: (Completeness of the reporting forms/and validity of the recorded data)

Are the reporting site / data collectors trained/ supervised regularly? Yes/No

Observe: Review the last months report of these diseases

Average number of unknown or blank responses to variables in each of the reported forms

_____
_____

Percent of reports which are complete(that is with no blank or unknown responses) from the total reports

_____
_____

D. Acceptability:

Were all health workers using the standard case definition to identify cases? Yes/ No

If yes, What is your evidence

_____

Were your health facilities send your report using the current and appropriate surveillance reporting format? Yes/ No (if yes observe the documents)

Were all the health professionals aware about the surveillance system? Yes/No (if yes how they awared)

E. Representativeness:

What is the health service coverage of the district? _____%

Do you think, the populations under surveillance have good health seeking behavior for these diseases? Yes / No

Was the surveillance system enabled to follow the health and health related events in the whole community? Yes /No

If answer for Q 3 is no, who do you think is well benefited by the surveillance system? ☐ The urban ☐ the rural ☐ both

If yes for Q 3, do you think that rural and urban communities are equally benefited in surveillance system? Yes/ No , if no why

_____

Are all the Socio demographic variables included in the surveillance reporting format? Yes /No

If the answer for Q 6 is No, which a) Sex---------- b) age group---------- C) ethnic group----- d) religion---------- is less represented?

F. Timeliness:

Are you sending report timely? ☐ Yes ☐ No (observe copy of reports)

G. Stability:

Was any new restructuring affected the procedures and activities of the surveillance of these diseases? Yes/ No

Was there lack of resources that interrupt the surveillance system? Yes / No if yes what was it and how do you solve it

_____

_____

Was there any time /condition in which the surveillance is not fully operating? Yes/ No

If the answer yes for Q #3 When/what is the condition that talks the system not to function properly?----------

---

Opportunities for integration

What opportunities are there for integration of surveillance activities and functions (core activities, training, supervision, guidelines, resources etc.)

_____

_____

_____

_____

_____

_____

Health Post Level Questionnaire

Identifiers

Assessment team Type of health facility

Date District

Interviewer
Region/province

Respondent Country

Name of health facility
Surveillance system

Communication and reporting assessment

Which communication material did you have?

☐ E-mail

☐ Wired phone

☐ Mobile

☐ Radio

☐ Fax

☐ Other----------

Did you have address of woreda or H.C PHEM officers? Yes /No

How frequently are you communicating with the woreda or H.C PHEM officers on emergencies and other daily activities?

☐ Daily

☐ Weekly

☐ Every 2 week

☐ Quarterly

☐ Every 6 month

☐ Yearly

☐ Others----------

When are you expected to send weekly report to the woreda or H.C PHEM unit?

☐ Monday

☐ Tuesday

☐ Wednesday

☐ Thursday

☐ Friday

☐ Saturday

☐ Sunday

☐ I don't know

How are you communicating the woreda or H.C PHEM officers in case of immediately reportable diseases?

☐ By e-mail

☐ By phone

☐ By fax

☐ Regular weekly

☐ Others----------

If you faced any problems on communicating and reporting, list them----------
---

Mention the alternative solutions that you take to tackle the problems you above? ----------

Assessment of availability of Surveillance Documentation, Registers, and Forms

Was there national manual for surveillance? ☐ Yes ☐ No ☐ Not Applicable

Did you have standard case definition for all country priority diseases? Yes/ No

Was the case definition posted? ☐ Yes ☐ No

If answer for Q2 is No, for which disease(s) did you lack the case definition?

Did you have case reporting formats for out breaks?☐Yes ☐ No ☐ Not Applicable

Was there guideline for specimen collection, handling and transportation to the next level? ☐ Yes ☐ No ☐ Not Applicable

Had you line list format for reporting outbreaks? ☐ Yes ☐ No ☐ Not Applicable

Was there a clinical register/logbook in your health post? ☐ Yes ☐ No ☐ Not Applicable

Did you face shortage of surveillance reporting and recording formats? Yes/ No

If answer foe Q9 is yes, which form? ----------

Data analysis and training assessment

Had you trained on surveillance system? Yes/ No

If answer for Q1 is yes a) when----------
-? b) Topic----------? c) For how long? ----------

Did you analyse data? ☐ Yes ☐ No

Outbreak investigation and case confirmation assessment

Was there any outbreak in your Kebele in 2006/07 EFY? Yes/ No

If your answer for Q1 is yes, what did you do?

