JOINT EXTERNAL EVALUATION OF IHR CORE CAPACITIES

of the

REPUBLIC OF SENEGAL

Mission report:
18 November–2 December 2016

World Health Organization

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ACKNOWLEDGEMENTS

Contents

Abbreviations

AMR	antimicrobial resistance
ASLM	African Society for Laboratory Medicine
CBRN	chemical, biological, radioactive and nuclear
CDC	United States Centers for Disease Control and Prevention
CNGPC	national commission for the management of chemicals
COGIC	inter-ministerial crisis management operations centre
DTRA	United States Defence Threat Reduction Agency
ECOWAS	Economic Community of West African States
EISMV	Interstate School of Veterinary Sciences and Medicine
EOC	emergency operations centre
EPI	Expanded Programme of Immunization
EPT-2	Emerging Pandemic Threats 2 Programme
EVD	Ebola virus disease
FAO	Food and Agriculture Organization of the United Nations
FETP	field epidemiology training programme
Gavi	The GAVI Alliance, formerly known as the Global Alliance for Vaccines and Immunization
GHSA	Global Health Security Agenda
GOARN	Global Outbreak Alert and Response Network
HCAI	Health-care associated infections
IAEA	International Atomic Energy Agency
IHR	International Health Regulations (WHO, 2005)
INFOSAN	International Food Safety Authorities Network
IPD	Dakar Pasteur Institute
ISED	Health and Development Institute
ISRA	Senegalese Institute of Farming Research
JEE	Joint external evaluation
LANAC	National Analysis and Control Laboratory
LNERV	National Laboratory for Farming and Veterinary Research
NFP	National IHR Focal Point
NGO	Nongovernmental organization
OIE	World Organisation for Animal Health
ORSEC	national emergency response

PRONALIN	National Programme for Nosocomial Infection control
REDISSE	West Africa Regional Disease Surveillance Systems Enhancement
RESOLAB	Regional Veterinary Referral Laboratory
SAMU	national emergency medical services
SNEIPS	national health education and information service
SOP	standard operating procedure
USAID	United States Agency for International Development
WAHO	West African Health Organization
WHO	World Health Organization

Executive summary

Senegal is the largest French-speaking country in the WHO African Region and the seventh country in the region to undergo a JEE. The JEE took place from 28 November to 2 December 2016 in Dakar, Senegal; 106 national experts representing nine ministries took part, together with an external team composed of 15 international experts from FAO, OIE, the United States Centers for Disease Control and Prevention (CDC), and WHO, as well as experts from other countries. The external evaluation team was multidisciplinary, with broad experience in public health and health security. Team members were actively involved in the discussions on the 19 technical areas.

The external evaluation was conducted in two stages: (1) an initial self-assessment carried out by Senegal using the JEE tool (2016); and (2) the in-country evaluation by an external team of experts in close cooperation with the national authorities.

The IHR (2005) self-assessment began in July 2016 and was "a key opportunity for dialogue and in-depth reflection among national experts from various fields on the ways and means of meeting the challenges the country faces in complying with the IHR (2005)". Using the JEE tool, Senegal conducted a thorough review of its capacities in the 19 priority areas.

The outcomes of the self-assessment and the other evaluations mentioned in this report – with the exception of the gap analysis conducted in November 2016 with support from the OIE – were taken into account in the discussions that took place during the JEE. In addition, the field visits led to a more in-depth and clear debate of the situation in each technical area. The external team has acknowledged the quality of the work done by the national team, which acted transparently and with credibility throughout the self-assessment and JEE. During the evaluation, the national team's professionalism was highlighted by the realistic scores it proposed. This made it easier to reach a consensus on indicators where external evaluators and the national experts shared the same opinions. As a result, most of the time could be spent on adjusting the priority actions in each technical area.

The main conclusions were the following:

- Senegal has a solid base for preventing, detecting and responding to public health threats. The major efforts undertaken indicate that the country is able and willing to further strengthen and sustain its capacities in order to act more quickly, more efficiently and more effectively in the area of health security.

- Senegal managed to stop the spread of Ebola virus disease (EVD) before it could establish transmission. Nevertheless, the outbreak clearly illustrated that capacities need to be further developed and more resilient in order to effectively tackle further severe outbreaks and other serious zoonotic diseases, such as highly pathogenic avian influenza, and other major public health events that could be caused by chemicals or radiation.

- Senegal has a multisectoral platform for coordinating and monitoring operations as part of the One Health approach. Through its inter-ministerial councils, the Office of the Prime Minister is committed to coordinating all government activities, including those of the various sectors involved in implementing the IHR (2005). In addition, the country has the qualified human resources needed to fully comply with the IHR (2005).

- Senegal has demonstrated that it has regional – and international – experience and strategies: it sent six representatives from key ministries to the recent Ministerial Meeting of the GHSA held in Rotterdam, the Netherlands, in October. In Senegal, the GHSA and the One Health approach have been in place since 2015. These initiatives have received technical and financial support from the country's development partners, most notably WHO, United States Agency for International Development (USAID), the CDC, the World Bank, FAO and OIE.

- For the moment, there is no memorandum of understanding or any other agreement between the public health and security authorities. Some multisectoral activities are conducted informally, indicating that implementation of solid national mechanisms to prepare for and respond to major public health events under the IHR (2005) need to be institutionalized.

- Senegal should continue to take advantage of the commitments made and the efforts undertaken by the competent authorities in organizing the recent ministerial meeting on the One Health approach and other related frameworks such as the GHSA, in order to speed up the IHR (2005) implementation process.

- Implementation of the GHSA and the launch of the West Africa Regional Disease Surveillance Systems Enhancement (REDISSE) created a favourable environment that not only helped this evaluation to run more smoothly but will also almost certainly contribute considerably to improving compliance with the IHR (2005) in Senegal.

- It is worth noting that the high level of external funding is a serious threat to the sustainability of the progress made in Senegal.

- Disease surveillance, particularly for potentially epidemic diseases, and response operations are handled separately, and there is no effective coordination between these two roles.

- Discussions with national experts during the JEE mission revealed several examples of good practices. They show that the individuals involved are willing and professional. There are almost no formal mechanisms for coordinating work conducted jointly by various sectors, which does not make it easy to properly manage emerging and re-emerging diseases.

Next steps

At the end of the five days of the JEE with the national experts, the members of the external team issued the following general recommendations to the Government of Senegal:

1. The legislative framework should be more rapidly strengthened and implemented in order to ensure effective collaboration between the key sectors involved in preventing, preparing for, detecting and responding to public health events.

2. The Government should take steps to significantly increase funding for activities aimed at strengthening IHR (2005) capacities.

3. The Office of the Prime Minister is encouraged to continue its role as general coordinator and facilitator in order to ensure that a multisectoral approach is taken to improving health security, while the role of the Ministry of Health and Social Welfare in coordinating operations should also be strengthened.

4. The national IHR (2005) focal point, which must be a unit and not an individual, should be located within a structure that has the skills and the administrative and legal authority in terms of surveillance and operations.

5. An action plan should be drawn up with the same energy as that observed during the self-assessment and the JEE. It is essential that the national action plan take into account the results of the external evaluation and that it is completed before the end of the first quarter of 2017.

The JEE team wish to commend the Government of Senegal for so carefully and uncompromisingly preparing the self-assessment. Use of the JEE tool meant that members of the external evaluation team and national experts could work together to identify priority actions. The lessons learnt during the JEE confirm that the efforts made by Senegal can contribute to improving global health security in order to prevent the spread of diseases and other health risks.

Senegal scores

Capacities	Indicators	Score
National legislation, policy and financing	P.1.1 Legislation, laws, regulations, administrative requirements, policies or other government instruments in place are sufficient for implementation of IHR (2005)	2
	P.1.2 The State can demonstrate that it has adjusted and aligned its domestic legislation, policies and administrative arrangements to enable compliance with the IHR (2005)	2
IHR coordination, communication and advocacy	P.2.1 A functional mechanism is established for the coordination and integration of relevant sectors in the implementation of IHR (2005)	1
Antimicrobial resistance	P.3.1 Antimicrobial resistance (AMR) detection	3
	P.3.2 Surveillance of infections caused by AMR pathogens	1
	P.3.3 Health care-associated infection (HCAI) prevention and control programmes	3
	P.3.4 Antimicrobial stewardship activities	1
Zoonotic diseases	P.4.1 Surveillance systems are in place for priority zoonotic diseases/pathogens	2
	P.4.2 Veterinary or animal health workforce	3
	P.4.3 Mechanisms for responding to infectious zoonoses and potential zoonoses are established and functional	1
Food safety	P.5.1 Mechanisms are established and functioning for detecting and responding to foodborne disease and food contamination	2
Biosafety and biosecurity	P.6.1 Whole-of-government biosafety and biosecurity system is in place for human, animal and agriculture facilities	2
	P.6.2 Biosafety and biosecurity training and practices	2
Immunization	P.7.1 Vaccine coverage (measles) as part of the national programme	3
	P.7.2 National vaccine access and delivery	4
National laboratory system	D.1.1 Laboratory testing for detection of priority diseases	3
	D.1.2 Specimen referral and transport system	3
	D.1.3 Effective, modern point-of-care and laboratory-based diagnostics	3
	D.1.4 Laboratory quality system	3
Real-time surveillance	D.2.1 Indicator- and event-based surveillance systems	3
	D.2.2 Interoperable, interconnected, electronic real-time reporting system	3
	D.2.3 Analysis of surveillance data	3
	D.2.4 Syndromic surveillance systems	4
Reporting	D.3.1 System for efficient reporting to WHO, FAO and OIE	3
	D.3.2 Reporting network and protocols in the country	2

Workforce development	D.4.1 Human resources are available to implement IHR (2005) core capacity requirements	**3**
	D.4.2 FETP or other applied epidemiology training programme is in place	**4**
	D.4.3 Workforce strategy	**2**
Preparedness	R.1.1 Multi-hazard national public health emergency preparedness and response plan is developed and implemented	**2**
	R.1.2 Priority public health risks and resources are mapped and utilized	**2**
Emergency response operations	R.2.1 Capacity to activate emergency operations	**3**
	R.2.2 Emergency operations centre operating procedures and plans	**2**
	R.2.3 Emergency operations programme	**3**
	R.2.4 Case management procedures are implemented for IHR (2005) relevant hazards	**2**
Strengthen link between public health and security authorities	R.3.1 Public health and security authorities, (e.g. law enforcement, border control, customs) are linked during a suspected or confirmed biological event	**2**
Medical countermeasures and personnel deployment	R.4.1 System is in place for sending and receiving medical countermeasures during a public health emergency	**2**
	R.4.1 R.4.2 System is in place for sending and receiving health personnel during a public health emergency	**2**
Risk communication	R.5.1 Risk communication systems (such as plans, mechanisms)	**1**
	R.5.2 Internal and partner communication and coordination	**2**
	R.5.3 Public communication	**3**
	R.5.4 Communication engagement with affected communities	**4**
	R.5.5 Dynamic listening and rumour management	**2**
Points of entry	PoE.1 Routine capacities are established at points of entry	**1**
	PoE.2 Effective public health response at points of entry	**1**
Chemical events	CE.1 Mechanisms are established and functioning for detecting and responding to chemical events or emergencies	**3**
	CE.2 Enabling environment is in place for management of chemical events	**2**
Radiation emergencies	RE.1 Mechanisms are established and functioning for detecting and responding to radiological and nuclear emergencies	**2**
	RE.2 Enabling environment is in place for management of radiation emergencies	**2**

PREVENT

National legislation, policy and financing

Introduction

The IHR (2005) provide obligations and rights for States Parties. In some States Parties, implementation of the IHR (2005) may require new or modified legislation. Even if new or revised legislation may not be specifically required, States Parties may still choose to revise some regulations or other instruments in order to facilitate IHR implementation and maintenance in a more effective, efficient and beneficial manner. Implementing legislation could serve to institutionalize and strengthen the role of IHR (2005) and operations within the State Party. It can also facilitate coordination among the different entities involved in their implementation. (See detailed guidance on IHR (2005) implementation in national legislation at http://www.who.int/ihr/legal_issues/ legislation/en/index.html.) Policies that provide for national facilities, detail the country's responsibilities and determine the distribution of sufficient funding are also of the highest importance.

> **Target**
>
> *States Parties should have an adequate legal framework to support and enable the implementation of all of their obligations and rights to comply with and implement the IHR (2005). In some States Parties, implementation of the IHR (2005) may require new or modified legislation. Even where new or revised legislation may not be specifically required under the State Party's legal system, States may still choose to revise some legislation, regulations or other instruments in order to facilitate their implementation and maintenance in a more efficient, effective or beneficial manner.*
>
> *States Parties should ensure provision of adequate funding for IHR (2005) implementation through the national budget or another mechanism.*

Senegal level of capacities

Senegal reviewed its legislation at the workshop to evaluate the minimum capacity requirements (in November 2011), at the annual follow-up of IHR (2005) implementation (most recent one conducted in 2015) and at the mapping and IHR implementation-monitoring workshop (on 23 May 2016). Following these workshops, recommendations were issued, particularly concerning the drafting of a prime ministerial order to strengthen the role of the national IHR focal point through a multisectoral and multidisciplinary approach. This draft order is in the process of being finalized.

The 2009–2018 national health development plan incorporates some of the provisions of the IHR (2005), with strategic actions to strengthen disease management and integrated disease and response surveillance. Other areas of the IHR (2005) are covered in other legislation, including:

* the hygiene code, which address outbreaks through provisions on disinfection, health checkpoints at borders, public and individual hygiene, and water and food hygiene;

* Ministerial Order No. 11 047 of 4 December 1995 on health accreditation in Senegal, including a provision on conducting collective prophylaxis against animal diseases;

* the sanitation code, set out in Act No. 2009-24 of 8 July 2009;

* the water code, set out in Act No. 81-13 of 4 March 1981;

* the environment code, set out in Act No. 2001-01 of 15 January 2001.

