



Rabies Control Efforts in Ethiopia

On behalf of the Ethiopian Public Health Institute (EPHI),
Ministry of Livestock and Fishery (MOLF),
Ethiopian Wild Life Conservation Authority (EWCA)
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Programs in East Africa
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Outline

- Introduction
- Current situation of rabies in Ethiopia
- Step-wise approach towards rabies elimination (SARE) assessment
- Progress made towards Rabies Control
- Collaboration with neighboring Countries
- Next Steps

Introduction

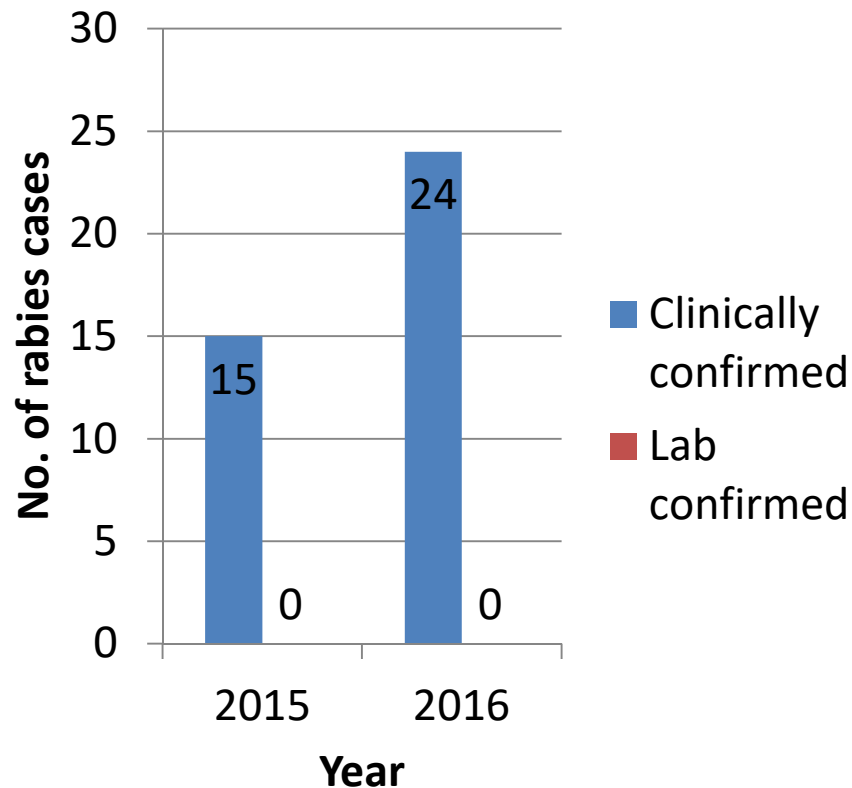
- Ethiopia is a big country with a human population of **99.39million** (World bank, 2015)
- Composed of 9 regional states and 2 chartered city administrations
- The average income per capita is **568 \$** (World Bank, 2015)
- Ethiopia is endowed with high livestock population and wild animals
- Rabies is one of oldest infectious diseases in Ethiopia
- Rabies outbreak was documented in 1903

Introduction...cont'd

- Rabies as a public health concern in the country
 - the second leading country (Bogel and Motschwiller, 1986)
 - 1.6 rabies deaths /100,000 population (Deressa et al., 2013)
 - Annual human rabies incidence of 2.33 cases per 100,000 (Jemberu et al., 2013)
- More than 2700 human lives lose are estimated annually (Hampson et al., 2015)
- Limited lab capacity and human rabies management
- Rabies is one of the immediately reportable diseases by both sectors

