World Rabies Day, September 28th, is celebrated annually to raise awareness about rabies prevention and to highlight progress in defeating this horrifying disease. Rabies is a zoonotic viral disease that is transmitted through the saliva and nervous tissue of an infected animal. It is listed as one of 18 Neglected Tropical Diseases by the World Health Organization.

Rabies is almost always 99.9% fatal—it has one of the highest case fatality rates of any disease. However, rabies is also 100% preventable, through human post-exposure prophylaxis (PEP), improved educational awareness to prevent exposure, and mass vaccination of dog populations.

Many people around the world observe World Rabies Day (WRD), which raises awareness about the impact of rabies and how the disease can be prevented. The day also marks the anniversary of Louis Pasteur’s death, the French chemist and microbiologist, who developed the first rabies vaccine. Today, safety and efficacious animal and human vaccines are among the important tools that exist to eliminate human deaths from rabies while awareness is the key driver for success of communities to engage in effective rabies prevention.

In Uganda, the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF), in partnership with Uganda Veterinary Association (UVA) and other stakeholders spearheaded the World Rabies Day celebrations to raise the profile of national and local control programmes and this act as a springboard for year-round capacity building and awareness.

Apart from dog vaccination and proper animal bite management, an integral part of a successful rabies control program is community education. The Uganda government conducts an extensive nationwide annual World Rabies Day (WRD) celebration as part of its community education. Mass media is also one of the main tools utilized to promote World Rabies Day.

The 2017 Theme: “Rabies: Zero by 2030.” At the global conference on rabies elimination in 2015, a common goal of zero human deaths from canine rabies by 2030 was agreed by the World Health Organization, World Organisation for Animal Health, UN Food and Agriculture Organization and GARIC. In support of this goal, the 2017 World Rabies Day theme is Rabies: Zero by 2030. It’s now the time to make elimination a reality. World Rabies Day is an opportunity everyone to play their part and bring an end to the unnecessary suffering and death caused by rabies.

Rabies, the Deadly But Neglected Disease

By: Dr. Baluka Sylvia, President Uganda Veterinary Association

Rabies has effective and well known prevention measures but remains a neglected disease throughout developing countries (WHO, 2013). Although vaccination of dogs is considered the most effective method of prevention in humans, many developing countries have not invested in achieving the coverage recommended by the World Organization for Animal Health (OIE) and World Health Organization (WHO).

Rabies is a very fatal zoonotic disease with disguising clinical signs including abnormal behavior with symptoms like hydrophobia (fear of water), anxiety, excessive aggressiveness (loss of fear for the owner), anorexia (loss of appetite), excessive salivation, failure to swallow (dysphagia), reacting at imaginary objects in dogs, and finally paralysis before death in both humans and animals. The clinical form of rabies in humans and animals is associated with about 99.9% mortality rate and usually the affected animals or humans die within a week after the first neurological signs appear.

Many dog bites are associated with rabies which is extremely fatal. Rabies has a very high case fatality rate with almost all clinical cases resulting into death. Besides causing death to victims of dog bites, rabies causes confusion and fear in the families of the victims. CANINE rabies is associated with several ripple effects which undermine the economic activities and livelihoods of the affected households.

Dogs do not only bite humans but also other animals including cattle, goats and sheep which are a source of livelihood for many Ugandans and if they die of rabies following dog bites, the owners suffer economic losses.

In Africa, it is estimated that over 10,500 cattle die of rabies annually and Asia loses twice this number. Canine rabies has several ripple effects such as: undermining the economic activities and livelihoods of the affected households.

The low priority and commitment given to rabies control is attributed to lack of accurate data on the true public health impact of the disease. It is widely recognized that the number of deaths officially reported greatly underestimates the true incidence and prevalence of the disease. Many patients do not report to health centers for treatment of the clinical disease, few cases receive laboratory confirmation, and many cases in the rural communities go unreported. In Uganda, the number of people dying of rabies in a year is unknown since there is neither systematic reporting nor surveillance systems to capture all people who are bitten by dogs or die of rabies in all districts.

Human rabies remains a significant and deadly but less prioritized disease in Uganda. Dog bites are the main source of human rabies. Dog bite consequences include direct physical injury, psychological trauma, post-traumatic stress and transmission of rabies to the bitten individual. Moreover, about 99% of human deaths from rabies occur in the developing world.

Disparities in the affordability and accessibility to post-exposure prophylaxis and risks of exposure to rabid dogs result in a skewed distribution of the disease burden with the major impact falling upon the rural poor and vulnerable groups including children and the elderly. Moreover, about 99% of human deaths from rabies occur in the developing world.

- Thus the need for us to control and prevent rabies in Uganda regardless of the number of people who are reported to die of rabies annually.
- Mass dog vaccination must be intensified since it is the cheapest and most effective way of preventing exposure of people to rabies.
- Increased public educational awareness about the risk of dog bites and rabies is also very vital.
- Mass vaccination of pets particularly if adopted as a preventive remedy is safe and much cheaper than PEP treatment costs plus transport costs incurred in getting to health centers where the rabies vaccine and PEP are provided.
- Dog bites are of serious public health importance and dogs must be kept responsibly.
- If inadequate efforts are not made to prevent and control rabies in Uganda through massive dog vaccinations, the disease will continue killing people yet it is preventable. Rabies prevention would be much cheaper and more effective than post exposure prophylaxis (PEP) treatment which is very expensive and unaffordable by many Ugandans.
- Canine rabies prevention through mass vaccination is the cheapest and most effective means for Uganda to achieve this year World Rabies Day Theme “Rabies Zero by the year 2030”.

