

Assessment Report of Surveillance System and Outbreak Investigation in Yello Health Center, Loma District: Case Study

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Abstract

Surveillance is used for the application of health information for action under the following general set of conditions: in case of emergency situation, when timely response is demanded, needs public health epidemiologist must travel to & work in the field to solve the problem and when the extent of investigation is likely to be limited because of the imperative for timely intervention. The WHO-AFRO IDSR strategy focuses on the district level, but the goal of the IDSR strategy is to develop sufficient surveillance and response capacities at each level of the national system so that a flexible national infectious disease surveillance system will result. In a national adaptation of the strategy, a country might choose to focus initially on a few diseases depending on national resources and capacities. This study was done to assess the public health surveillance system and outbreak investigation in selected Yello Health Center, Loma District, South Ethiopia by using a cross sectional study was conducted from January 14-25 2/ 2012 in Yello Health Center. The data from different case team units in the health center is compiled but not analyzed by person, place and time dimensions. They perform trend analysis for malaria case only. They are using the information from statistics office to get denominator populations Supervisors from woreda health office came to the health center three times in the past six months. The health center had made once supervision per month on the facilities under the health office i.e. health posts but no document was found about the supervision at all health posts. The health center has received written feedback from woreda health office but not from regional and supervisors. There is no standard case management protocol and contingency plan for epidemic prone diseases and possible outbreak in the health center. Activities conducted by health center on communicable disease prevention and control during the past 3 month includes Vitamin A supplementation, health education, malaria case management, ITN distribution and mass campaign like DDT spray. There is epidemic committee at the health center level. They are contributing to epidemic response activities by conducting case management, providing health education and immunization activities. Based on the assessment made, there is slightly alive surveillance system in the health center. The activities of IDSR system in health center are poor as it is evidenced by poor recording, analyzing, reporting, supervision and feedback. Therefore, a health center should create a link between laboratory and epidemiologic surveillance and need to increase the capacity to confirm cases and report to next higher level and reporting pattern of priority diseases need to be frequent and in line with the guideline. This works similarly for reporting to higher level and feedback to health posts.

Keywords: IDSR, outbreak, Yello, catchment area, Loma District

1. Introduction

In most developing countries, communicable diseases are the most common causes of death, illness and disability. These diseases are Malaria, Measles, Cerebrospinal meningitis, Cholera, Yellow fever, Lassa fever, Tuberculosis, HIV/AIDS, Diarrhea and Pneumonia, etc[1]. The Federal Ministry of Health has enunciated programs for the elimination, eradication prevention and control of these diseases, with technical support from development partners[2].

Currently, the existing surveillance system is insensitive as it is incapable of detecting early warning signs of outbreaks[3]. The consequential effect of the poor surveillance system is high mortality, morbidity and disability, with attendant suffering of our people[4].

In recognition of the defect in the disease surveillance and notification situation, Ethiopia and other member States in the WHO African Region endorsed Integrated Disease Surveillance and Response strategy at the 48th Regional Committee meeting held in Harare, Zimbabwe, in September, 1998[3, 5].

- Use standard IDSR case definitions to identify and report priority diseases;
- Collect and use surveillance data to alert higher levels and trigger local action;
- Investigate and confirm suspected outbreaks or public health events using laboratory confirmation when indicated;
- Monitoring Analyze and interpret data collected in outbreak investigations and data from routine of other priority diseases.
- Use information from the data analysis to implement an appropriate response
- Provide feedback within and across levels of the health system; and

- Evaluate and improve the performance of surveillance and response systems

Communicable diseases remain the most important public health problem in Ethiopia. About 80% of endemic diseases in this country are communicable diseases that are potentially preventable with available and affordable health technology

According to 2001 data, there are 110 hospitals, 382 health centers 2293 health stations and 1023 functioning health posts. The potential health service coverage is around 50%. The actual service utilization is much less[6].

This study was done to assess the public health surveillance system and outbreak

Material and Methods

Study area and period

Yello health Center which is found 535 Kilometers south of Addis Ababa located in Loma District, Yello Worbetti kebele with few distance from Kindo Koysha District, Wolayta zone.