The national IHR focal point was appointed in 2011 and is under the responsibility of the prevention directorate. The current national IHR focal point was appointed by the Minister of Health and Social Welfare through memorandum No. 02167 MSAS/DGS/DP of 27 February 2014.

Senegal did not consider it necessary to publish the adoption of IHR (2005) in the Official Journal. Through its interministerial councils, the Office of the Prime Minister coordinates all government activities, including those of the different sectors covered by the IHR (2005).

Organizing the work of the national IHR focal point has been a challenge for Senegal. During the mission, the concept, as set out in the IHR (2005), was discussed. It was clarified that the national IHR focal point should not be a person but rather an entity, which at present is the prevention directorate.

There is a willingness to improve capacities. However, it is worth noting that the national IHR focal point does not have a technical surveillance and response role but rather is in charge of notifying WHO in the event of a public health emergency of international concern. This means that all information regarding susceptible events needs to be compiled by the national IHR focal point. If there is a review of how the national IHR focal point is organized, these points should be taken into consideration.

Cross-border coordination is not properly organized. Diseases do not stop at borders, and methods therefore need to be adapted. The legal framework for cooperating with neighbouring countries, particularly cooperation-based entities or regional projects (e.g. West African Health Organization (WAHO), West African CDC, EU Project, World Bank project), was not presented or discussed.

Senegal cooperates with neighbouring countries sporadically, informally and not in a systematized manner. An agreement on cross-border diseases exists between Senegal and Mauritania. In November 2016, Senegal underwent an OIE evaluation, which identified shortcomings in the area of animal health.

The recommendations issued following the various workshops conducted since 2011 have not been implemented, owing to financial constraints. However, recommendations not requiring financial resources could be implemented. In order to adopt a multisectoral approach, coordination between the national IHR focal point and the OIE delegate (the focal point for animal health) is important, particularly to ensure that information is shared.

Recommendations for priority actions

- Sign the draft ministerial order on creating and defining the organization and role of the national IHR focal point.

- Put in place a legal framework for cross-border cooperation to ensure rapid exchanges of information on public health events and a multisectoral response.

- Create a platform for cooperating and sharing information between the national IHR focal point and the animal health focal point (i.e. the OIE delegate) as part of the One Health initiative.

Indicators and scores

P.1.1 Legislation, laws, regulations, administrative requirements, policies or other government instruments in place are sufficient for implementation of IHR (2005) – Score 2

Strengths/best practices

- Through its interministerial councils, the Office of the Prime Minister coordinates all government activities, including those of the different sectors involved in implementing the IHR (2005).

- The draft ministerial order establishing the national IHR focal point identifies the adjustments that needed to be made in order to comply with the IHR (2005).

- Legislation also covers other specific areas not within the purview of the national IHR focal point, such as sanitation, hygiene and the environment.

- Senegal has adopted an integrated disease and response surveillance strategy and the related implementation guide was revised in 2013 (see reference document No. 33).

- A review of legislation, regulations, administrative arrangements and other related government instruments was conducted during the national workshop held from 23 to 29 November 2011. Recommendations were issued, particularly regarding the legislative framework; these recommendations have not been implemented owing to a lack of follow-up and resources.

- Legal texts setting out health regulations include Decree No. 2016-933 of 5 July 2016 on the health of seafarers. In addition, a draft order on notifiable diseases and the draft order on the national IHR focal point will facilitate implementation of the IHR (2005).

- Some specific legislation incorporates certain provisions of the IHR (2005), including:

  o Act No. 2016-05 of 6 January 2016 authorizing the President of the Republic to ratify the Minamata Convention on Mercury adopted in Kumamoto, Japan, on 10 October 2013;

  o Act No. 2009-14 of 2 March 2009 on nuclear safety and radiation protection;

  o Decree No. 2010-893 of 30 June 2010 on the organization and role of the radioprotection and nuclear safety authority;

  o Decree No. 2009-1408 of 23 December 2009 on the missions, organization and functioning of the national biosafety committee;

  o Prime ministerial Order No. 23019 of 21 December 2019 on the creation, organizational rules and functioning of the national committee for sanitary and phytosanitary measures;

  o Order No. 02443 of 24 February 2016 on the creation, organization and functioning of the GHSA;

  o A compilation of health-related legislative texts is made annually.

Areas that need strengthening/challenges

- There is a lack of coordination between the legal and regulatory frameworks of the different sectors concerned.

- Create, through an order issued by the Prime Minister or the Health Minister, a national IHR centre in accordance with the IHR (2005).

- Adapt national texts to the provisions of the IHR (2005).

- Implement the texts on the functioning of the national IHR focal point.

P.1.2 The State can demonstrate that it has adjusted and aligned its domestic legislation, policies and administrative arrangements to enable compliance with the IHR (2005) – Score 2

Strengths/best practices

- Senegal has the expertise available to review the core texts, particularly the hygiene code, the environment code and the sanitation code.

- Core texts do exist.

- Within the Ministry of Foreign Affairs, there is an entity responsible for monitoring and implementing ratified conventions.

- Within the Office of the Prime Minister, there is an internal committee that reviews and approves legislative and regulatory texts with a view to ensuring that the texts comply with international provisions.

- Within the Ministry of Health and Social Welfare, there is a legal unit responsible for drawing up legislative and regulatory texts.

- The Office of the Prime Minister ensures coordination.

Areas that need strengthening/challenges

- The process of adopting the pastoral code and the aquaculture code should be accelerated.

- Cross-border coordination is not organized. Diseases do not stop at borders, and prevention methods therefore need to be adapted.

- Financial resources need to be mobilized to adapt, make available and apply the adapted texts.

IHR coordination, communication and advocacy

Introduction

The effective implementation of the IHR (2005) requires multisectoral/multidisciplinary approaches through national partnerships for effective alert and response systems. Coordination of nationwide resources, including the designation of a national IHR focal point, is a key requisite for IHR (2005) implementation.

> **Target**
>
> *The national IHR focal point should be accessible at all times to communicate with the WHO IHR regional contact points and with all relevant sectors and other stakeholders in the country. States Parties should provide WHO with contact details of national focal points, continuously update and annually confirm them.*

Senegal level of capacities

The national epidemic management committee was set up by the Ministry of Health and Social Welfare by way of memorandum No. 05304/MSAS/DGS of 9 May 2016. The committee ensures multidisciplinary and multisectoral coordination. While a national IHR focal point has been appointed pursuant to IHR (2005) directives, for the moment the focal point is just one individual within the prevention directorate, with no other services or sectors involved in implementing the IHR (2005) represented. There are a number of resulting shortcomings:

- there is no coordination between the national IHR focal point and the other sectors concerned;

- there is no functional mechanism for intersectoral cooperation, including laboratories and animal and human health surveillance units;

- information is not systematically shared in a timely manner between the animal and human health surveillance units, the laboratories and other sectors involved in zoonotic risk or emergencies relating to a zoonotic disease.

The draft order to put in place a national IHR focal point, which should help to kick-start the coordination process, is going through the administrative process and has not yet been approved.

Currently, the Office of the Prime Minister coordinates, and the Ministry of Health and Social Welfare implements response activities, given the absence of a dedicated unit and technical expertise within the Office of the Prime Minister.

In light of these constraints, it is difficult to assess the effectiveness and the role of the national IHR focal point, and less so its performance.

It is therefore necessary to:

- speed up the process of approving the draft order on the role of the national IHR focal point

- set up an intersectoral unit to coordinate operations

- set out standard operating procedures (SOPs) for intersectoral cooperation

- regularly test and/or evaluate the functioning of the intersectoral coordination unit.

Recommendations for priority actions

- Speed up the process of approving the draft order determining the multidisciplinary and multisectoral makeup and missions of the national IHR focal point.
- Determine SOPs for coordinating and integrating sectors involved in implementing the IHR (2005).
- Mobilize the necessary resources for the national IHR focal point.

Indicators and scores

P.2.1 A functional mechanism is established for the coordination and integration of relevant sectors in the implementation of IHR (2005) – Score 1

Both the country's authorities and the group of experts attributed a score of 1 for this indicator because the national IHR focal point should be an entity rather than an individual and because its current mission is principally to report. A multisectoral team needs to be set up. The focal point should also use the tools available, particularly those in Annex II of the IHR (2005).

Strengths/best practices

- The integration, role and function of the national IHR focal point do not in themselves present a problem for Senegal.

Areas that need strengthening/challenges

- A national IHR focal point has been appointed but the role is limited to one individual. The big challenge is to put a multisectoral approach in place.

Antimicrobial resistance

Introduction

Bacteria and other microbial species evolve in response to their environment and inevitably develop mechanisms to resist being killed by antimicrobial agents. For many decades, the problem was manageable as the growth of resistance was slow and the pharmaceutical industry continued to create new antibiotics.

Over the past decade, however, this problem has become a crisis. The evolution of antimicrobial resistance (AMR) is occurring at an alarming rate and is outpacing the development of new countermeasures capable of thwarting infections in humans. This situation threatens patient care, economic growth, public health, agriculture, economic security, and national security.

Target

Support work coordinated by FAO, OIE and WHO to develop an integrated global package of activities to combat antimicrobial resistance, spanning human, animal, agricultural, food and environmental aspects (i.e. a One Health approach). Each country has: (i) its own national comprehensive plan to combat antimicrobial resistance; (ii) strengthened surveillance and laboratory capacity at the national and international levels following international standards developed as per the framework of the global action plan and taking into account existing laws; and (iii) improved conservation of existing treatments and collaboration to support the sustainable development of new antibiotics, alternative treatments, preventive measures and rapid point-of-care diagnostics, including systems to preserve new antibiotics.

Senegal level of capacities

Laboratories detect and report priority antimicrobial resistant pathogens to the Ministry of Health and Social Welfare and other ministries. Major progress has been made in the areas of human and animal health, and a multidisciplinary approach is taken to tackling antimicrobial resistance. Inspections, as well as information and awareness-raising campaigns, have been conducted (e.g. training for pharmacists to raise awareness). A national interministerial committee is responsible for tackling the illegal sale of medicines, and there are entities dedicated to managing medicines.

However, laboratories do not have the capacity to conduct systematic and integrated surveillance studies on pathogens, which means there is no, or not enough, data available. This poses a problem for evaluating risks and devising policies to tackle the issue. In addition, antimicrobial medicines and particularly antibiotics are still used irrationally (e.g. misuse of prescriptions, self-medication, illicit trade and counterfeit medicines), which has also led to high levels of resistance in humans and animals.

Recommendations for priority actions

- Draw up a national action plan to tackle antimicrobial resistance, taking into account the global action plan on antimicrobial resistance, which spans both animal and human health.

- Set up a coordination mechanism for different multisectoral operations concerning antimicrobial resistance.

- Strengthen integrated and multisectoral surveillance of antimicrobial resistance.

- Better coordinate multisectoral operations and strengthen ties between human and animal health laboratories.

- Strengthen stakeholders' capacities to implement the national action plan.

Indicators and scores

P.3.1 Antimicrobial resistance (AMR) detection – Score 3

Strengths/best practices

For human health:
- surveillance was first put in place by the Ministry of Health and Social Welfare's laboratory directorate two years ago;
- reference methods are used to determine antibiotic sensitivity (e.g. those of the Clinical and Laboratory Standards Institute and the French Microbiology Society);
- the national programme to tackle tuberculosis provides surveillance of tuberculosis drug resistance.

For food safety:
- The National Analysis and Control Laboratory (LANAC) has staff trained in antimicrobial resistance.

For animal health:
- the National Laboratory for Farming and Veterinary Research (LNERV) has equipment and qualified staff to ensure surveillance of antimicrobial resistance in the animal sector;
- a diagnostic and analysis unit has been set up to manage specimens (coding, storage, analysis and referring results).

Areas that need strengthening/challenges

For human health:
- improve coordination between the human and animal health and food sectors
- draw up a national action plan for antimicrobial resistance
- establish links between surveillance and the use of antimicrobial medicines
- conduct broader studies of all antibiotic molecules used in human and animal health
- strengthen the capacities of technicians and the supply of antibiotic discs for sensitivity testing.

For animal health:
- strengthen monitoring of sales of antibiotics
- determine animals' rate of exposure.

For food safety:
- provide laboratories with reference strains, materials and reagents.

P.3.2 Surveillance of infections caused by AMR pathogens – Score 1

Strengths/best practices
Senegal's best practices were not presented during the external evaluation.

Areas that need strengthening/challenges
- No surveillance plan has been approved by the main sectors.
- Increase supervision.

- Integrate the activities of different sectors.

- Set up a multisectoral national surveillance plan for antimicrobial resistance.

- Strengthen the technical capacities of those working in antimicrobial resistance.

P.3.3 Health care-associated infection (HCAI) prevention and control programmes – Score 3

Strengths/best practices

- A national plan to tackle health care-associated infections exists.

- There is a national biomedical waste management plan.

- There are committees against nosocomial infections and committees for hygienic and safe working conditions.

- There is a steering committee for the infection control and prevention strategy.

- A plan to provide training on infection prevention and control in health care facilities is being drawn up.

- Coordination teams provide regular supportive supervision on hospital hygiene in health facilities across the country.

- Summaries and guides on preventing health care-associated infections are produced.

- There are partnerships involving results-based financing.

- Annual reports are available and training programmes are conducted regularly to strengthen the capacities of health care workers.

- Biomedical waste transformation units have been put in place at two health facilities.

- Four hydroalcoholic solution production units have been created.