Current situation of rabies in Ethiopia

- Human rabies cases

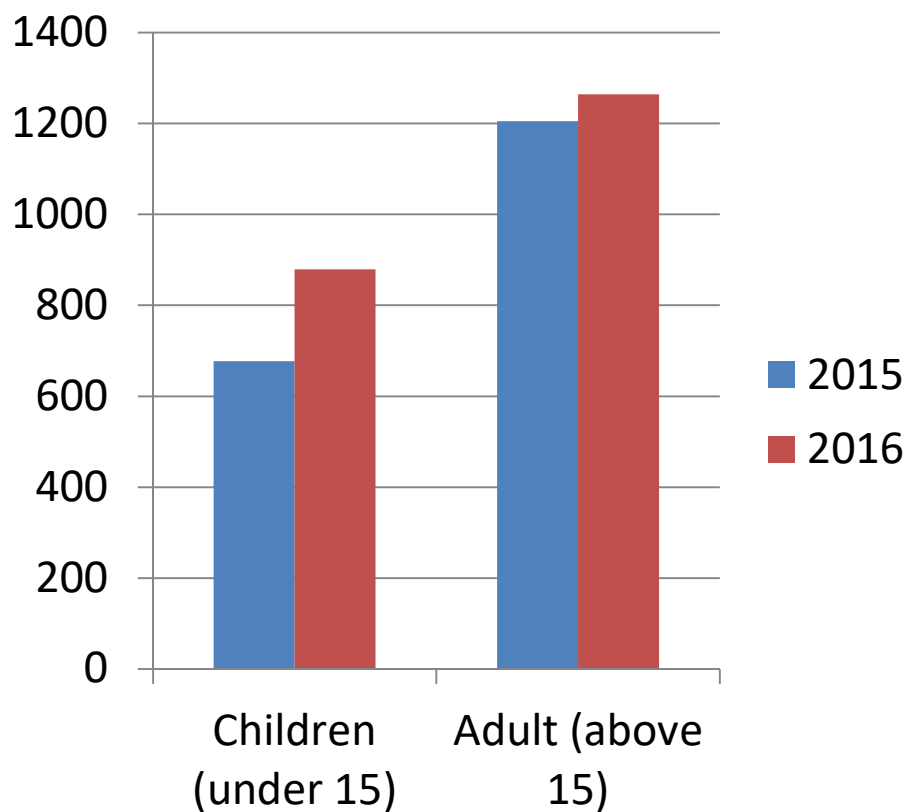


Factors that contribute for the occurrence of human rabies case in Ethiopia includes:-

- Traditional medicinal plants
- Spiritual beliefs
- Poor treatment seeking behavior due to various misperceptions
- Considering first aid as anti viral treatment

Source: MOH/EPHI data, for Addis Ababa & its surroundings

Human rabies exposure cases- 2015-2016



Species of animal
associated with human
rabies exposure

- Dog
- Cat
- Livestock
- **Human**
- Wild animals (fox, hyena, etc)

Source: MOH/EPHI data, for Addis Ababa & its surroundings

Human rabies exposure and death report

Region	Rabies Exposure Cases	Rabies cases
Addis Ababa	4*	0
Afar	0	0
Amhara	1083	9
Benishangul-Gumuz	73	3
Dire Dawa	0	0
Gambella	4	2
Harari	0	0
Oromia	286	15
SNNPR	32	1
Somali	7	0
Tigray	1439	1
Grand Total	2928	31

Source: MOH/EPHI data, national surveillance data.

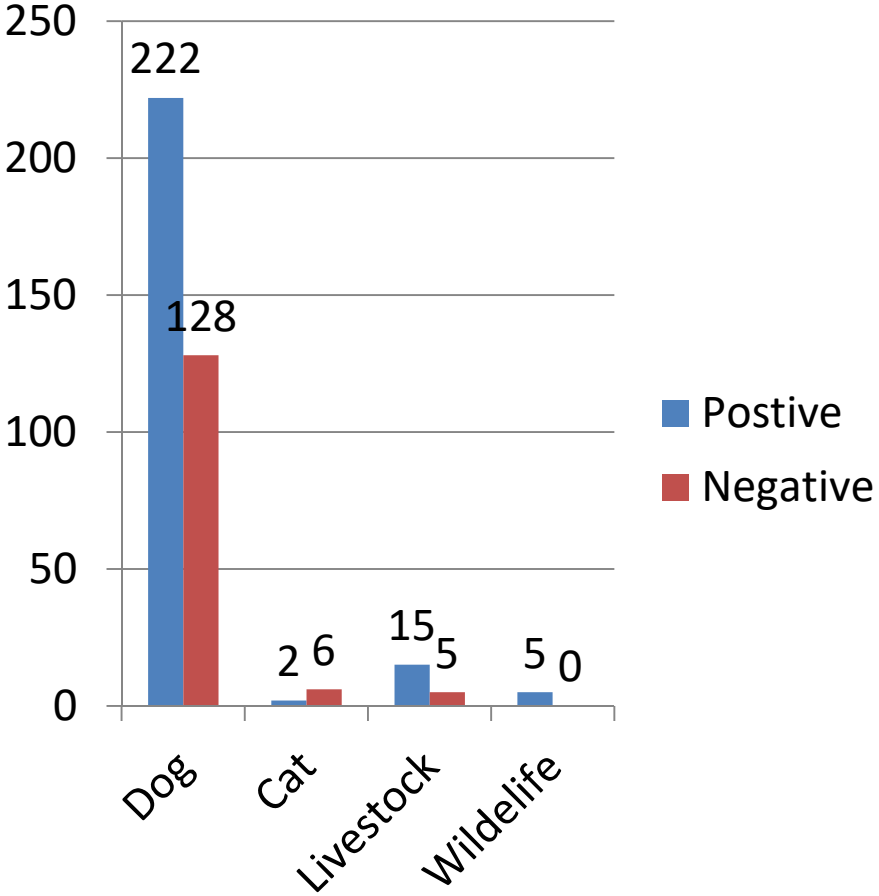
* Cases for Addis are not representative