There are five kebeles under catchments area namely Subo Tulema, Lalla Ambe, Zima Waruma, Deneba Bola and Yello Worbetti. The total Population in the Keble is 25,286 of this Subo Tulema 4721, Lalla Ambe 5213, Zima Waruma 3645, Deneba Bola 5275 and Yello Worbetti 6032. Case management, laboratory, and pharmacy are the main health services provided. Malaria, Helementiasis and Pneumonia are the three top diseases seen in the health center respectively. Malaria is recurrently occurring in all these catchments which are malaria endemic areas.

Regarding human resources the health center has 01 Health officer, 08 Nurses, 02 Lab technologist and Lab technicians 2 drugists and 10 Administrative staffs.

This study was conducted in the health center because it assumed to do surveillance activities from January 14-25, 2012.

Study design

A cross-sectional study was conducted. Standard check list was used to interview key informants supplemented with on site observation (record review).

Population

Source institutions

Yello health center

Study institutions

All case teams in the health center: outpatient, emergency, laboratory, pharmacy and under five children case teams

Sampling technique

All case teams were included purposively. Purposive sampling technique for interviewing key informants those were case team leaders and head of health center from both public and private health sectors.

Measurements

Availability of national guide line of outbreak investigation

Ability of case detection, registration and confirmation

Data Analysis and Reporting

Completeness and timeliness of reports

Outbreak investigation and response

Supervision and feedback

Training and resource

Surveillance coordination

Data collection and quality control

Interview and Observation was conducted using standardized check list to gather information regarding implementation of IDSR, preparedness and response for disease outbreak and availability of resource for IDSR from study population. Data quality was controlled by designing the proper data collection materials (using check list). The team who conducted the study checked the collected data to ensure that all the required information was properly collected and recorded and also for its completeness and consistency.

Data analysis and processing

Data was edited, compiled manually and interpretation was made in thematic way as to give meaningful

information and is presented in narrative way.

Ethical Consideration

Before starting of the data collection, letter of support was obtained from Loma District Health Office. The purpose of the study was informed to respondents to provide accurate & honest response.

Results and Discussion

There is no surveillance guideline but health center have clinical registration book and the clinical register during the previous one month was complete. It have no case definition booklets but has case definition poster for priority diseases and was posted on the wall. There is no standard treatment guideline and separate registration book for priority diseases.

Case Confirmation

Health center has only the capacity to confirm weekly reportable diseases which includes dysentery, malaria, relapsing fever, Typhoid fever and typhus fever. They are collecting specimen from clients like blood/ serum and stool but no CSF which is done only at hospital level. There are adequate amount of materials required to collect specimens mentioned above.

Capacity to handle specimens until shipment

Health center has ability to handle stool and blood/serum specimen until shipment. There was functional cold chain at health center. They sent only CD4 specimen to Sodo Otona hospital laboratory for further investigation. There is transport media for stool at health facility and also packing materials for shipment of specimen.

Data Analysis and Reporting

There was no data analysis by person, place and time. Also health center didn't perform trend analysis and has no an action threshold for each priority disease. There is no appropriate surveillance report format. Reported cases from diseases targeted for eradication (polio) ... epidemic prone disease (malaria) ... major public health problem (Rabies)... The reporting format was complete. Only weekly surveillance report was sent to district health office and daily if requested by the office. A total of twelve weekly surveillance reports were sent to district health office and one quarterly report.

Epidemic Preparedness and response

There is no standard case management protocol and contingency plan for epidemic prone diseases and possible outbreak. Activities conducted by health facility on communicable disease prevention and control during the past 3 month includes Vitamin A supplementation, health education, malaria case management and mass campaign like DDT spray. There is epidemic committee at the health center level but has no regular plan and achievement. They are contributing to epidemic response activities by conducting case management, providing health education and immunization activities.

Supervision and Feedback

The health facility has been supervised three times in the past 6 months but they got written feedback from the supervisor in the past six months. The health facility got report from a higher level during the past one year on the data they provided. They didn't conducted meetings with community members to discuss results of surveillance or investigation data.

Training on surveillance

Concerning training on disease surveillance there is no health personnel was trained by health center due to turn over of trained staffs.