- Hydroalcoholic solution is also produced in some health facilities.

- Health workers are periodically trained in hospital hygiene.

Areas that need strengthening/challenges

- Rejuvenate the committees against nosocomial infections and the committees for hygienic and safe working conditions.

- Draw up a national strategic plan for infection prevention and control.

- Systematize surveys on the prevalence of nosocomial infections.

- Systematize prevention and management of multiresistant bacteria through ongoing surveillance.

- Strengthen the capacities of health workers to tackle health care-associated infections.

- Increase the number of biomedical waste transformation units.

- Better monitor implementation of recommendations resulting from supervision.

- Draw up a national plan to tackle health care-associated infections.

- Strengthen the roles of the committees against nosocomial infections and the committees for hygienic and safe working conditions

P.3.4 Antimicrobial stewardship activities – Score 1

Strengths/best practices

Senegal's best practices were not presented during the external evaluation.

Areas that need strengthening/challenges

- No national antimicrobial stewardship plan has been approved.

- Promote the rational use of antimicrobial agents.

- Apply regulations on prescribing antimicrobial agents.

- Improve monitoring of the quality and pharmacovigilance of antimicrobial agents.

- Strengthen actions to tackle the illicit medicine market.

- Conduct surveys on antibiotic use.

- Draw up and implement a plan for managing antimicrobial agents.

- Evaluate the quantities of antibiotics that are imported and used in veterinary medicine.

- Strengthen regulations.

- Ensure proper use of antibiotics (control misuse of prescriptions, self-medication, the illicit trade and counterfeit medicines).

Zoonotic diseases

Introduction

Zoonotic diseases are communicable diseases and microbes that spread between animals and humans. These diseases are caused by bacteria, viruses, parasites, and fungi that are carried by animals and insects, or inanimate vectors that may be needed to transfer the microbe. Approximately 75% of recently emerging infectious diseases affecting humans are of animal origin; approximately 60% of all human pathogens are zoonotic.

Target

Adopted measured behaviours, policies and/or practices that minimize the transmission of zoonotic diseases from animals into human populations.

Senegal level of capacities

A recent study on communicable diseases showed that the majority of human diseases that had emerged over the past six decades were zoonotic and that the main source of pathogens was wildlife. Wildlife was also described as a major source of pathogens for pets (OIE Manual, 2010). Strong demand for Tabaski sheep, which are popular across the subregion, means that tighter border controls are needed in Senegal. There is surveillance of Rift Valley fever, rabies, tuberculosis, anthrax and avian influenza. With the new GHSA, EVD has also been integrated into the surveillance system.

Senegal has animal health technical staff at the central, regional, departmental and municipal levels, with a directorate of veterinary services, consisting of14 regional veterinary inspectors, 45 departmental veterinary inspectors and 157 veterinary supervisors. The country has animal health staff within the national public health system at less than half of the national levels. Despite the country's solid network of veterinary staff, most of the skills are at a central level. At lower levels, there are not enough resources to ensure surveillance and management of zoonotic diseases, despite the recruitment policy put in place by the Government.

Furthermore, in conservation areas, there are animal health staff responsible for the surveillance of wildlife (seven veterinarians, as well as livestock engineers and livestock technicians). In 2016, the Government recruited 160 livestock technicians, 40 livestock engineers and 40 veterinarians. The Government also authorized 110 new private veterinary practices. Within the LNERV, eight veterinarians, four high-level technicians and a research assistant are involved in diagnosing viral, bacterial and parasitic zoonotic diseases.

Given that there are no established mechanisms, the country is putting in place a multisectoral emergency plan and SOPs for avian influenza. Individuals at the central and regionals levels have been trained in good health crisis management practices. Simulation exercises on how to manage an outbreak were conducted in 2007 and 2010 and involved various entities (including the Interstate School of Veterinary Sciences and Medicine (EISMV), the ministries of health, livestock management and the environment, and LNERV. In addition, a response strategy for zoonotic diseases is planned within the framework of physical security and stockpile management (REDISSE, the Emerging Pandemic Threats 2 Programme (EPT-2)).

Senegal has identified the zoonotic diseases and pathogens that represent the greatest threat to national public health but has not put in place surveillance systems for zoonotic diseases.

More generally, there is a surveillance mechanism for avian influenza, and certain zoonotic diseases have been identified. Although surveillance systems are robust, human and animal surveillance is conducted separately without any connection between the two sectors. Existing plans do not include a human–animal interface, and the system is therefore not in keeping with the One Health approach.

Recommendations for priority actions

- Develop an integrated national surveillance plan that includes laboratories, in keeping with the One Health approach, followed by a joint response plan covering the animal health, human health and wildlife sectors.
- Review the curricula for training in animal, human and environmental health, to take account of the One Health approach.
- Improve geographical coverage of human resources in order to meet the standards set by OIE and WHO.

Indicators and scores

P.4.1 Surveillance systems are in place for priority zoonotic diseases/pathogens – Score 2

Strengths/best practices
- There is a programme to tackle the stray dog situation.
- There is a programme to strengthen animal health protection, which includes surveillance of animal diseases.
- Orders have been issued on the creation of a national committee against avian influenza and programmes to support the national avian influenza prevention plan (known as PAPLUGA and SPINAP-AHI).
- Physical security and stockpile management is in place (REDISSE, EPT-2, and the "PREDICT" project).
- There are well-structured professional livestock farmers associations.
- Order No. 005917 of 25 October 2005 provides for the creation of a national epidemiological surveillance system for animal diseases.
- There is a network of laboratories (LNERV, EISMV and the Pasteur Institute in Dakar (IPD)) capable of conducting real-time diagnoses. There is a programme against rabies, as well as a national committee to prevent and control rabies (government order).
- Order No. 009250 of 2 October 2007 provides for the creation of a scientific and surveillance committee for animal health.
- The animal health and veterinary code is in the process of being drafted with support from OIE.
- Order No. 007717 of 24 November 2005 prohibits imports of poultry farming products and used poultry equipment.

Areas that need strengthening/challenges
- Sustainably strengthen financial, logistical and human resources for surveillance.
- Set up a specific budget for the national epidemiological surveillance system for animal diseases.
- Update the order relating to the national epidemiological surveillance system for animal diseases.
- Create an official list of diseases requiring surveillance.
- Create a national inventory of livestock.
- Strengthen LNERV's resources in terms of isolation equipment, reagents and consumables.

- Strengthen integrated multisectoral surveillance through an interface covering wild animals, domestic animals and humans.

- Create links between human and animal health laboratories.

- Set standards for facilities at points of entry (such as the Blaise Diagne International Airport).

- Ensure integrated surveillance and diagnostic capacities.

- Increase collaboration between human and animal health laboratories.

- Strengthen and ensure compliance at border checkpoints.

- Set up an animal inventory and traceability.

- Inform, educate and communicate with the population.

P.4.2 Veterinary or animal health workforce – Score 3

Strengths/best practices

- The Government is obviously willing to strengthen human resources.

- The network has staff in the public system and veterinarians in private clinics.

- There are training facilities for veterinarians and other animal health workers (e.g. EISMV, the National Training Center for Technicians in Husbandry and Animal Industries, the Agricultural faculty, the Higher National School of Agronomy and the Higher Institute of Agricultural and Rural Training).

Areas that need strengthening/challenges

- Make the One Health platform operational at a community level.

- Review curricula in animal health training schools in order to incorporate the One Health approach.

- Conduct ongoing training on prevention, detection and response.

- Monitor the recruitment policy at the Livestock Ministry, the Ministry of the Environment and Sustainable Development, and the Senegales Institute of Farming Research (ISRA).

- Train animal health staff in public health.

- Provide stakeholders with integrated training.

- Increase the motivation of human and animal health workers.

- Increase logistical capacities.

P.4.3 Mechanisms for responding to infection zoonoses and potential zoonoses are established and functional – Score 1

Strengths/best practices

- A mechanism for responding to infection zoonoses and potential zoonoses is being put in place.

- A joint strategy and response plan for the animal health, human health and wildlife sectors is being put in place.

- Legislation has been amended.

Areas that need strengthening/challenges

- Develop an integrated national surveillance plan that brings together human and animal health, includes the networks of laboratories and adopts a One Health approach.

- Put in place a joint response plan for the animal health, human health and wildlife sectors.

- Review the curricula in animal, human and environmental health education, including degree-level training and ongoing training that incorporates the One Health approach.
- Improve geographical coverage of human resources in order to meet the standards set by OIE and WHO.

Food safety

Introduction

Foodborne and waterborne diarrhoeal diseases are the primary cause of morbidity and mortality, particularly in less developed countries. The rapid globalization of food production and trade has increased the potential likelihood of international incidents involving contaminated food. The identification of the source of an outbreak and its containment is critical for control. Risk management capacity with regard to control throughout the food chain continuum must be developed. If epidemiological analysis identifies food as the source of an event, based on a risk assessment, suitable risk management options that ensure the prevention of human cases (or further cases) need to be put in place.

Target
States Parties should have surveillance and response capacity for foodborne and waterborne disease risk or events. This requires effective communication and collaboration among the sectors responsible for food safety and safe water and sanitation.

Senegal level of capacities

In Senegal, food safety is managed separately by seven ministries (the livestock, fisheries, trade, health, agriculture, industry, and environment ministries). The country has national food safety standards drawn up by the Senegalese Standards Association. Currently, work to harmonize and coordinate food safety activities is under way through the National Codex Alimentarius committee, pending the creation of a dedicated entity.

With support from FAO and the Luxembourg Development Cooperation, a national emergency food safety response plan is being drawn up under the aegis of the national Codex Alimentarius committee. The plan aims to coordinate responses in the event of a food safety emergency. There is also a national laboratory network that analyses food quality. Senegal intends to set up a national surveillance and alert mechanism through the International Food Safety Authorities Network (INFOSAN), made up of focal points from the main entities responsible for food safety and linked to the networks to be created at the subregional and regional levels. To implement this initiative, the INFOSAN focal points have been designated within the ministerial departments responsible for food safety. A national food safety strategy is being drawn up as a reference document. Measures already in place include an action plan against aflatoxins, established in 2016.

Recommendations for priority actions

- Put in place a functional multisectoral coordination mechanism (surveillance, alert and operational personnel) for food safety activities.

- Make emergency reporting and response procedures relating to food safety operational (e.g. define stakeholders' roles and responsibilities, modus operandi, risk communication, etc.).

- Review and harmonize food safety legislation and regulations so that they include crisis management.

- Create an electronic, multisectoral platform for sharing surveillance data on food safety, in connection with existing information systems.

- Officially create a national multisectoral risk assessment entity to identify real threats relative to detected signals.

Indicators and scores

P.5.1 Mechanisms are established and functioning for detecting and responding to foodborne disease and food contamination – Score 2

Strengths/best practices

- There is clear political will, as shown by the interministerial council that led to the revival of food safety activities.

- The process is under way to set up an emergency surveillance, alert and response system for food safety.

- There is a national laboratory network that analyses food quality.

- A national food safety strategy is being drawn up.

- A workshop was held to launch the government cooperation programme, as was a regional seminar on improved surveillance and rapid alert capacity for food safety.

Areas that need strengthening/challenges

- Revise and harmonize food safety legislation and regulations.

- Support the implementation of the surveillance, alert and response system.

- Put in place a surveillance, alert and response coordination mechanism for food safety emergencies.

- Put in place a reporting system for foodborne diseases.

- Create a standard questionnaire to be completed when responding to an event and/or an outbreak of a foodborne disease.

- Strengthen the national network of laboratories that analyse food quality (equipment, capacity of personnel, etc.).

- Create a multisectoral electronic platform to rapidly share surveillance data on food safety.

Biosafety and biosecurity

Introduction

Working with pathogens in the laboratory is vital to ensuring that the global community possesses a robust set of tools – such as drugs, diagnostics, and vaccines – to counter the ever-evolving threat of infectious diseases.

Research with infectious agents is critical for the development and availability of public health and medical tools that are needed to detect, diagnose, recognize, and respond to outbreaks of infectious diseases of both natural and deliberate origin. At the same time, the expansion of infrastructure and resources dedicated to work with infectious agents have raised concerns regarding the need to ensure proper biosafety and biosecurity to protect researchers and the community. Biosecurity is important in order to secure infectious agents against those who would deliberately misuse them to harm people, animals, plants, or the environment.

Target

A whole-of-government national biosafety and biosecurity system is in place, ensuring that especially dangerous pathogens are identified, held, secured and monitored in a minimal number of facilities according to best practices; biological risk management training and educational outreach are conducted to promote a shared culture of responsibility, reduce dual-use risks, mitigate biological proliferation and deliberate-use threats, and ensure safe transfer of biological agents; and country-specific biosafety and biosecurity legislation, laboratory licensing, and pathogen control measures are in place.

Senegal level of capacities

Senegal has no global, integrated system for managing the biosafety and biosecurity of pathogens in laboratories. Act No. 2009-27 establishing the national biosafety authority is the only existing biosafety legislation.

A series of training sessions on biosafety were held during the EVD crisis in West Africa. In addition, the laboratory directorate organizes awareness-raising sessions on biosafety for laboratory staff.

Biosafety and biosecurity are only partially evaluated. LNERV was evaluated with support from the United States Defence Threat Reduction Agency (DTRA) from 14 to 17 March 2016. From this evaluation, it was learnt that LNERV receives an average of 10 000 to 15 000 specimens of various microorganisms, mainly viruses and bacteria. Recommendations to improve biosafety in laboratories were issued to address the shortcomings observed during the evaluation.

Training on biosecurity and biosafety is conducted on a sectoral basis in national laboratories. For animal health, LNERV provides systematic training for personnel at risk.