Rabies Biologics – PEP and RIG

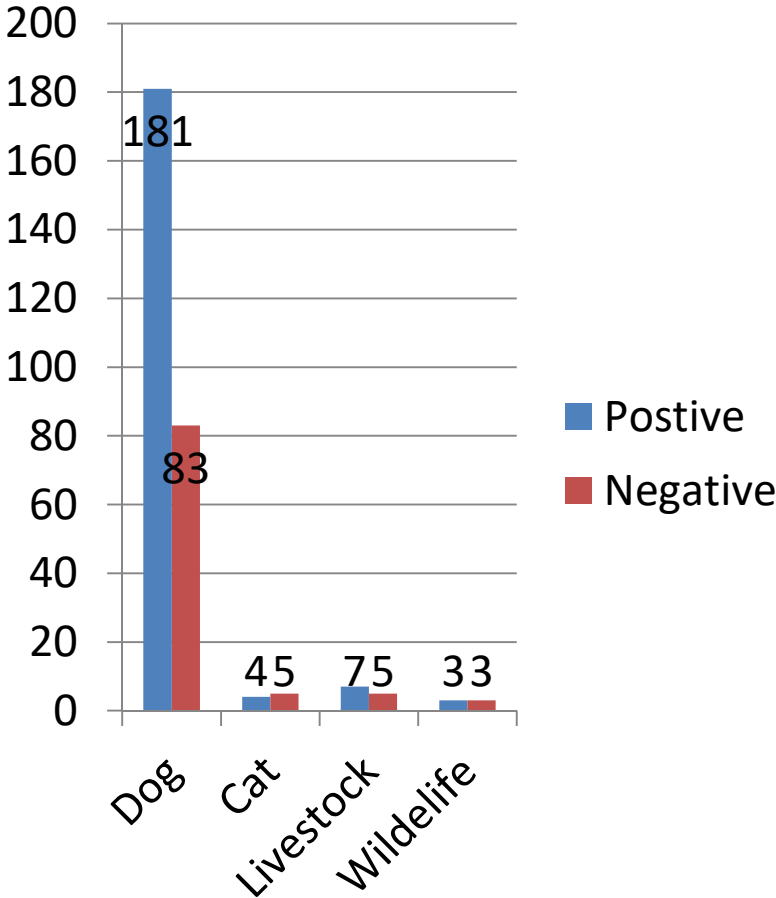
- NTV is the most widely used as post exposure prophylaxis vaccine
 - 30,000 to 33,000 doses of NTV produced annually by MOH
 - 5 to 23 USD
 - No PEP surveillance to **monitor** adverse events or completion rates established
- Access to cell culture based vaccine is very limited
 - **80USD for Cell culture based vaccine**
- RIG is not available in the country

