



GHSA, A OH-MULTISECTORAL APPROACH
FOR ZDAP IMPLEMENTATION:
USE OF THE CDC TOOLS FOR
PRIORITIZATION OF ZOOONOTIC DISEASES IN
SENEGAL

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PLAN

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REPUBLIQUE DU SENEGAL



I-INTRODUCTION



II- Presentation of the country



REPUBLIQUE DU SENEGAL





II-1-Presentation of the country : geography

- Senegal was a french colony
- Independance in 1960
- Located on the western part of Africa between 12°8 and 16°41 north latitud
- And 11°21 and 17°32 west longitud
- 196722 Km², population: 15 millions
- Borders countries: Mauritania on the north; Mali at the East, Guinée-Conakry (Ebola fever in 2014) at the South-East and Guine-Bassao at the South-West;
- The republic of Gambia is surrounded by Senegal except the west.
- Atlantic ocean is the western border of the country (550 km coast).
- Senegal is a member of the E.C.O.W.A;S. and the A.U.



II-2-Presentation of the country :political situation

- Independance in 1960.
- Official language is french.
- Fourth president elected in 2012
- Laic republic with 95%of muslims and 5% christians
- Democracy , no ethnical problems.



III-3-Presentation of the country: economy

- Major economic activities:
- - fishing;
- - 46 % of the population is engaged in agriculture (peanuts, rice, millet) and the majority involved in livestock farming;
- - extractives industries: phosphates, zircon;
- Tourism;

Recently gas and petroleum discovered on the off-shore area.



Representation of the country: healthcare network

The ministry of health and social action coordinates the sector.

Also, health is provided by others medical facilities managed by the Armed forces, private sector, the christians congregations .

The lowest level of care is the infirmary in the villages,

then we have the local hospital in the sanitary districts ,

the regional hospital and on the highest level the national hospitals, the university hospitals and the military training hospitals.

The first hospital in west africa were built in the 1882 in Dakar and the the first school of medicine opened in 1918.

There is an international school of veterinarian medicine in the capital

Now , there are several public and private schoolls of medecine throughout the country.



III-GHSA implementation in Senegal

GHSA has been adopted on february 2014

July 2015: task force is set up by the Prime minister;

-It is leaded by prime ministers health advisors

-Including: ministry of health,ministry of environment and sustainable development, ministry of livestock and animal production,ministry of the Armed forces.

One of the first steps was to review the RSI to have a global appreciation of the heath system.

Multisectoral workshops on the zoonotic diseases in the country have been organised because as shown by multiple studies, 1/3 to 1/2 of the human infectious diseases are related to zoonotic origin.



IV-Prioritized zoonotic diseases in Senegal

The criteria for ranking zoonotic diseases are listed in order of importance below:

- The severity of disease in humans
- The Social-economic impact
- The response capacity to the disease in Senegal
- The capacity to prevent the disease in Senegal
- The pandemic/epidemic potential



Criterion 1: The severity of disease in humans

- It is the most important criterion
- - case fatality rate from 0 to 5% : score 1
- - case fatality rate from 6% to 25%: score 1
- - case fatality rate from 26% to 50%: score 2
- - case fatality rate over 50% : score 3



Criterion 2: the social-economic impact

- Second most important criterion
- - no economic impact on livestock: score of 0
- - < 20% impact on production of livestock and less than 5% mortality: score of 1
- - either > 20% impact on production or > 5% mortality: score of 2
- - both > 20% impact and > 5% mortality: score of 3



Criterion 3: response capacity to the disease in Senegal

- Third most important criterion
- Disease that did not have a modality for diagnosis in both humans and animals in Senegal, an effective treatment for humans, or a vaccine available in animals : score of 0;
- -Diseases that have a modality for diagnosis in both humans and animals in Senegal or an effective treatment for humans or a vaccine in animals : score of 1;
- -Diseases that have a modality for diagnosis in both humans and animals in Senegal , and an effective treatment for humans or a vaccine in animals : score of 2;
- -Diseases that have a modality for diagnosis in humans and animals in Senegal and an effective treatment for humans and a vaccine in animals : score of 3.
- December 2014 : an Health Emergency Operations Center is set up.