At the IPD, which is a WHO collaborating centre for arboviruses and the only laboratory in the country that is certified as biosafety level 3 (BSL-3), there is only a partial mechanism for ensuring biosecurity and biosafety and for the moment it covers only the virology unit. An extension to other units is planned. IPD conducts periodic internal audits. Senegal's polio strains are stored at IPD before being destroyed.

Recommendations for priority actions

- Draw up regulations to harmonize the institutional framework for biosafety and biosecurity.

- Establish standards and directives to strengthen national biosecurity and biosafety capacities.

- Put in place standard biosecurity and biosafety training.

- Strengthen logistical capacities and the ongoing training of laboratory staff.

Indicators and scores

P.6.1 Whole-of-government biosafety and biosecurity system is in place for human, animal and agriculture facilities – Score 2

Strengths/best practices

- Act No. 2009-27 established the national biosafety authority.

- There is a Senegalese association for biosafety.

Areas that need strengthening/challenges

- Expand the powers of the national biosafety authority to areas other than the environment.

- Put in place standard biosecurity and biosafety training.

P.6.2 Biosafety and biosecurity training and practices – Score 2

Strengths/best practices

- There are highly qualified staff in certain institutions.

Areas that need strengthening/challenges

- Put in place standard biosecurity and biosafety training.

Immunization

Introduction

Immunization is one of the most successful global health interventions and one of the most cost-effective ways to save lives and prevent disease. Immunizations are estimated to prevent more than two million deaths a year globally.

Objectives

A functioning national vaccine delivery system – with nationwide reach, effective distribution, access for marginalized populations, an adequate cold chain, and ongoing quality control – that is able to respond to new disease threats.

Senegal level of capacities

The country has an immunization division responsible for the Expanded Programme on Immunization (EPI), which targets 12 diseases. The EPI's complete multi-year plan is aligned with the Global Vaccine Action Plan. The national plan does not include zoonotic diseases, which are managed by the Livestock Ministry. Immunization is not compulsory. However, a communication plan is in place to strengthen uptake.

Factors hindering routine immunization were identified in the consolidated appeals process survey on immunization in 2013.

Administrative data and survey data indicated that immunizations for measles reached 80%. As part of the strategic plan to eliminate measles, a second booster was introduced in 2014 and is administered to children from 15 months of age. In addition, supplementary immunization activities are organized regularly, every three to four years, in order to enhance coverage. The population's immunization coverage is measured through coverage surveys and demographic and health surveys. Evaluations of administrative immunization coverage are conducted monthly and centralized within the immunization division. Data used to estimate coverage come from the National Agency of Statistics and Demography of Senegal.

Data are checked at every level that submits immunization reports (i.e. the district, regional and central levels). Quarterly monitoring meetings ensure that data are harmonized and validated by all administrators. Data quality self-assessment will be introduced within districts for 2016.

All medical districts and regions have EPI focal points that transfer data between the different levels through the district vaccination data management tool (known as DVDMT). An electronic platform for submitting and sharing data also exists (known as DHIS 2).

At the central level, there is a functioning cold chamber for storing vaccines. The total net positive storage capacity is 47,000 litres, which is sufficient for storing vaccines (two cold rooms measuring 40 m3 and two measuring 30 m3). Vaccines are transported to the regions in refrigerated lorries. All 14 regions have a cold room. Vaccines are transported from the regions to districts and facilities through a certified passive cold chain. All vaccines intended for communities are kept and transported in conditions that maintain the cold chain.

Senegal first drew up and implemented a supply plan in 2001 using WHO tools (forecast tool, and social mobilization and training) in order to estimate needs based on the target population. Vaccines are

purchased through UNICEF, and Senegal finances all conventional vaccines and co-finances new vaccines and underused vaccines. The availability of vaccines at all levels is good, and there are almost no stockouts at the central level, except when there are global shortages. The last survey of health care services in 2015 indicated that 82% of facilities have all vaccines. During supplementary immunization activities, more than 95% of the target persons are regularly reached.

In 2013, a nationwide campaign against measles and rubella was conducted.

In addition to the resources used by the Government to ensure immunization, there is also community participation.

Recommendations for priority actions

- Draw up exhaustive plans to reach every child.

- Monitor points of entry (airport, port and land borders).

- Draw up a logistics maintenance plan (cold chain, transport logistics).

- Carry out closer supervision at a district level to ensure proper management of the cold chain and vaccines.

- Conduct a study on immunization performance constraints.

- Set up a committee to look at priority actions and the possibility of including zoonotic diseases.

Indicators and scores

P.7.1 Vaccine coverage (measles) as part of the national programme – Score 3

Between 70% and 89% of the population under 12 months has received at least one dose of the measles vaccine, according to coverage surveys and administrative data; a plan to reach 90% over the next three years has been put in place.

Strengths/best practices
- There is a national immunization programme.

- Training on EPIs is provided at all levels: head nurse, event-based surveillance, focal points and physicians.

- Regular monitoring is conducted.

- Coverage is constantly increasing.

- A second dose of the measles vaccine has been introduced and supplementary immunization activities are regularly organized.

- Surveillance is effective, with two major indicators for acute flaccid paralysis and measles regularly met.

Areas that need strengthening/challenges
- Draw up exhaustive plans to reach every child.

- Put in place activities aimed at reaching the most inaccessible parts of the population and those in an irregular situation.

P.7.2 National vaccine access and delivery – Score 4

Vaccine delivery (with the cold chain maintained) covers between 60% and 79% of the country's districts or between 60% and 79% of the country's target population. The estimates and supply of vaccines are efficient and do not lead to any stockouts at the central level and rarely at the district level.

Strengths/best practices

- Vaccines and consumables are widely available at the central level.

- There is a budget line for the purchase of vaccines and consumables.

- The distribution system is good.

Areas that need strengthening/challenges

- Increase the budget line to exclude eligiblity for the Global Alliance for Vaccines and Immunization (GAVI) resources.

- Improve the logistics information system using the software DHIS 2.

- Improve operational availability by ensuring health posts have the necessary stockpile.

PREVENT

DETECT

National laboratory system

Introduction

Public health laboratories provide essential services, including disease and outbreak detection, emergency response, environmental monitoring and disease surveillance. State and local public health laboratories can serve as a focal point for a national system through their core functions for human, veterinary and food safety, including disease prevention, control and surveillance; integrated data management; reference and specialized testing; laboratory oversight; emergency response; public health research; training and education; and partnerships and communication.

> **Target**
>
> *Real-time biosurveillance with a national laboratory system and effective, modern point-of-care and laboratory-based diagnostics.*

Senegal level of capacities

Senegal has a large and diversified laboratory system broken down into district laboratories (located in every district and carrying out a certain number of analyses), regional hospital laboratories, and national referral laboratories (at the central level). There are also private medical analysis laboratories, together with the WHO cooperation centre for arboviruses and viral haemorrhagic fevers at IPD. The referral laboratories (including the one for polio) are accredited by WHO, use the ISO 9001 quality management system, can conduct a certain number of diagnostic tests, and use online algorithms that are in line with international standards (WHO, OIE and FAO).

The national laboratory system conducts diagnostic tests for several priority diseases and other diseases of public health importance, such as HIV, tuberculosis by microscopy (at all health centres with a laboratory), rapid malaria testing (with 98% of positive cases reported at the community level), polymerase chain reaction for influenza (syndromic sentinel surveillance), polio, meningitis and cholera.

The Ministry of Health and Social Welfare's laboratory directorate is the authority responsible for laboratory inspections and for awarding the authorizations needed to open a laboratory. A national quality control system is in place and includes an audit system for laboratory accreditation.

LNERV, EISMV and IPD are the facilities used for the diagnosis of animal diseases. These institutions not only train laboratory managers and technicians on laboratory techniques but also serve as the Regional Veterinary Referral Laboratory (RESOLAB), which covers the laboratories in the 15 countries making up the Economic Community of West African States (ECOWAS). As a result, they conduct all diagnostic tests for cross-border diseases, including tests for zoonotic diseases such as Rift Valley fever, rabies, tuberculosis and anthrax.

In terms of food safety, Senegal has a national analysis and control laboratory, which is ISO 17025 accredited and housed within the Ministry of Trade's directorate of internal trade. It has two sections: chemicals and microbiology.

For routing specimens for disease surveillance (meningitis, rubella, yellow fever, influenza, polio, tetanus, measles, dengue fever, cholera and chikungunya), the Ministry of Health and Social Welfare, with support

from its partners, has put in place a system for transferring specimens from the districts to the national referral centres. In addition, specimens from syndromic sentinel surveillance sites are sent via mail.

Recommendations for priority actions

- Set up a multisectoral technical group (human, animal and environmental health, and food safety) to coordinate the laboratory system, as provided for in the IHR (2005).

- Assess the existing laboratories at the national level and in all sectors (human, animal and environmental health, and food safety).

- Draw up a national strategic laboratory plan incorporating the various sectors and the different aspects of the laboratories.

- Produce regulations similar to the French guidelines to regulate analytical practices in laboratories across sectors.

- Improve intersectoral collaboration and information sharing in key areas (transport of specimens, biosafety, supply of consumables and reagents, etc.).

- Strengthen early detection of dangerous and emerging pathogens by supporting the national referral laboratories in their development of new diagnostic tools adapted to a low-resource country.

Indicators and scores

D.1.1 Laboratory testing for detection of priority diseases – Score 3

The national laboratory system is capable of conducting three to four main tests.

Strengths/best practices

- There is political will to strengthen the laboratory system.

- There are national referral laboratories that are linked to international networks (WHO, OIE and FAO).

- There are WHO collaborating centres and regional referral laboratories for arboviruses and viral haemorrhagic fevers with modern diagnostic tools (molecular biology and sequencing) and point-of-care testing.

- Times have been shortened at different stages of the analysis process, with results delivered in three hours.

- A point-of-care test has been developed to assess the performance of recombinase polymerase amplification for diagnosing suspected cases of EVD disease at the treatment centre.

- A national and subregional laboratory exists for cross-border animal diseases, with a single window for receiving specimens.

- Senegal participates in interlaboratory tests (WHO, International Atomic Energy Agency (IAEA))

Areas that need strengthening/challenges

- Better organize the current laboratory system.

- Identify core laboratories with specific skills and strengthen those laboratories in terms of infrastructure, equipment, technical capacity, personnel and logistics.

- Harmonize diagnostic procedures and organize nationwide compliance tests.

- Improve communication between the various stakeholders in the laboratory system.

- Strengthen the technological capacity of peripheral laboratories.

DETECT

- Improve the functionality of the six regional animal health laboratories.

- Provide LNERV with a level 3 containment laboratory.

- Increase the number of technical staff in animal health laboratories.

D.1.2 Specimen referral and transport system – Score 3

A system is in place to transport specimens of diseases under surveillance in 50% to 80% of health districts to the national referral laboratories to conduct advanced diagnostic tests.

Strengths/best practices

- There is a national system to transfer specimens of diseases under surveillance (i.e. meningitis, cholera, yellow fever, influenza, polio, tetanus, measles, dengue fever and arbovirus) from the districts to the national referral laboratories.

- There is a system for sending specimens from syndromic sentinel surveillance sites by mail, with 1123 specimens of influenza transported in this way in 2015.

- A national epidemiological surveillance system for priority animal diseases has been in place since 2001 and covers all departments in Senegal. In 2015, the system handled more than 400 specimens as part of its passive surveillance work and more than 8,000 specimens of serums as part of its active surveillance work.

- A circuit is up and running for transferring specimens of diseases under surveillance.

- There are surveillance focal points in the health districts and regions.

- All those involved in surveillance have a good understanding of the circuit.

- Partners provide funding for the transport system from outlying areas to national referral laboratories.

- There is a guide that sets out the thresholds for legitimate suspicion of priority diseases, the type of specimens to be taken and the information gathering forms for animal health.

- A single window receives all specimens (farmers, and public and private vets).

- There is an electronic database that is shared by all directorates within the Ministry of Livestock.

Areas that need strengthening/challenges

- Implement a coordinated and harmonized system for transporting specimens (to prevent there being several transport systems from peripheral to central levels).

- Put in place standardized procedures for taking, packaging and transporting specimens to referral centres.

- Strengthen biosafety and biosecurity measures.

- Put in place a harmonized and secure national system for collecting, storing, transporting and preserving biological specimens.

D.1.3 Effective, modern point-of-care and laboratory-based diagnostics – Score 3

Strengths/best practices

- Senegal has the capacity to carry out conventional tests for priority diseases.

- There are both referral laboratories and private laboratories.

- There are diagnostic strategies for the district, regional and central levels that are documented and fully applied for each disease (HIV, malaria and tuberculosis).

- Referral laboratories have diagnostic algorithms and use modern molecular biology techniques.

- Point-of-care diagnostics is available for priority diseases (HIV, malaria and tuberculosis).

- There is a mobile laboratory for diagnosing viral haemorrhagic fevers.

- There is a WHO collaborating centre for arboviruses and viral haemorrhagic fevers.

- There are national and subregional referral laboratories.

- There is a highly biosecure, level 3 laboratory within IPD.

- Senegal is home to the RESOLAB for all cross-border diseases, covering the 15 ECOWAS countries and supported by international referral laboratories.

- There are focal points for all priority diseases.

Areas that need strengthening/challenges

- Set up a system to strengthen cooperation among laboratories in all sectors involved in implementing the IHR (2005).

- Draw up a strategic laboratory plan.

- Increase the availability of point-of-care diagnostics.

- Review diagnostic strategies at each level.

- Strengthen and modernize the diagnostic capacities of regional hospital laboratories.

- Better organize the preventive and corrective maintenance of laboratory equipment.