Animal Rabies Cases-MOH

Samples tested during 2015

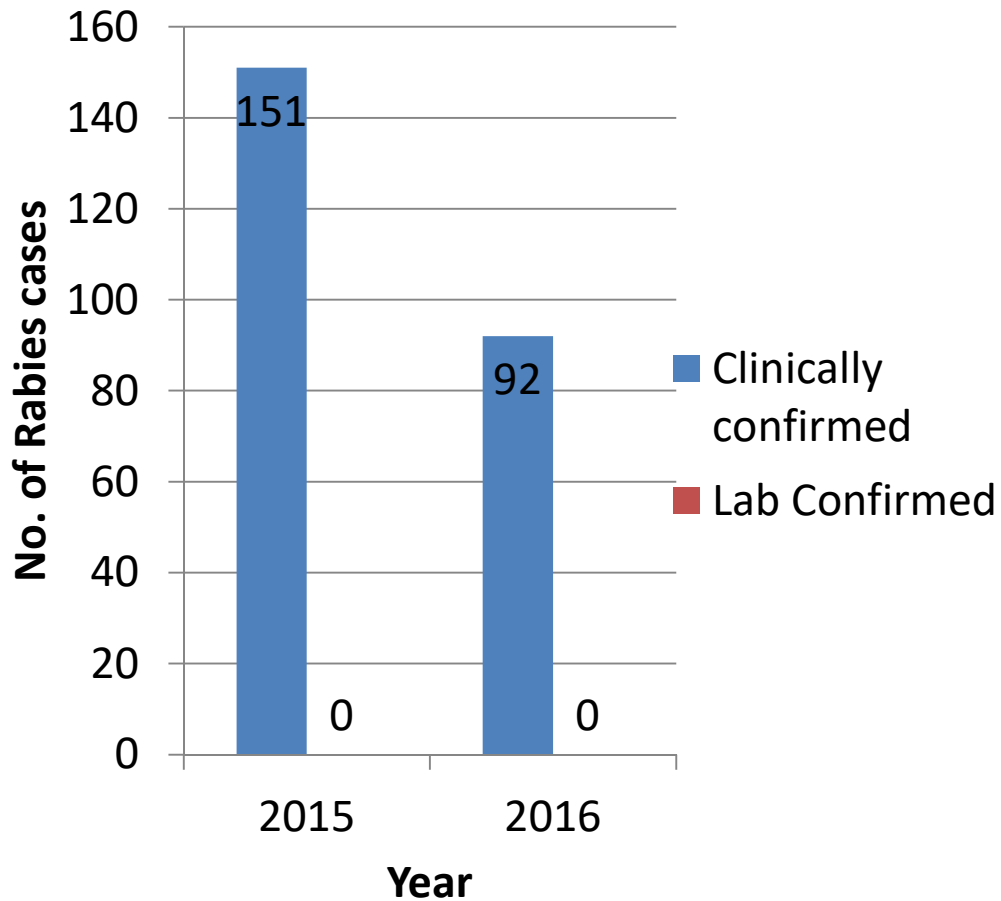


Samples tested during 2016



Source: MOH/EPHI data, for Addis Ababa & its surroundings

Animal Rabies Cases - MOLF



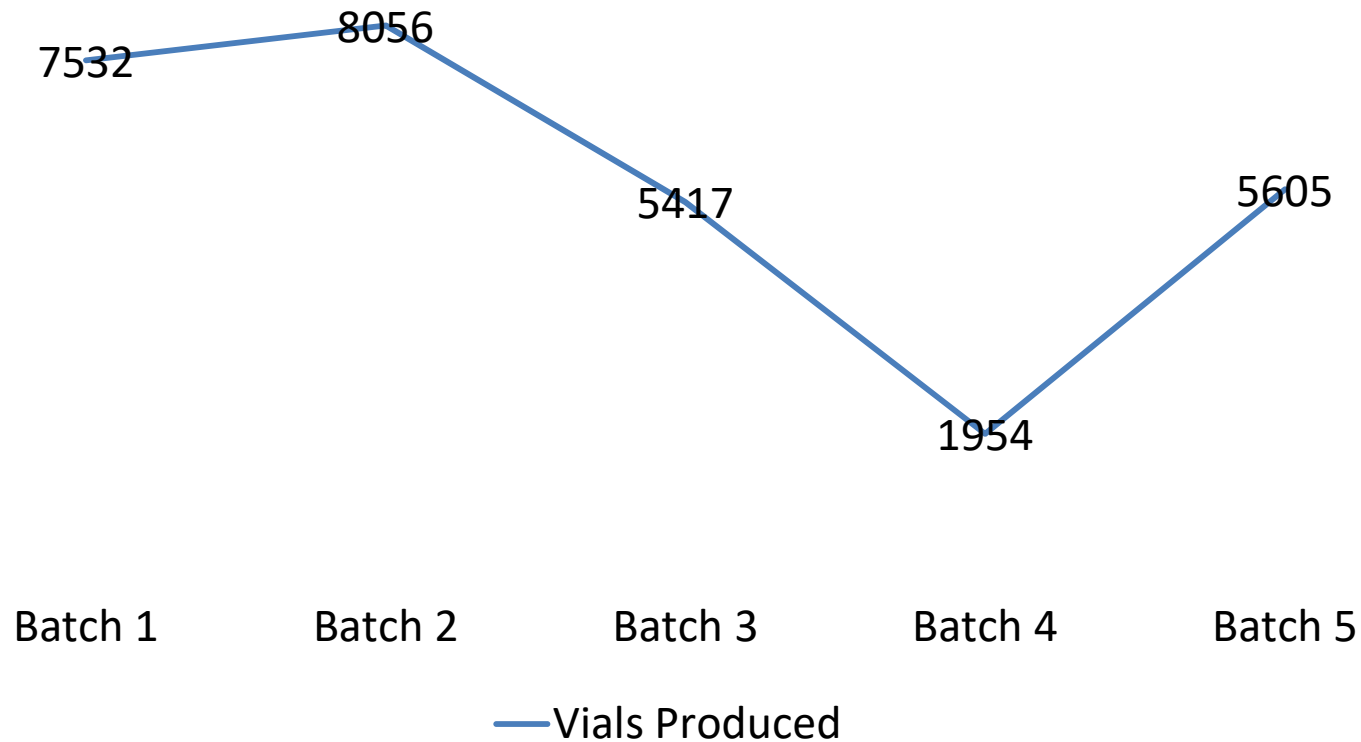
Species of animals include:-

- Canine
- Bovine
- Equine

Source: MOLF national surveillance data

Animal Rabies Vaccine Production

Animal vaccine produced during 2015-2017



One dose = 11 birr / 0.5\$
1 vial = 5 doses

- No National Mass Dog Vaccination Program

Source: NVI/ MOLF data

SARE assessment

- Stakeholders workshop conducted in Feb, 2016
- Assessment done at national and by 4 pilot regions
- **SARE Score – 0.5**
- Critical gaps identified
 - Poor inter sectoral collaboration
 - Poor availability and access to dog vaccine



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The SARE tool for rabies control: Current experience in Ethiopia



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ABSTRACT

The Stepwise Approach towards Rabies Elimination (SARE) tool was developed through a joint effort of the Food and Agriculture Organization (FAO) of the United Nations and the Global Alliance for Rabies Control (GARC), to provide a standard mechanism for countries to assess their rabies situation and measure progress in eliminating the disease. Because the African continent has the highest per capita death rate from rabies, and Ethiopia is estimated to have the second largest number of rabies deaths of all African countries, Ethiopia undertook a self-assessment by means of the Stepwise Approach towards

Progress made towards Rabies Control

- Prioritization of zoonotic diseases (Rabies #1)
- Pilot regions and zones identified for GHSA rabies program (4 regions)
- Valuable Assessments Conducted
 - Joint **SARE** assessment
 - On the existing **surveillance systems** (public health and veterinary) on animal bite and rabies
 - On human and animal rabies **vaccine production** capacity