Challenges to Rabies Control in Uganda

Rabies (Mad dog disease) in humans has existed in Africa many centuries ago. Rabies is a viral zoonotic disease, caused by infection with the rabies lyssavirus. Throughout the world, including Africa, dogs are by far the most important source of infection to humans. The incidence of human rabies appears to be increasing in many areas, despite deteriorating detection rates and reporting systems.

This is likely to be related, in part, to the rapid growth rate of dog populations, which in many parts of Africa exceeds that of human populations. The implications for the dynamics of rabies are likely to be profound, resulting in an increase in the size of rabies outbreaks, the probability of disease persistence, and the likelihood of dog-to-human transmission.

Although rabies is recognized as a major problem in Africa, official death rates in both humans and dogs are known to be highly inaccurate (WHO 2003). In Uganda, until recently, a common problem with rabies reporting has been that not all suspect case reports are submitted from district levels to the central authorities, as a result of the low reporting rates by the Districts which is majorly paper based coupled with low staffing levels at sub-counties to relay information about the incidence of dog bites.

There have been increasing dog bites, initially in the big urban areas but now the rural areas are registering numerous dog bites to humans and domesticated animals. The incubation period for rabies is typically 1–3 months but may vary from 1 week to 1 year, dependent upon factors such as the location of virus entry and viral load.

Initial symptoms of rabies include a fever with pain and
THE REPUBLIC OF UGANDA

For Agriculture sector; Low priority compared to other
High incidence but Low prevalence of rabies; rabies
-Malaria, HIV/AIDS, Cholera, ebola;

CHALLENGES TO EFFECTIVE RABIES CONTROL

STRAIGHT DOG ELIMINATION

Proven and Effective Rabies control Strategies:

VACCINATION:
• Free mass vaccination of more than 75% dogs & cats as a
government social service to the public
• Regular Private vaccination of pets

LEGISLATION, LAW ENFORCEMENT AND COMPLIANCE
• Animal Diseases Control Act
• Rabies Control Act
• Public Health Act
• Bye –laws by Local Authorities
• Rabies is a Notifiable Disease

CHALLENGES TO EFFECTIVE RABIES CONTROL

• Low Prioritization of Rabies control
  “Divided Constituency” Which sector takes direct
  responsibility for rabies control?
  For Health sector; Low priority compared to: 
  -Malaria, HIV/AIDS, Cholera, ebola;
  High incidence but Low prevalence of rabies; rabies
  cases/deaths are fewer (“not seen”)
  For Agriculture sector; Low priority compared to other
diseases like Foot and Mouth disease, contagious bovine
plural Pneumonia, Peste de petit ruminants. Rabies has
little impact on livestock production & marketing.

• Inadequate funding

Consequently, this translates into lack of interest in
rabies making it a “forgotten” disease except for the
victim & the relatives.

• Under reporting/no reporting; <50% Poor or no
  surveillance for rabies.
• High cost of human post exposure treatment against
  rabies: in UGX. 120,000 /patient (USD 36.00/patient)
  how many can afford?
• Rabies is not much of a problem of the rich but the poor
  (countries & individuals)

• Disease is associated with traditional beliefs/remedies,
  witchcraft, delay in accessing medical treatment.

• Strong structures for effective Inter-sectoral collaboration
  needed (One Health approach has to be strengthened
  at both the Central level and at the District local
  Government)

• Government policy of liberalization & privatization,
  decentralization permits each local government to set
  its own priorities which may not match with those of
  neighboring districts. E.g. lack of planning and executing
  coordinated rabies vaccination campaigns between
  Local / District Government Authorities

• Competing priorities even within the same locality hence
  the need for consensus between leaders due to limited
  resource base at each local govt level.

• The prevalence & dangers of African lyssa viruses, is not
  well known in many countries

• Which are the maintenance hosts? Are they a health
  hazard?
• Development of recombinant vaccines & new vaccination
  strategies (oral vaccines for stray dogs?)

RECOMMENDATIONS:-

• Redefine Institutional arrangements under One Health
  concept through promoting cross – sectoral and multi-
  disciplinary approach
• Reliable long term Financing Strategy
• Building more robust public and animal health systems
• Strengthening the national emergency response
  capabilities
• Addressing the concerns of the poor by focusing on
  locally important diseases including rabies.
• Conducting strategic research

GUIDING PRINCIPLES:

• Implementation of a stronger inter-sectoral collaboration
  with political commitment
• Coordinate through; National Task Force / Technical
  Committees, etc, bring together those working on
  human, animal and ecosystems health experts
• Engagement of key international institutions, WHO, OIE,
  UNICEF etc, drawing on their unique mandates and
  complementary expert base
• Increase animal health and public health services
  budgets for rabies
• Strengthen surveillance: special attention for hotspots,
  outbreak areas, transmission across wildlife, district and
  international borders
• Facilitate emergency response capacity
• Financing communication and social mobilization against
  rabies in animals and humans (Increasing awareness at
  all levels)
• More funding & commitment for rabies by Governments,
  Research Institutions, International Organizations,
  Development partners, etc

CONCLUSION:

• Rabies is a very much preventable disease.
• Effective scientific technological & managerial tools
  exist for rabies control & have been successfully used in
  developed countries.
• Africa has lacked the necessary commitment and
  resources to harness these tools.
• Hence the urgent need for re-focusing and re-tooling
  the existing scenario into a viable strategy to revitalize
  the control of rabies in Uganda and Africa in general.