- Improve collaboration between the Ministry of Health and Social Welfare and the Ministry of Livestock regarding laboratories, but also regarding the sharing of laboratory data on zoonotic diseases.

- Improve collaboration between the Ministry of Health and Social Welfare and other ministries regarding joint policies, as part of a One Health approach.

- Increase support for regional veterinary laboratories to make them more operational.

- Mobilize resources to strengthen the laboratory system.

D.1.4 Laboratory quality system – Score 3

There is a certification system in place for medical analysis laboratories, which requires compliance with national quality standards. However, the process is not mandatory for all laboratories.

Strengths/best practices

- There is an authority responsible for laboratory inspections.

- Authorization is required in order to open a laboratory.

- There is a national laboratory audit system.

- There are accredited laboratories.

- There are WHO-accredited referral laboratories that take part in external evaluation tests.

- There are laboratories in the process of obtaining accreditation for Stepwise Laboratory Quality Improvement Process Towards Accreditation (SLIPTA) and ISO standards 15089 and 9001.

- Laboratories take part in inter-laboratory tests for avian influenza and other diseases.

DETECT

Areas that need strengthening/challenges

- Draw up a strategic laboratory plan that takes account of quality management issues.
- Strengthen biosafety in laboratories.
- Increase the involvement of laboratory staff in quality management.
- Help laboratories provide quality assurance.

DETECT

Real-time surveillance

Introduction

The purpose of real-time surveillance is to advance the country's safety, security, and resilience by leading an integrated biosurveillance effort that facilitates early warning and situational awareness of biological events.

Target

Strengthened foundational indicator- and event-based surveillance systems that are able to detect events of significance for public health, animal health and health security; improved communication and collaboration across sectors and between subnational, national and international levels of authority regarding surveillance of events of public health significance; improved country- and intermediate-level regional capacity to analyse and link data from and between strengthened, real-time surveillance systems, including interoperable, interconnected electronic reporting systems. This would include epidemiologic, clinical, laboratory, environmental testing, product safety and quality and bioinformatics data; and advancement in fulfilling the core capacity requirements for surveillance in accordance with the IHR (2005) and OIE standards.

Senegal level of capacities

The country has a list of diseases that must be reported under the 2013 guide to the integrated disease and response surveillance strategy and an order issued by the Ministry of Livestock. The integrated disease and response surveillance strategy covers all facilities, with definitions of regulated cases, approved equipment and an approved circuit. Referred data are checked and approved at all three levels (district, regional and national). Within health facilities, information on paper is referred to the next level by telephone, email or through an electronic platform (DHIS 2) so that it can be compiled. With the electronic platform, an Excel file (known as IDSSEN) is used to submit surveillance data from the district level upwards.

An electronic platform (DHIS 2) is in the process of being approved so that data can be shared in real time at all levels and with partners. Feedback is provided through the weekly surveillance bulletin.

For viral diseases (polio, measles and yellow fever), the correlation between epidemiological data and laboratory data is good. However, this is not the case for bacterial data. Laboratories use standardized forms to collect data.

There are no procedures for sharing information between human health and animal health laboratories. Each sector manages its own information systems.

Senegal has 15 syndromic sentinel surveillance sites for conducting research into the causes of febrile illnesses and suspected cases of arbovirus. Specimens that meet the definitions for suspected cases are sent to the central unit, which has an epidemiology and a virology section. The system is integrated into the national system, which also encompasses integrated disease and response surveillance. It is managed by a steering committee made up of representatives from the Ministry of Health and Social Welfare, the IPD and WHO.

The syndromic sentinel surveillance team produces a weekly bulletin that it shares with the medical districts and regions.

Communication with the general public is conducted by other services within the ministry: The national health education and information service (SNEIPS) and the Cabinet's communications unit.

Animal health

An electronic platform (known as Vgtropic) is operational for animal health surveillance. It is a well run real-time electronic system that collects data at the central level down to the most peripheral levels, including the community level. It is possible to carry out a map analysis with the system, which is integrated into the global system that includes the network of veterinary laboratories. Animal health surveillance data is secure and kept on a government server, in keeping with international reporting requirements.

Recommendations for priority actions

- Include event-based and community-based surveillance in the surveillance system.
- Integrate hospitals and the private sector into the surveillance system; identify focal points for surveillance and get information circuits up and running.
- Ensure the interoperability of the real-time electronic reporting system for human health and connect it with the platform used for animal health surveillance.
- Draft and approve an agreement for sharing surveillance information between the human and animal health sectors, with a focus on coordination between the two sectors.
- Strengthen the capacity for analysing surveillance data at all levels of the health pyramid.

Indicators and scores

D.2.1 Indicator- and event-based surveillance systems – Score 3

Indicator-based and event-based surveillance systems are in place to detect public health threats.

Strengths/best practices
- The guide to integrated disease and response surveillance was amended in 2013.
- Regular support work is carried out (training, oversight, quarterly coordination meetings).
- The integrated disease and response surveillance strategy is implemented.
- There are surveillance focal points in regions, hospitals and districts.
- Telephone and internet coverage is good.

Areas that need strengthening/challenges
- Strengthen the event-based surveillance system.
- Include the private sector in the surveillance system.
- Further integrate hospitals into the surveillance system.

D.2.2 Interoperable, interconnected, electronic real-time reporting system – Score 3

Strengths/best practices
- Disease and response surveillance is incorporated into the software DHIS 2.
- IT tools are available.
- There is internet access.
- Stakeholders receive training.

Areas that need strengthening/challenges

- Encourage autonomous management of the DHIS 2 server.

- Increase use of DHIS 2 at the operational level.

D.2.3 Analysis of surveillance data – Score 3

Strengths/best practices

- Data are complete.

- A weekly epidemiology bulletin is issued.

Areas that need strengthening/challenges

- Systematically analyse all data received at the central level.

- Produce an annual surveillance report in printed format.

D.2.4 Syndromic surveillance systems – Score 4

Strengths/best practices

- Syndromic sentinel surveillance is carried out as part of the integrated disease and response surveillance strategy in some districts.

Areas that need strengthening/challenges

- Expand implementation of syndromic surveillance to other regions.

DETECT

Reporting

Introduction

Health threats at the human–animal–ecosystem interface have increased over the past decades, as pathogens continue to evolve and adapt to new hosts and environments, imposing a burden on human and animal health systems. Collaborative multidisciplinary reporting on the health of humans, animals and ecosystems reduces the risk of diseases at the interfaces between them.

Target

Timely and accurate disease reporting according to WHO requirements and consistent coordination with FAO and OIE.

Senegal level of capacities

There is a national IHR focal point that notifies WHO if needed. The national IHR focal point received training during evaluations. Procedures are being approved in order to establish a multisectoral and multidisciplinary team in accordance with the IHR (2005). There is also an OIE contact point within the Livestock Ministry.

However, there is no coordination mechanism between the national IHR focal point and other sectors. Senegal also does not have any mechanism to allow the national IHR focal point and the OIE contact point to share information if needed. It should also be noted that Senegal has no reporting obligations towards its neighbouring countries. One of the most recent cases reported to WHO was the confirmed case of Crimean-Congo haemorrhagic fever detected in November 2015 by the routine surveillance system. A joint investigation by the health and livestock ministries was conducted.

Recommendations for priority actions

- Conduct a multisectoral assessment of events that could represent a public health emergency of international concern using risk mapping (and taking account of unusual events).

- Establish multisectoral SOPs for sharing information between the national IHR focal point and the OIE national delegate.

- Put in place an interoperable and interconnected reporting system for human health and animal health concerning common priority diseases (zoonotic diseases).

Indicators and scores

D.3.1 System for efficient reporting to WHO, FAO and OIE – Score 3

During both an exercise and a real event, Senegal demonstrated that it is capable of identifying a potential public health emergency of international concern and reporting it to WHO, and a zoonotic disease to OIE.

Strengths/best practices

- An action plan has been put in place to improve implementation of the IHR (2005).

- There is an effective surveillance system for human and animal health.

DETECT

Areas that need strengthening/challenges

- Speed up reporting at all levels.

- Set up a multisectoral assessment system for public health emergencies of international concern.

D.3.2 Reporting network and protocols in the country – Score 2

Senegal is in the process of developing and implementing protocols, procedures, regulations and/or legislation concerning reporting; these should start being applied in 2016

Strengths/best practices

- The human and animal health reporting systems work well.

- There is informal communication between the different sectors.

Areas that need strengthening/challenges

- Speed up the process of approving operational procedures concerning the national IHR focal point.

- Provide guidance to the intermediate and peripheral levels on reporting-related decision-making (Annex 2 of the IHR).

- Put in place a reporting system that is:

  ○ intersectoral, i.e. that covers animal health, human health and other sectors;

  ○ efficient, i.e. that is capable of notifying WHO, OIE or FAO of any public health emergency of international concern within the required time frame;

  ○ sustainable.

DETECT

Workforce development

Introduction

Workforce development is important in order to develop a sustainable public health system over time by developing and maintaining a highly qualified public health workforce with appropriate technical training, scientific skills and subject matter expertise.

Target

States Parties should have a skilled and competent health workforce for sustainable and functional public health surveillance and response at all levels of the health system and the effective implementation of the IHR (2005). This workforce includes physicians, animal health workers or veterinarians, biostatisticians, laboratory scientists and farming/livestock professionals, with an optimal target of one trained field epidemiologist (or equivalent) per 200 000 population, all of whom can systematically cooperate to meet the core competencies of the IHR (2005) and the OIE tool for the evaluation of performance of veterinary services tool.

Senegal level of capacities

Human resources are available at the national and regional levels. There are clinicians at both national and regional hospitals and epidemiologists at the central level and in each medical region. In each region, there is a regional livestock unit run by a veterinarian. Every region has biopharmacists and/or laboratory technicians. There are around 300 epidemiologists in the country with a qualification from the Health and Development Institute (ISED), EpiVac or the field epidemiology training programme (FETP). There is over one epidemiologist for every 46 000 inhabitants.

While there is a national health workforce development strategy, the plan does not currently include all public health workers, such as epidemiologists, veterinarians and laboratory technicians.

Recommendations for priority actions

To meet the needs that came to light during the evaluation, the following actions were recommended by the team of national experts and discussed with the external experts:

- define and apply procedures for technical coordination between different sectors in terms of the workforce development strategy;
- allocate biostatisticians, IT experts and biotechnicians to human, animal and environmental health functions;
- institutionalize intermediary and advanced FETPs;
- draw up an appropriate training, motivation and monitoring policy to ensure the development of a qualified public health workforce;

Indicators and scores

D.4.1 Human resources are available to implement IHR (2005) core capacity requirements – Score 3

Senegal has shown that it has multidisciplinary resources available at the national and intermediary levels, although the workforce is still not large enough to meet all of the country's needs.

Strengths/best practices

- Multidisciplinary resources are available at the national and intermediary levels and work in a coordinated manner. There are:

  ○ training schools for physicians, biologists, veterinarians and technicians;

  ○ qualified human resources, in keeping with the IHR (2005);

  ○ efforts by the government to recruit qualified personnel;

  ○ a pyramid structure within key ministries (health, livestock, environment and trade ministries) with missions defined for each level.

Areas that need strengthening/challenges

- More forward-looking workforce management is needed.

- Senegal has difficulty keeping human resources in difficult areas.

D.4.2 FETP or other applied epidemiology training programme is in place – Score 4

Strengths/best practices

- Training in epidemiology is available at all levels and accessible to public health workers. At the intermediary and advanced levels, it forms part of the Masters in epidemiology at ISED

- There are currently two levels of FETPs:

  ○ advanced (two years) – organized regionally from Burkina Faso with four central level staff already trained (two physicians, one pharmacist and one biologist);

  ○ frontline FETP (three months) – initially for district chief physicians, with the aim of training at least one physician per district. Ninety per cent of districts have so far been reached. In a second phase, surveillance focal points in districts will also be targeted;

  ○ an intermediary FETP (nine months) is not yet up and running but is planned for 2017.

- In addition, there is a One Health training project, which will be integrated into the Masters in public health aimed at human, animal and environmental health workers. This training programme was designed in cooperation with the University of Minnesota.

Areas that need strengthening/challenges

- Institutionalize the three FETP levels.

- Ensure financing for training programmes over the long term.

D.4.3 Workforce strategy – Score 2

Strengths/best practices

- the Government regularly recruits workers

- candidates can submit their applications online

- human resources management software (known as IHRIS) is in use

- there are qualified human resources managers.

Areas that need strengthening/challenges

- Draw up and implement human resources development plans in all sectors related to public health, to take account of the IHR (2005).

- Put in place incentives to ensure a loyal workforce.

DETECT

RESPOND

Preparedness

Introduction

Preparedness includes the development and maintenance of national, intermediate and community/primary response level public health emergency response plans for relevant biological, chemical, radiological and nuclear hazards. Other components of preparedness include mapping of potential hazards, the identification and maintenance of available resources, including national stockpiles, and the capacity to support operations at the intermediate and community/primary response levels during a public health emergency.

Target

The effective implementation of the IHR (2005) requires multisectoral/multidisciplinary approaches through national partnerships for effective alert and response systems. Coordination of nationwide resources, including the sustainable functioning of a national IHR focal point is a key requisite for IHR (2005) implementation. The national IHR focal point should be accessible at all times to communicate with the WHO IHR regional contact points and with all relevant sectors and other stakeholders in the country. States Parties should provide WHO with contact details of national IHR focal points, continuously update and annually confirm them.

Senegal level of capacities

Senegal has developed a platform for reducing major disaster risks, which is headed by the Prime Minister through an inter-ministerial committee on disaster risk reduction. However, the platform is not yet up and running.