Resources

Logistics available for surveillance activities includes electricity and motor cycles and for data management stationery, calculator, computer and printer (new and not started working) and no statistical package like SPSS and EPI Info. But, health center has no electricity there is fluctuation in energy supply.

Communication

There is no network coverage due to this no communication media is available. Telephone, fax, computer with madams and radio call for surveillance purpose also do no exist. There is also no separate surveillance room.

Information education and communication materials

There are no posters, LCD projector TV set for priority diseases but there are flip charts and megaphone

Laboratory General Information

Yello Health center laboratory is one of the government affiliated laboratory working 5 days a week. The normal working hours is from 2:00 am to: 5:00 pm and no night duty. There are only two laboratory technicians but both of them did not take any type of training on laboratory surveillance. The final report was not reviewed before it was sent to the requesting authority.

Laboratory did have system for internal and external quality control. They briefly described the internal quality control as follows: “we follow the procedure for giemsa.” As to the external control taking blood film for malaria as example: “we put the result as negative and positive separately and when the supervisors come from SNNP region, we give the results (both +ve and –ve) and they give as feedback.”

Laboratory reported currently on malaria the statistician collect different diseases daily and finally report to Loma district health office weekly. There was safety manual which was accessible to laboratory staffs. The staffs used gloves, lab. Coats regularly in the laboratory as protective materials but face masks and safety glasses were not used. Incineration method was not used for solid waste disposal. The functioning of laboratory equipment was routinely monitored and recorded (such as checking temperature of incubators, autoclave functions). The laboratory, however, did not have a system for regular monitoring of stocks.

EQUIPMENT AND SUPPLIES

The reagents were labeled with the date of preparation or opening and regularly checked for proper functioning .These reagents and supplies are obtained from Loma district health office.

Table 1 Items those were available in the laboratory, Yello Health center, Yello Lalla town, July 2012

Available items		Not available items
Functional	Non functional	
Microscope with oil-immersion objective		Incubator (35-37C)
Slides and cover slips		Scale or balance
Candle jars		Water bath
Bacteriological loops and needles		Means of testing pH (meter or paper)
Calibrated loops (.01/.001 ml)		Vehicle for lab use for transport of specimens
Staining sink		Distilled water (or other means for quality water)
Test tubes and racks		Autoclave or sterilization equipment
Centrifuge		Molecular biology equipment (electrophoresis, etc.)
Specimen transport containers (boxes or other)		Written manual of laboratory procedures
Petri Dishes		Written safety procedures
Malaria RDT		Diagnostic antisera
		Bacteriological culture media
		Antimicrobial susceptibility discs
		Computer for use in lab

Ten top diseases seen in the health center in 2012 are:

1. Malaria
2. Helmentiasis
3. B/Pneumonia
4. Tonsillitis
5. UTI
6. Gastrointestinal diseases
7. Skin diseases
8. Musculoskeletal diseases
9. Dog bite
10. Infectious disease of the eye

Identified gaps

- Shortage of trained man power
- Inadequate training
- Lack of knowledge on computer data analysis
- No epidemic Committee
- Lack of surveillance guideline

- Lack of incinerator

Conclusion

Based on the assessment made, I can hardly say that there is alive surveillance system going on in the health center. There is a problem of coordinating other programs' resources for IDSR activities that supports one another. The link between laboratory and epidemiologic surveillance is insufficient showing a gap in case confirmation, identification and reporting in health center. The health center has no the capacity to confirm cases and to handle the specimens until shipment, there is no reporting system of priority disease, no community based intervention on epidemic prevention and control.

In general there is turnover of trained personnel on current issues of IDSR and no refreshment to health personnel (in position of responsibility) for the last twelve months at the health center.

Therefore, the national IDSR manual better be distributed to health center and Loma district health office should recruit sufficient staffs for IDSR and give training.

Acknowledgement

I would like to acknowledge the Loma district health office for facilitating the activities to conduct this survey. I am grateful to the staffs for their contribution in providing me with the necessary information and logistic materials. Finally, I need to pass our heartfelt gratitude to all individuals participated in giving relevant information.

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