☐ Reported to the woreda PHEM

☐ Reported to administrative leaders

☐ We investigated

☐ Cases referred to health center/hospital

☐ Other----------

Where was laboratory confirmation of cases done? _____

Who was responsible to investigate an outbreak? _____

If answer for Q1 is yes how many out breaks were occurred in your Kebele in 2006/7 EFY? Fill the table below

Had you faced any challenge in outbreak investigation in 2006/07 EFY? Yes/ No

If answer for Q 6 is yes, a) list the challenges---------- ----------

b) List the alternatives that you take to tackle the challenges. ----------F. Supervision and feedback

Were you supervised by higher level (regional) officers in 2006/7 EFY? ☐ Yes ☐ No

If answer for Q1 is yes how many times in 2006/7 EFY? ----------

Had you received feedback from higher level supervisors in 2006/7 EFY? ☐ Yes ☐ No

If answer for Q 3 is yes how many feedbacks did you received in 2006/7 EFY? ----------

Health profile description tool 2015

Historical Aspects of the area(Culture&turism office).

Woreda at a glance: where it is_____

The name (how, why)_____

How the woreda was formed_____

Any other historical aspect_____

Geography and Climate (including map, altitudes,

Agro ecological zones etc…)

Woreda map_____

Location (distance and direction) _____ _____

Altitude _____

Annual rain fall (average)_____, annual temp(average)_____

Climatic zones_____ _____ _____

Accessibility (main roads)_____

Administrative setup

Total no. of kebeles: rural_____Urban_____

Zone/ Woreda boundaries North_____south----------

East_____ weat_____

4. Demographic information

Population: 2015

S.No	Parameter	Number / %	Remark
1	Total Population		
2	Rural		
3	Urban		
4	Male		
5	Female		
6	Under 1 yr		
7	U 5 yr		
8	U 15 yr		
9	Female 15-49		
10	Unreached Popu.		
11	Pregnant mothers		
12	Live Birth		
13	Non pregnant women		
14	Average H H		
15	IMR		
16	U 5 MR		
17	CBR		
18	CDR		

Ethnic composition/language % _____ _____ _____

5. Economy (mainstay of the economy, average income levels etc)

Main source of the economy_____

Average income per HH/year_____

6. Education and school Health

S.No		**2012**		**2013**		**2014**		**Remark**
		GOV's	**NGO's**	**GOV's**	**NGO's**	**GOV's**	**NGO's**	
	KG							
	Primary School							
	Secondary School							
	High School							
	Preparatory							
	TVET/College							
	University							
	Adult Education							
	Other							
	Latrine Coverage							
	Latrine with water							
	Sch. With driking Water							
	Sch. HIV Club							

7. Facilities (Transport, Telecommunication, Power supply,) 2015

How many of the health posts have access to

transportation_____(%)

telecommunication_____(%)

Electric power_____(%)

8. Vital statistics & Health delivery system 2015

8.1 Zone/District **Health Structure/**organogram

8.2Health Facilities

type	**Number**	**Total No. of beds**
Hospital		
Health center		
Private HF (clinics/diag.lab/drug stores)		
Functional/Under con/ Health posts		

Health institution to pop ratio:

Hospital:Pop----------. HC:Pop---------- HP:Pop----------

Health service coverage----------

Zonal /Woreda Level Man Power 2015

S No	Department	Man power	Remarks
1	Head of Health office		
2	Deputy		
3	Health Promotion & Prevention		
4	Family Health related case team		
5	Public Health Case team		
6	Plan and program Case team		
7	Training case team		
8	It/ HMIS person		
9	Cleaner		
10	Guard		
11	Store keeper		
12	Driver		

Heath Workers A & Supporting Staff In Governmental Health Facility 2015

S.No	By profession	Edu. Level	Sex		Remark
1	Physician		M	F	
2	Health Officer				
3	Nurse	Degree			
		Diploma			
4	Laboratory	Degree			