In Senegal, crisis management is provided for in the national emergency response – or ORSEC – plan adopted by Decree No. 99-172 of 4 March 1999, which replaced Decree No. 93-1288 of 17 November 1993, and which prepares for serious events that could endanger large numbers of human lives, agricultural resources, infrastructure or the environment.

The plan foresees how to rapidly and rationally implement exceptional measures.

The response plan can be broken down into two operational parts:

- the first part, which does not change, sets out the general principles and functioning of the plan;
- the second part, which is updated periodically, comprises risk mapping by sector, an inventory of human and material resources, and the telephone directory.

The plan is a general emergency plan that is triggered in the event of a disaster for which local resources are not sufficient, with sector-specific contingency plans.

Airports, ports and border crossings must have contingency plans that are in line with the national contingency plan and the national emergency plan.

The national contingency plan (in the event of flooding, a locust outbreak, cholera and meningitis epidemics) was created in 2009 and incorporates the sectors involved in implementing the IHR (2005). However, it needs to be reviewed and updated.

For points of entry, the plan requires continuous compliance with the IHR (2005) across the country and sets out a coordination framework and ongoing training for personnel of the defence and security forces assigned to border posts, together with widespread dissemination of protocols and IHR standards.

In addition, there is a national strategy for ensuring the coordination of preparedness, response and rehabilitation activities as part of existing national, regional and international mechanisms.

The ORSEC response plan is backed up by sector-specific contingency plans such as:

- the national 2008-2009 contingency plan (flooding, cholera and meningitis epidemics, and locust outbreaks), drawn up from 24 to 26 July 2008 and covering a 12-month period (July 2008 to June 2009);

- the contingency health emergency operations centre (EOC) plan;

- the national chemical, biological, radiological and nuclear (CBRN) response plan, which has been drawn up but not approved at the time of the mission (workshop and exercise scheduled for October 2016);

- the livestock contingency plan, drawn up in July 2016 but not approved at the time of the mission;

- the national preparedness and intervention plan in the event of an influenza pandemic, December 2013;

- the 2015 child-protection contingency plan, which has not been approved at the time of the mission (general child-protection delegation);

- The emergency plan for military support for the civilian authorities in the event of a disaster, December 2013;

- the response plan in the event of a food safety emergency, which has been drawn up but not approved at the time of the mission;

- the 2013 emergency plan for the Senegalese armed forces in the event of a pandemic.

There are mechanisms for triggering a contingency plan:

- there is an epidemic management committee

- the humanitarian response is incorporated into the ORSEC response plan.

- appeals for national and international solidarity are made if national response capacities are insufficient.

The following are properly defined in the contingency plans.

- Situations in which the response is limited to the Ministry of Health and Social Welfare, with mainly epidemiological surveillance and the treatment of cases. The national epidemic management committee coordinates.

- Situations that gradually spread to other sectors and that cause the health services to become rapidly overwhelmed. Currently, the response is conducted under the ORSEC plan, coordinated by the Ministry of the Interior and Public Security.

- If in this same situation, national response capacities are exceeded, Senegal appeals for international solidarity.

Following the EVD outbreak, the EOC mapped the public health risks. The results were provided in the reference documents. Dakar, the capital of Senegal, represents the most risks (technological, industrial, natural and even infrastructural). The mapping was inclusive, with all sectors (animal health, environment, security forces, etc.) participating. The mapping of resources is being finalized. The ORSEC response plan's

current resource mapping is available from the Ministry of the Interior. Risks and resources at the national level are to be analysed every year.

Recommendations for priority actions

- Speed up implementation of the Ministry of the Interior's inter-ministerial crisis management operations centre (COGIC) to ensure better coordination between the ORSEC response plan and the sector-specific contingency plans.

- Define the mechanisms for cooperating and coordinating between the COGIC and the sector-specific EOCs.

- Include health emergency management at points of entry in the contingency plan for health emergencies and disasters.

- Speed up resource mapping for hazard management and priority risks under the IHR (2005).

Indicators and scores

R.1.1 Multi-hazard national public health emergency preparedness and response plan is developed and implemented – Score 2

A multi-hazard national public health emergency preparedness and response plan has been developed to cover the main capacities required under the IHR (2005) (see Annex 1A, article 2).

Strengths/best practices

- The ORSEC response plan and national contingency plan are operational (implemented in 2005, 2009 and 2012 for the ORSEC plan, with a feedback workshop in 2012).

- In 2013, simulation exercises were conducted for the civilian-military pandemic plan.

- A test exercise for the CBRN plan was conducted in 2016.

- Test exercises for some plans (sauvetage en mer, à la sûreté maritime et à la protection de l'environnement: the SAR, SUMAR and POLMAR plans) are conducted annually.

- We observed widespread responsible participation by all governmental workers/facilities, community entities, local authorities, civil society, private sector, humanitarian organizations, United Nations agencies, technical and financial partners, the media, etc.

- A national risk management platform exists, as do local platforms in some municipalities, in accordance with the recommendations of the local authority code.

- Socio-professional networks of academics and researchers, parliamentarians, journalists and civil society are in place for disaster risk reduction and are active in the field.

- Neighbourhood associations and community organizations are constantly mobilized to help with disaster management.

Areas that need strengthening/challenges

- Review and update all existing plans, followed by simulation exercises.

- Improve the institutional and legal frameworks for preparedness, and emergency and risk management.

- Harmonize the mapping format for at-risk areas for all those involved in preparedness work.

- Step up community outreach on risk prevention.

- Ensure greater consistency between the sector-specific plans and the ORSEC response plan.

- Strengthen mechanisms and financial resources available to participants.

- Integrate the national ORSEC plan into contingency plans at the national, regional, departmental and local levels.

- Strengthen coordination among different participants and civil defence.

- Finalize implementation of the framework for dialogue and exchanges among stakeholders (platform for storing and providing access to data and documents).

- Ensure EOCs are well equipped with modern information and communication technology at the national, regional, departmental and local levels.

- Set up a regional centre for forecasting extreme weather events.

R.1.2 Priority public health risks and resources are mapped and utilized – Score 2

A national risk assessment was conducted to identify potential public health emergencies, and resources have been mapped.

Strengths/best practices

- Technological, industrial, construction-related (dilapidation, imminent collapse) and natural risks have been mapped in the department of Dakar.

- A public health EOC with national risk and resource assessment capacities has been created.

- The national system for mapping risks is in the process of being approved (civil defence and fire brigade).

Areas that need strengthening/challenges

- Extend mapping of natural, technological, industrial and building-related risks to the country's other 13 regions.

- Strengthen the capacities and resources of the civil defence directorate to ensure better coordination of risk reduction and risk management operations.

- Update the national multi-hazard contingency plan.

- Draw up documents containing information on the major risks in each municipality.

- Speed up implementation of COGIC to ensure better coordination between the ORSEC response plan and the sector-specific contingency plans.

- Organize the process for politically approving the new decree on the national ORSEC response plan in order to have an operational framework that is well known, shared and sustainable, regardless of the type of risk or disaster that the country may have to face.

Emergency response operations

Introduction

A public health EOC is a central location for coordinating operational information and resources for strategic management of public health emergencies and emergency exercises. EOCs provide communication and information tools and services and a management system during a response to an emergency or emergency exercise. They also provide other essential functions to support decision-making and implementation, coordination and collaboration.

Target

Countries will have a public health EOC functioning according to minimum common standards; maintaining trained, functioning, multisectoral rapid response teams and "real-time" biosurveillance laboratory networks and information systems; and trained EOC staff capable of activating a coordinated emergency response within 120 minutes of the identification of a public health emergency.

Senegal level of capacities

The public health EOC is a permanent centre responsible for the coordination, early detection and steering of the response to public health crises.

Following the outbreak of EVD, all stakeholders involved in the response agreed that the ministry needed a permanent structure for coordinating national emergencies. On the minister's initiative, the public health EOC was therefore created on 1 December 2014 through ministerial Order No. 17973 MSAS/SG/BL. The public health EOC is a structure for coordinating emergency response operations and therefore duly puts preparedness at the heart of the strategy for managing public health emergencies. Its core missions are to:

- define emergency measures to be implemented depending on the health emergency;
- coordinate the work of the different entities involved in the response to health emergencies;
- oversee operations in the field;
- ensure a link between emergency response workers and the Ministry of Health and Social Welfare.
- in terms of communication, the public health EOC has:
  - ❍ a telephone line: 33 8251413 that is available 24/7 during emergencies
  - ❍ a videoconferencing system (cousenegal@liveconf.net);
- the public health EOC has an internet connection with a specialized line with the service provider, TIGO, staff and other personnel can get a professional email address: @cousenegal.sn;

The public health EOC has a procedure in place for reporting to decision-makers and partners, which determines the information circuit with other entities. However, for the moment there is no surveillance office capable of providing guidance to clinicians. The SNEIPS has a free number that the public can call to get information: 800 50 50.

The public health EOC is activated by the health minister upon the advice of the EOC coordinator, as stipulated in the activation procedure. The SOPs are revised annually. After each exercise, the SOPs are amended based on the proposed improvement plan. The approved procedures are then compiled and kept together in an SOP binder.

While an exercise has been carried out to test the EOC's operational capacities, the EOC has not yet been activated as part of an emergency response. The system is not yet ready to activate a coordinated emergency response within 120 minutes of the identification of a public health emergency.

Recommendations for priority actions

- Define a formal mechanism for cooperating and coordinating with key services, directorates and sectors involved in managing health emergencies, in accordance with the One Health approach.

- Draw up specific plans and procedures for the identified priority diseases.

- Draw up/finalize EOC plans and procedures for the sectors with important roles (investigation, treatment, communication, collaboration with key partners).

- Put in place rapid response teams at all levels of the health system.

- Draw up a resource mobilization strategy (set up an emergency fund, adequate logistics, project financing and EOC functioning).

Indicators and scores

R.2.1 Capacity to activate emergency operations – Score 3

EOC staff are trained in managing emergencies and in the SOPs for EOCs; they are available to intervene if necessary.

Strengths/best practices

- An emergency management system/contingency plan has been defined.

- Simulation exercises for EVD have been organized.

- Staff are well trained.

- Discussion-based and operational simulations are overseen by partners.

- Support is provided by technical and financial partners.

- Exercises are conducted with partners.

Areas that need strengthening/challenges

- Planning:
  - draw up a specific contingency plan for priority diseases
  - strengthen the workforce once activation has occurred.

- Training:
  - set up procedures for making additional personnel available
  - strengthen management of emergencies at the local level
  - put in place rapid response teams.

- Strengthen the workforce with dedicated and trained staff.

- Put in place a formal mechanism for collaborating with the human, animal and environmental health sectors through existing commissions: GHS task force, national IHR focal point, Codex Alimentarius.

- Have decentralized EOC facilities.

RESPOND

R.2.2 Emergency operations centre operating procedures and plans – Score 2

Plans and procedures setting out how incidents (or equivalent) are managed are in place within the EOC; a plan sets out the main structural and operational aspects of the EOC's key functions (particularly incident management, leadership, operations, planning, logistics and finances).

Strengths/best practices

- Contingency plans exist.
- Internal procedures exist.
- The WHO EOC Framework is used as a reference.
- Procedures are reviewed by partners.

Areas that need strengthening/challenges

- Draw up EOC internal procedures.
- Improve decision-making.
- Draw up plans of the centre.
- Draw up an EOC manual.
- Increase the number of staff available to draft documents.

R.2.3 Emergency operations programme – Score 3

Strengths/best practices

- Training is provided through simulation exercises, with the participation of other sectors and other Ministry of Health and Social Welfare services.
- Partners provide technical and financial support.
- Simulation exercises are conducted.
- Other sectors and Ministry of Health and Social Welfare services are involved.

Areas that need strengthening/challenges

- Plan simulation exercises at all levels.
- Improve the organization of simulation exercises:
  - exercises to ensure that an emergency response can be activated within 120 minutes
  - organize exercises involving other sectors.
- Provide training so that simulation exercises can be conducted at the regional level.

R.2.4 Case management procedures are implemented for IHR (2005) relevant hazards – Score 2

Guidelines for managing cases are available for priority diseases with epidemic tendencies.

Strengths/best practices

- There is an SOP for EVD.
- Health staff are trained in the EVD SOP.
- Simulation exercises for EVD have been organized.
- People from the health system are involved in creating the training modules and sessions for medical personnel.

Areas that need strengthening/challenges

- Draft specific procedures for each priority disease.

- Establish a plan for training medical staff on the plans and procedures.

- Organize simulation exercises for the plans and procedures for each priority disease.

- Staff and experts are unavailable for drafting.

RESPOND

Strengthen link between public health and security authorities

Introduction

Public health emergencies pose special challenges for law enforcement, whether the threat is naturally occurring (e.g. influenza pandemics) or man-made (e.g. anthrax terrorist attacks). In a public health emergency, law enforcement will need to quickly coordinate its response with public health and medical officials.

Target

Country conducts a rapid, multisectoral response in case of a biological event of suspected or confirmed deliberate origin, including the capacity to link public health and law enforcement, and to provide and/or request effective and timely international assistance, such as to investigate alleged misuse events.

Senegal level of capacities

The absence of a memorandum of understanding or other agreement between the department of public health and the security authorities was a major hurdle following the appearance of new, confirmed cases of EVD in Guinea in May 2015, and in Sierra Leone. The air and border police directorate, through its external units in airports, ports and border crossings, faced several difficulties in implementing an effective mechanism, as it did not have a document that set out how the national response should be organized. Nevertheless, a series of concerted actions were organized by the Ministry of Health and Social Welfare as a response.