 - Human cell culture **vaccine introduction** pilot
 - **Laboratory** assessments of national and regional labs (public health and animal health)
- Increased Inter sectoral collaboration
 - Zoonotic diseases technical working group established
 - TOR and MOU developed by TWG

Progress made...cont'd

- Establish linked surveillance and response system
 - Rabies **surveillance protocol** developed
 - Trainings conducted on **new program**
 - **Gaps identified** (quarantine facilities, coordination with vet clinics and PHEM)
 - Procurement of **lab equipments** and supplies
 - **PrEP** provided to field vets & lab workers
 - Training on **rabies lab techniques** provided by CDC
 - Secured stockpile of **46,000 vials** of cell culture vaccine
 - National animal bite and rabies management **guideline** development (at final stage)
 - Training offered on animal handling and humane euthanasia
 - Commemoration of WRD
- Training conducted on evaluation of MVC strategies, vaccination coverage rates and dog population estimates

Collaboration with neighboring Countries

- No collaboration exist with neighboring countries
 - Lack of contact information
 - Lack of forum to bring countries together

Next Steps

- Continue to strengthen inter sectoral collaboration through MOU, regular meetings, advocacy
- Establish community-level linked surveillance and response system
 - Joint community risk and animal assessments (MOLF and MOH)
 - Establish dog quarantine facility
 - Safe animal sample transportation to labs for storage & future testing
 - Launch two new rabies labs in two regions (2017)
- Mass vaccination of dogs in pilot areas using lessons learned and evaluation of effective strategies
- Ensure availability and access of cell culture vaccine for both humans & veterinary use
- Establish a national plan for Rabies Control based on SARE assessment results and input from various in-country stakeholders

THANK YOU