		Diploma			
5	Environmental Health	Degree			
		Diploma			
6	Pharmacy	Degree			
		Diploma			
7	Midwives	Degree			
		Diploma			
8	HEW				
9	Community Councilors				
10	It/ HMIS personal				
11	Others	Degree			
		Diploma			

Doctor: pop ratio_____, Nurse BSc + HO: pop ratio_____ HEW: pop ratio_____

8.4. **Top causes of morbidity and mortality**

Top ten leading causes of OPD visit (morbidity):

Top ten causes of admissions 2014

S.No	Adult case	Number	%	U 5 cases	Number	%
1						
2						
3						
4						
5						

6						
7						
8						
9						
10						

Top ten causes of deaths (mortality). 2014

S.No	Adult Deaths	Number	%	U 5 Deaths	Number	%
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

9. **Vital Statistics and Health Indicators**

Infant Mortality Rate (IMR) _____(**total <1yr deaths this yr____**

Contraceptive Prevalence rate_____

ANC rate (how many of the total expected pregnancies attended ANC) 1st Vist & 4th visit.

Percentage of deliveries attended by skilled birth attendants_____

Delivery Attended by EHW _____

5 yr

2010 _____

2011_____

2012----------

2013_____

2014_____

Immunization Coverage (for children); in number & percent

S.No	Antigen	2010 %	2011 %	2012 %	20113 %	2014 %	remark
1	BCG						
2	Penta 1						
3	Penta 3						
4	Pcv 1						
5	Pcv 3						
6	Rota 1						
7	Rota 2						
8	Measles						
9	Fu.Immu						
10	Vit A						
11	Average Temp.						

9. Disaster situation in the woreda

Was there any disaster (natural or manmade) in the woreda in the last one year?_____

Any recent disease outbreak/other public health emergency_____

If yes cases_____ and deaths_____ for the last 5 **yr**

12. Status of Primary Health Care Components – with focus on the eight PHC elements

MCH

_____

_____

FP _____

EPI: _____

_____

Water supply_2015

S.No						Rem ark		
		Protected	unprotected	Popu.n	Coverage %			
	Water scheme							
	Well water							
	POND							
	W/ reshine (distribution)							
	Other							

Endemic diseases Condition;

Malaria:

S.Nu	Activity		2010	2011	2012	2013	2014	Remarks
1	Total in/out Pt cases							
2	Confirmed cases	PF						
		PV						
	IRS							
	LLIN distributed							
	Env.Activity							
	Coartum distributed							

TB/Leprosy

S.No	Indicators	2012		2013		2014	
		M	**F**	**M**	**F**		
1	Total Tb cases						
2	TB +ve						
3	TB -ve						
4	EPTB						
5	TB Case detection						
6	TB Rx success						
7	Defaulter						
8	Death during Rx						
9	Screened for HIV						
18	**New** MB L detected						
11	MB L Rx Completed						

HIV/AIDS activity;

S,No	Main activity	2010		2011		2012		2014	
		M	F	M	F	M	F	M	F
1	Total Tested for Hiv								
2	Total U 5 Tested								
3	Total > 5 adult tested								
4	VCT tested								
5	PICT tested								
6	Counseling service								
7	PLWHA								
8	PLWHA receiving ART								
9	PMTCT service								

Nutrition (malnutrition related O.T.Ps,S.C, activities) Early warning

	Activity	**2010**	**2011**	**2012**	**2013**	**2014**	**Remark**
1	**SC Site**						
2	**OTP Site**						
	SC Admission						
	OTP Admission						

13. Discussion of the highlights and the main findings of the health profile assessment and description

---

---

14. Problem Identification and Priority Setting – set priority health problems based on the public health importance, magnitude, seriousness, community concern, feasibility etc

---

10. Contacted Person Responsibility Phone # Signature

1._____

2._____

3._____

4._____

5._____ Sealed

Declaration

I, the undersigned, declare that this is my original work and never been presented by another person in this or any other University and that all the source materials and references used for this thesis have been duly acknowledged.

Name: Zemedkun Astatke

Signature: _____

Place: _____

Date of Submission: _____

The thesis has been submitted for examination with my approval as a university advisor.

Name of Advisor: Dr. Wakgary Deresa

Signature: _____

Date: _____