The national team of experts said that it wished to improve collaboration between the health services and the security authorities; this was needed in order to better manage migratory flows at points of entry, and along border strips during major religious events. In addition, joint training was conducted at national, regional and local levels on themes relating to information sharing and joint investigations/ operations. Nevertheless, there are no SOPs for the coordination of joint operations at border crossings during public health emergencies. However, at Moussala, the point of entry between Mali and Senegal in the Kédougou region, the International Organization for Migration, in collaboration with the Kédougou medical region, has set up a procedure that includes the police in its health control mechanism.

To sum up, while there is collaboration, it needs to be improved, in particular by establishing a memorandum of understanding at the national level and by determining SOPs and ensuring their widespread use in the coordination of joint operations in the event of a public health emergency at sites such as points of entry. In addition, health checkpoints with a mixed medical and veterinary team need to be created at borders.

Following the outbreak of EVD, some training was jointly provided (at the regional and national levels) to public health workers and security personnel, on themes relating to information sharing and joint investigations/operations.

Recommendations for priority actions

- Establish a memorandum of understanding between the public health sector and the security authorities at the national, intermediary and local levels to encourage information sharing and cooperation.

- Improve communication to ensure a more formalized and more timely exchange of information encompassing human health, animal health and all other sectors involved.

- Conduct an annual joint operation or exercise that involves exchanging information between public health services and the security authorities based on the memorandum established.

- Put in place mixed checkpoints that cover human and veterinary health at each border crossing.

- Strengthen the capacities of public health workers and security personnel in areas linked to information sharing and investigations/operations, and provide them with the necessary resources.

Indicators and scores

R.3.1 Public health and security authorities, (e.g. law enforcement, border control, customs) are linked during a suspected or confirmed biological event – Score 2

Reporting and information-sharing contact points and triggers have been identified and shared among human health, animal health and the security authorities.

Strengths/best practices

- Information regarding human and animal health is shared during emergencies.

- Joint training is provided on themes relating to information sharing and investigations/operations in emergencies.

Areas that need strengthening/challenges

- Draw up and disseminate SOPs for coordinating a joint operation in the event of a public health emergency at sites such as points of entry.

- Increase the number of health and livestock staff working at busy border crossings to ensure that entries are controlled in accordance with Regulation C/REG.21/11/10 of 26 November 2010.

- Set up a formal framework for collaboration between the health sector and the security authorities in order to facilitate the exchange of information.

- At present, public health reports are not regularly shared with the security authorities.

- At present, reports issued by security authorities are not regularly shared with the public health sector.

- Senegal has not yet determined which ministry is in charge of interacting with Interpol, and no public health expert takes part in the emergency action relating to the Biological Weapons Convention.

- Set up sufficient provisional mechanisms at points of entry in order to accommodate certain passengers whose health requires them to be isolated before they can be transferred to a referral health facility.

RESPOND

Medical countermeasures and personnel deployment

Introduction

Medical countermeasures are vital to national security and protect nations from potentially catastrophic infectious disease threats. Investments in medical countermeasures create opportunities to improve overall public health. In addition, it is important to have trained personnel who can be deployed in response to a public health emergency.

Target

National framework for transferring (sending and receiving) medical countermeasures and public health and medical personnel from international partners during public health emergencies.

Senegal level of capacities

Senegal has had plans for organizing the response in the event of a disaster for a number of years. In recent decades, the country has improved its capacities in sending medical countermeasures and deploying staff in affected areas through the creation of the national emergency medical services (SAMU), the public health EOC and the CBRN unit of the national fire brigade. Under the aegis of WHO, a virtual stockpile was introduced within, and is managed by the national supply pharmacy. Furthermore, the WAHO has put in place a rapid response team that makes up for any shortcomings in the countries concerned.

Senegal is in the process of conducting simulation exercises to test different plans and facilities. It has conducted various exercises that involved sending and receiving medical countermeasures and personnel in the event of a disaster. However, the country has not conducted any exercises that focused on this area (particularly deploying personnel to or from another country) or the One Health approach.

Recommendations for priority actions

- Evaluate national capacities for stockpiling medical and operational countermeasures and adjust those capacities to meet the operational requirements of a public health emergency of national or international concern.

- Draw up a sector-specific contingency plan for sending and receiving medical countermeasures and personnel as part of a regional or international cooperation programme, taking into account the various aspects of human and animal health.

- Establish procedures and terms of involvement of the sector in receiving medical countermeasures and personnel in IHR (2005) relevant health emergencies.

- Test the sector-specific contingency plan for sending and receiving medical countermeasures and personnel.

Indicators and scores

R.4.1 System is in place for sending and receiving medical countermeasures during a public health emergency – Score 2

Plans have been prepared in order to put in place a system for sending and receiving medical countermeasures during a public health emergency.

Strengths/best practices

- Several other plans exist that deal with sending and receiving medical countermeasures, some of which are in the approval phase and another in the test (simulation) phase.

- Senegal has the capacity to produce vaccines, antibiotics (15% of needs) and other materials (IPD, other laboratories and the ISRA).

- Stockpiles of medical countermeasures are available for use in a public health emergency (disaster batches in the Plan Nombreuses victims of the Service D'assistance Medicale D'urgence "NOVI SAMU" plan).

- The country is party to regional and international agreements for the purchase, sharing and distribution of medical countermeasures. (e.g. WHO's Global Outbreak Alert and Response Network – GOARN).

- Currently, all sector-specific contingency plans are in the test phase, notably the CBRN plan.

Areas that need strengthening/challenges

Regulatory issues about receiving medicines and devices from abroad are not covered in the plans.

- Approve and test (through simulations) all emergency management plans.

- Increase the capacity to stockpile medical countermeasures.

R.4.2 System is in place for sending and receiving health personnel during a public health emergency – Score 2

Plans have been prepared in order to put in place a system for sending and receiving health personnel during a public health emergency.

Strengths/best practices

- The plans covering the sending and receiving of personnel are in the approval or test phase at the time of the mission.

- Criteria and standards for training personnel in the event of a disaster have been defined ("NOVI" plan).

- Several sectors are involved in dispatching/receiving health personnel during an emergency (health sector, armed forces).

- Qualified and experienced personnel are often asked to take part in international humanitarian missions.

- The country is party to regional and international agreements on the deployment of health personnel (WHO's GOARN).

- A structure (emergency services) exists that is specialized in sending personnel to the scene of a disaster.

Areas that need strengthening/challenges

- Regulate responsibilities and rights relating to medical personnel deployed in international operations.

- Identify the triggers that prompt a request for personnel from other countries.

RESPOND

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Risk communication

Introduction

Risk communications should be a multilevel and multifaceted process which aims to help stakeholders define risks, identify hazards, assess vulnerabilities and promote community resilience, thereby promoting the capacity to cope with an unfolding public health emergency. An essential part of risk communication is the dissemination of information to the public about health risks and events, such as outbreaks of diseases. For any communication about risk caused by a specific event to be effective, the social, religious, cultural, political and economic aspects associated with the event should be taken into account, as well as the voice of the affected population. Communications of this kind promote the establishment of appropriate prevention and control action through community-based interventions at individual, family and community levels. Disseminating the information through the appropriate channels is essential. Communication partners and stakeholders in the country need to be identified, and functional coordination and communication mechanisms should be established. In addition, the timely release of information and transparency in decision-making are essential for building trust between authorities, populations and partners. Emergency communications plans need to be tested and updated as needed.

Target

States Parties should have risk communication capacity which is a multilevel and multifaced real-time exchange of information, advice and opinion between experts and officials or people who face a threat or hazard to their survival, health or economic or social well-being,so that they can take informed decisions to mitigate the effects of the threat or hazard and take protective and preventive action. It includes a mix of communication and engagement strategies like media and social media communication, mass awareness campaigns, health promotion, social mobilization, stakeholder engagement and community engagement.

Senegal level of capacities

Senegal has a communications unit that coordinates institutional communications, while communication at the Ministry of Health and Social Welfare aimed at encouraging behavioural changes is conducted by the SNEIPS. There is also a multisectoral committee on social mobilization. These services, which also include social research into behavioural changes, meet the general public's information needs during emergencies.

It is also worth noting that Senegal has a multisectoral communications mechanism at the national and local levels that is coordinated by SNEIPS subsidiaries (regional offices and public health facilities).

For risk communication, there is currently no specific multisectoral national plan, or specific skills in this regard. Communications personnel are not yet specialized or trained in risk and public health emergency communication.

A free telephone line is used to gauge public reaction to messages and to identify rumours. This system needs to be strengthened and formalized.

It is worth noting that while managing EVD, the role of anthropologists was decisive in psychosocial management. These practices should be strengthened through a more formal collaboration in order to enhance synergies in strategies and operations.

Recommendations for priority actions

- Endorse the coordination framework for risk communication in IHR (2005)-related health crises.

- Draw up a national multi-risk communication plan for IHR (2005)-related health crises (by revising and adapting documents such as the national communication plan for EVD).

- Establish a work programme for increasing the communications capacity of teams involved in IHR (2005)-related health crises.

- Organize and determine mechanisms for managing rumours during crises and public health emergencies of national or international concern.

Indicators and scores

R.5.1 Risk communication systems (such as plans, mechanisms) – Score 1

There are no official government risk communication systems.

Strengths/best practices

- Government communications units exist.

- There is a multisectoral committee on social mobilization that covers social research into behavioural changes and meets the general public's information needs during emergencies.

Areas that need strengthening/challenges

- Draw up a national risk communication plan for health emergencies.

- Allocate additional human resources to communication services.

- Strengthen risk communication capacities.

- Put in place an official risk communication coordination framework.

- Approve the communication procedures in the event of an emergency.

- Ensure that financial resources are mobilized.

- Draw up a national multi-risk communication plan that includes the risks of an IHR (2005)-relevant health emergency, in accordance with the One Health approach.

R.5.2 Internal and partner communication and coordination – Score 2

There is a certain amount of ad hoc coordination of communication, through meetings with certain partners, for example, and/or information sharing, but it is not done on a regular basis.

Strengths/best practices

- Meetings with the national epidemic management committee cover communication.

- There are multiple, committed partners.

Areas that need strengthening/challenges

- Put in place a mechanism for regular informationsharing.

- Formalize the coordination framework and expand the partnership to all stakeholders, in accordance with the ministerial order.

- Organize simulation exercises to improve coordination of risk communications in emergencies.

RESPOND

R.5.3 Public communication – Score 3

Information is disseminated proactively to the public through a range of channels (newspaper, radio, television, social media and the web) that are in keeping with national and local preferences and in vernacular languages, so that messages are understood by the population. Relevant technologies (mobile telephone, etc.) are used for public communication at the local level.

Strengths/best practices

- Results of behavioural studies and studies on sociocultural factors, as well as bibliographic data, are used to draw up communication strategies directed at the target groups identified.
- Experiences and good practices of partner organizations have been leveraged in order to continually improve communication strategies.
- Community workers are involved in communication strategies.
- Health is well covered in national and local media programmes.
- SNEIPS has the resources to disseminate messages through various media.

Areas that need strengthening/challenges

- Improve journalists' training in risk communication and the One Health approach.
- Maintain information meetings and/or regularly distribute information bulletins during emergencies.
- Record and share good practices.
- Draw up and use procedures for public communication in health emergencies.

R.5.4 Communication engagement with affected communities – Score 4

Regular information and training sessions are organized, and teams that use volunteers ensure social mobilization and community participation. The mechanisms for mobilizing capacities to step up operations exist and are operational. A listening-based feedback system (area 5) is in place to improve community participation.

Strengths/best practices

- Senegal has a very dense network of associations, particularly at the community level (traditional communicators, representatives, neighbourhood sponsors, women's groups, sports and cultural associations, religious leaders). They are involved in communication activities.
- SNEIPS, with its regional and departmental subsidiaries, promotes and coordinates communication activities.
- Community and national media are available and participate in communication activities (e.g. interactive programmes and other platforms).

Areas that need strengthening/challenges

- Train members of community networks and community radio stations in risk communication in order to increase participation.
- Establish a focal point in charge of collecting feedback and questions from the public in each district.
- Allocate more human resources to the free telephone line.
- Provide the free telephone line with data analysis software.

R.5.5 Dynamic listening and rumour management – Score 2

Ad hoc listening and rumour management systems exist, including through health workers. However, they are not fully used.

Strengths/best practices

- There is good nationwide coverage of the free telephone line.
- There is good coverage by national and community media.

Areas that need strengthening/challenges

- Appoint a communications manager responsible for overseeing and preparing the response to rumours and false information.
- Ensure widespread use of listening groups in all health districts and strengthen their capacity to monitor and report rumours and false information.
- Create an inventory of false information using the databases.
- Strengthen communications workers' capacity to manage rumours and false information.
- Strengthen synergies between communications workers and academics (anthropologists, sociologists and psychologists).

OTHER

Points of entry

Introduction

States Parties are required to maintain core capacities at international airports and ports (and where justified for public health reasons, a State Party may designate ground crossings) which will implement specific public health measures required to manage a variety of public health risks.

> **Target**
>
> *States Parties are required to maintain core capacities at international airports and ports (and where justified for public health reasons, a State Party may designate ground crossings) which will implement specific public health measures required to manage a variety of public health risks.*

Senegal level of capacities

Three points of entry have been identified in Senegal: the port of Dakar, the Léopold Sédar Senghor International Airport, and the Kalifourou land border crossing.

The port is primarily a trade port, although there are also some cruise ships that allow passengers to disembark. One million passengers pass through the airport each year.

The port and airport authorities are public entities that are independently managed.

There are border health checkpoints at the port and airport. They are under the responsibility of the Ministry of Health and Social Welfare. At the port, all personnel except the physician are under the responsibility of the hygiene directorate, although the prevention directorate is responsible for oversight. The situation is not so clearly defined at the airport, where the health checkpoint is run by both the prevention directorate (surveillance and immunization) and the hygiene directorate (health authority restrictions).