Criterion 4-the capacity to prevent the disease in Senegal

- Fourth criterion
- -Diseases without a current contingency plan, surveillance system, or vaccine available in Senegal for humans or animals: score of 0;
- -Disease with a current contingency plan or surveillance system, but no vaccine: score of 1;
- -Disease with a surveillance system and vaccine available in Senegal for animals or humans: score of 2;
- -Disease that have a current contingency plan, surveillance system and vaccine available in Senegal for animals and humans: score of 3



5-Criterion 5: the pandemic/epidemic potential

- Fifth criterion
- - disease that cannot be transmitted human-to-human: score of 0
- -disease with unknown human-to-human transmission: score of 1
- -disease with human-to-human transmission:score of 2



IV-2-List of the prioritized zoonotic diseases

- Six(6) diseases have been considered as priorities from tne greatest national concern:

- Rabies,

- Zoonotic influenza viruses,

- Tuberculosis(mycobacterium bovis),

- Viral hemorrhagic fevers (Ebola and Marburg),

- Anthrax,

- Rift valley Fever.

Zoonotic disease	Causative agent	Human disease burden in Senegal	Animal disease burden in Senegal	Diagnostics,treatment, and prevention in Senegal
Rabies	virus	452 cases in 2014(2 deaths) Only 2 cases reported in 2015(2deaths) No data available for 2016	Rabies virus is actively circulating in both wild and domestic animals	Animals vaccines Human vaccines Post-exposure prophylaxis Treatment for human with supportive care
Zoonotic influenza viruses	Viruses	No human case of highly pathogenic avian influenza has yet been reported in Senegal	Ther is no data available for Senegal	Senegal has the capacity to perform molecular diagnostic since 2006. Avian influenza vaccines in development. Tratment for human includes supportive care and antiviral agents
Tuberculosis(mycobacterium bovis)	bacteria	In Africe the observed zoonotic tuberculosis rate is 2.8 %.There are 7 zoonotic tuberculosis cases/ 100.000	There is no data available	Senegal does not routinely distinguish zoonotic tuberculosis from other tuberculosis species in the lboratory

Viral hemorrhagic (Ebola and Marburg)	Virus	One case of Ebola was reported in Senegal in 2014 during the west africa Ebla outbreak There are no case or Marburg reported in Senegal today	The fruit bat species identified as the likely reserevoir in the 2014 west africa Ebola outbreak are present in Senegal, but the animal disease burden is unknown. Ther is no data available on animal burden of Marburg in Senegal	Currently, there are no animal vaccine available in Senegal Human Ebola vaccines are undergoing cluinical trials Treatment for human is supportive care
Anthrax	Bacteria	Ther is no data available regarding global incidence, however, human cases rates are highest in Africa and central and southern Asia.In Africa there can be 10 human cutaneous and enteric cases per single animal carcass	There is no data available but ie significant among the ruminants near the gambian borders thought to	Vaccines are available for animals and humans. Antibiotic treatment is available for humans.
Rift valley fever	Virus	There were RVF coutbreak among humans in Senegal in 2013 and 2014	There have been multiple outbreaks of RVF among animals in Senegal in recent years	There are several vaccines availables, but reuire multiples doses or induce only low-level protection, so are not routinely used. Ther is no licensed human



V-PLANS AND RECOMMENDATIONS

- **1-Laboratory capacity:**
 - Senegal through the Institut Pasteur has the capacity to diagnose all the 6 prioritized zoonotic diseases.
Others laboratories of the ministry of health and the Armed forces must be reinforced
- **2-Surveillance:**
 - The creation of an integrated platform for sharing data because there is a lack of sharing of the data among the sectors and within departments of each sector
 - There must be an emphasis on both active and passive surveillance
 - All sectors should identify specific representatives to the One Health sub-committee for each of the prioritized diseases.



3-Workforce

-The field epidemiology training program (FETP) must be integrated into the actions of surveillance , veterenarians are enrolled in this training

4-Outbreak response

- To update existing response plans for the prioritized diseases
- To develop response plan for those with do not have
- To allocate funding for these diseases

5-Prevention and control

To strenghten multi-sectoral one health coordination, communication and information sharing

To promote research



VI-STEPS

- The Prime Minister set up the National One health Platform : june 2015
- OH-SMART (One Health System Mapping ,Analysis,Resource Toolkit) workshop occured on july 2015 based on the WHO international health regulation
- To establish response plans for rabies and Rift Valley Fever
- Ministry of agriculture and ministry of livestock an animal production develop data-sharing agreements for the prioritized diseases
- The wildlife sector maintain the cold-chain for the laboratory samples
- The ministry of environment and sustainable developpment develop data-sharing agreement for the prioritized diseases and update existing plans



STEPS

- The ministry of health and social affairs develop data sharing agreement and update the plans for the prioritized zoonotic diseases
- -Identification of workshop training gaps (FETP): 5 groups of 25 trained
- The ministry of Armed Forces design representatives in the zoonotic disease sub-committee and in the National one Health platform
- -International partners support the strengthening of multisectoral One Health coordination capacity and other technical and assistance support

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VII-CONCLUSION