The role of the health checkpoints is to provide border surveillance and serve as the public health authority.

When a ship docks or a plane lands, the inspection procedures are well known and conducted systematically. At the port, they end with the issuing of a free circulation authorization that then allows the border services and police to operate.

At both sites, the health checkpoints have no facility equipped to examine sick travellers. When the port or airport authorities are informed of the arrival of a sick passenger or crewmember in need of evacuation, referral to the most appropriate hospital is organized by the fire brigade or the emergency medical service.

Only the health checkpoint at the airport has a facility in which sick people can be isolated as they await referral. However, there are not enough protection kits available.

The authorities delegate numerous health-related activities – such as the treatment and control of the water supply, waste management or vector control – to private operators. There is no vector control plan. Vector control is not systematic but conducted upon instruction from the authorities, and not in accordance with a predefined programme.

There is no capacity to conduct inspections or put in place control measures in the event of a chemical or radionuclear incident.

At both of these points of entry, there is also a medical centre run by physicians: the one at the port looks after the 1,600 port workers and their families, while the one at the airport allows staff and sick travellers to consult a physician and get treatment.

These centres are under the responsibility of the port and airport authorities, which in turn fall under the Ministry of Fisheries and the Marine Economy, and the Ministry of Transport, respectively. They are part of the national health information system, with tools provided by the Ministry of Health and Social Welfare, but they do not participate in integrated disease and response surveillance, even though they record a number of cases of priority diseases for the country.

The health checkpoint teams are not kept informed of the results of control and surveillance activities and are not responsible for coordinating health activities, as there is no information management system.

The legal and institutional framework governing implementation of the IHR (2005) at points of entry is not sufficiently clear. Coordination is limited to meetings organized by the authorities at the points of entry. Weekly meetings are held at the port and monthly meetings at the airport, with a view to discussing safety matters (including health security).

There are no written procedures or agreements between the health authority and the authorities at the point of entry. The distribution of roles between the health checkpoints and the medical centres is not clear. The medical centres have large amounts of surveillance information but do not share it with the Ministry of Health and Social Welfare. There are no procedures to ensure regular communication between the veterinary health sector in charge of inspecting animal products and the human health sector. Multisectoral coordination in particular needs to be strengthened.

Emergency management plans have been developed. The port's plan, developed by the health checkpoint team, has not been shared with other operators. The health checkpoint team at the airport is in the process of drawing up a special public health emergency plan, as required by the IHR (2005).

The budget allocated to the health checkpoints is very small. It amounted to 1 500 euros per year in 2016 and has been decreasing since 2014.

A simulation exercise on managing a public health emergency was held at Kalifourou in July 2015.

Recommendations for priority actions

- Update and strengthen the legal and institutional framework governing implementation of the IHR (2005) at points of entry.
- Develop SOPs that set out the roles and obligations of the health checkpoints, the involvement of other sectors in health activities at points of entry, and the coordination and communication mechanisms within the country and with other countries.
- Allocate sufficient human, material and financial resources to the health checkpoints so that they can fulfil their inspection, surveillance, response and health coordination missions at points of entry.
- Develop surveillance and response capacities at land border crossings.
- Develop, test and implement public health emergency plans at points of entry that are integrated into existing strategic plans.

Indicators and scores

PoE.1 Routine capacities are established at points of entry – Score 1

There is no capacity to provide appropriate medical services at points of entry.

Strengths/best practices

- There are health checkpoints and medical centres at the port and airport.

- There is systematic health screening of passengers landing at the airport (thermal cameras).

- Sick people are transferred to referral hospitals with the help of the emergency medical services and the national fire brigade.

- Multisectoral coordination meetings are organized by the authorities at points of entry, with weekly meetings at the port and monthly meetings at the airport.

Areas that need strengthening/challenges

- There is no formal legal framework or SOPs.

- Multisectoral coordination has not been sufficiently developed: there is not enough collaboration with the animal health sector; the checkpoint teams are not informed of activities that fall within their responsibility but that are conducted by service providers (water, waste, vector control); and focal points need to be identified.

- The health checkpoints are understaffed, and personnel are not sufficiently trained, particularly in terms of inspection.

- Inspection activities are not planned.

- The health checkpoints do not have a facility or equipment to accommodate, isolate and transport sick people safely (no boat to go from the ship to the port, no vehicle for disinfecting).

- Points of entry do not form part of the epidemiological surveillance system.

PoE.2 Effective public health response at points of entry – Score 1

There is no national public health emergency plan for dealing with public health emergencies at points of entry.

Strengths/best practices

- An emergency plan has been developed by the health checkpoint team at the port.

- There is a sea rescue and lifeguard agency (known as HASSMAR).

- There are sector-specific emergency plans but no national public health emergency plan to respond to such an emergency at points of entry, or sector-specific plans that could be integrated into national plans.

- Service providers that conduct response activities at points of entry (water treatment, disinfection, etc.) have been identified and are operational.

Areas that need strengthening/challenges

- There are no surveillance and response capacities at the only designated land crossing.

- The existing sector-specific emergency plans have not been finalized or coordinated with points of entry. They need to be incorporated into existing national strategic plans, and then tested.

- There are no standard protocols setting out the roles of those involved, with guidelines and actions to be taken.

- The workers that would have to act in a public health emergency and be available 24/7 have not been identified in every sector involved.

- There is a quarantine/isolation section at the airport but not at the port. There is nowhere to isolate sick animals.

- The contact details for the points of entry in neighbouring countries must be available at points of entry to facilitate coordination between countries.

Chemical events

Introduction

States Parties should have surveillance and response capacity for chemical risk or events. This requires effective communication and collaboration among the sectors responsible for chemical safety, industries, transportation and safe disposal.

Target

States Parties should have surveillance and response capacity for chemical risk or events. This requires effective communication and collaboration among the sectors responsible for chemical safety, industries, transportation and safe disposal.

Senegal level of capacities

Senegal has:

- a national commission for the management of chemicals (CNGPC), which has undertaken to ratify the Stockholm Convention, the Rotterdam Convention, the Basel Convention, and the Common Regulation for Pesticide Registration of the Permanent Interstate Committee for Drought Control in the Sahel;

- an air quality management centre within the environment directorate, which is limited to the city of Dakar and its surroundings;

- a poison control centre, whose mission is to detect and prevent poisoning caused by xenobiotics, particularly health products, pesticides, household products, industrial products and plants;

- a regional research centre for ecotoxicology and environmental safety (known as CERES-Locustox), whose mission is to analyse residues of pesticides, polychlorinated biphenyl and traces of metals in water, earth, the air and plants;

- Senegal also has provisions covering chemical events in its positive law; however, this legislation needs updating;

- Senegal has mapped manufacturers and suppliers of chemicals.

Recommendations for priority actions

- Develop and put in place a strategic plan for managing chemical safety that includes all regions.

- Draw up nationwide standards, guidelines and protocols for the assessment, surveillance and handling of priority chemicals.

- Strengthen the network of existing databases by collecting and distributing information centrally.

- Develop and put in place a public health management strategy in the event of a chemical event or emergency, which covers the central level and all regions by:

  ○ strengthening the capacity of sectoral laboratories to ensure systematic analysis

  ○ drawing up an inventory of referral health facilities for chemical safety

  ○ applying protocols/guidelines for treating chemical hazard victims.

- Join international chemical and toxicology networks.

Indicators and scores

CE.1 Mechanisms are established and functioning for detecting and responding to chemical events or emergencies – Score 3

A surveillance system is in place for chemical events, intoxications and poisonings, and Senegal has the necessary laboratory capacities – or access to laboratory capacities – to confirm priority chemical events.

Strengths/best practices

- A network for monitoring areas in which pesticides are used is in place.

- Standards and storage conditions are monitored.

- Phytosanitary products banned from being used in agriculture, together with chemical products for industrial and domestic use, have been withdrawn from distribution and sale upon the recommendations of the Sahel pesticides committee.

- Technical specification sheets have been published.

- Authorizations and import licences are issued to ensure the traceability of chemical products throughout their lifecycle.

- Half-yearly sessions of the CNGPC are organized.

- Training sessions on import applications are organized by the ad hoc committee of experts on pesticides and industrial chemicals.

- A national implementation plan has been drawn up for the Stockholm Convention and its review (five yearly.

Areas that need strengthening/challenges

- Increase awareness among the different sectors concerned with pesticide management.

- Expand surveillance activities for chemical events to the entire country.

- Draw up standards and protocols for handling priority chemical risks.

CE.2 Enabling environment is in place for management of chemical events – Score 2

There are national policies, plans and legislation governing surveillance, alerts and actions in the event of a chemical event.

Strengths/best practices

- The strategic approach for implementing international conventions concerning chemicals has been determined.

- The technical infrastructure for producing data and for toxicovigilance has been improved.

- In 2006, a mobile laboratory, which is still operational at the time of the mission, was purchased for air quality control.

- There is a national poison control centre.

- There is a regional research centre for ecotoxicology and environmental safety.

- The ad hoc committee of experts conducts work on chemicals; it has added Spinox and Granox to Annex III of the Stockholm Convention.

- The process of analysing compliance of commercial pesticide formulations for import has been formalized.

OTHER

Areas that need strengthening/challenges

- Strengthen implementation of national and international regulations.

- Strengthen the CNGPC's human and financial resources so that it can fulfil its crucial mission.

- Strengthen the technical capacities of those involved in managing chemical events, in terms of information oversight, monitoring and action.

- Involve private centres of expertise, particularly laboratories, in chemical controls.

- Improve access to and use of data on managing chemicals.

- Strengthen the network of existing databases by centralizing and formalizing the collection and distribution of information.

Radiation emergencies

Introduction

States Parties should have surveillance and response capacity for radionuclear hazards/events/emergencies. This requires effective communication and collaboration among the sectors responsible for radionuclear management.

Target

States Parties should have surveillance and response capacity for radionuclear hazards/events/emergencies. This requires effective communication and collaboration among the sectors responsible for radionuclear management.

Senegal level of capacities

National policies, strategies and plans are in place to detect, evaluate and respond to radiation emergencies, and there is a radiation surveillance mechanism for radiation emergencies that could constitute a public health emergency of international concern. Senegal was one of the first countries in the region to have an adequate legal framework, following the creation of the Senegalese Authority for Radiation Protection and Nuclear Safety in 2004. Decree No. 2010/893 sets out how the agency is organized and functions. Its roles include: authorization, inspection, monitoring and traceability of radioactive sources and radioactive waste management, equipment, etc. The country adopted a comprehensive nuclear safety plan in 2014 with help from the IAEA, and has a response unit for CBRN events within the national fire brigade.

However, the country does not yet: ensure land surveillance of radioactivity; control the radioactivity of incoming batches of recovered metals and various product flows; have procedures for reporting without delay to the IAEA and States Parties that may be affected by a radiation emergency with cross-border consequences; is not yet ready to react to reports from other States, in accordance with IAEA procedures nor; have plan to manage radiation and nuclear accidents.

Recommendations for priority actions

- Draw up a specific emergency plan for the multisectoral management of radiation emergencies and put in place an annual or biannual programme for conducting exercises to test the plan.
- Train those involved in how to detect and respond to radiation emergencies.
- Set up a national surveillance network for radioactivity in the air.
- Provide vehicle border crossings, ports and airports with radiation detection systems.
- Put in place directives and equip the laboratories concerned so that they can detect radiation in food.

Indicators and scores

RE.1 Mechanisms are established and functioning for detecting and responding to radiological and nuclear emergencies – Score 2

Strengths/best practices
- There are partnerships with other structures concerned (different agreements).

OTHER

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- Radiation measuring equipment is available.

- There is a laboratory with a passive dosimeter.

- In terms of good practices, the Senegalese team reported that certain training had been provided to the Authority for Radiation Protection and Nuclear Safety on nuclear forensics and radiation emergencies.

- In addition, Senegal has a comprehensive nuclear safety plan.

Areas that need strengthening/challenges

- Set up a surveillance unit for land radiation.

- Draw up guides to show physicians how to recognize radiation-related injuries.

- Control the radioactivity of incoming batches of recovered metals and different product flows.

- Rapidly share clear information with the media and the general public in the event of a radiation emergency given the considerable interest in such situations. This would also help to ensure that operations are not unduly disturbed.

- Put detectors of ionizing radiation at all borders and link them to a back office for assessment and approval.

RE.2 Enabling environment is in place for management of radiation emergencies – Score 2

The national authorities responsible for radiation or nuclear emergencies have a focal point for coordination and communication with the Ministry of Health and Social Welfare and/or the national IHR focal point.

Strengths/best practices

- The comprehensive nuclear safety plan is gradually being implemented.

- There are regulatory provisions for the radiation emergency action plan.

- There are regulatory provisions on planning incident and accident management and conducting operations.

- Simulation exercises on CBRN risks are conducted as part of the EOC's CBRN projects

Areas that need strengthening/challenges

- Set up and maintain provisions needed to manage radiation emergencies.

- Determine what provisions enable those responsible for sources of ionizing radiation to intervene in an appropriate manner based on the level of risk in the event of an emergency.

- Ensure sufficient resources, and clearly define responsibilities to ensure adequate intervention in the event of a radiation emergency.

- Ensure preparedness for emergency response operations.

- Set up and maintain provisions for reporting without delay to the IAEA and States that may be affected by any radiation emergency with cross-border consequences, and be ready to react to reports from other States, in accordance with IAEA procedures.

- Include radiation risk in initial training of first responders (policy, customs, armed forces and civil defence).

- Include management of radiation emergencies in the ORSEC emergency response plan.

Appendix 1. Background information about the JEE

Mission place and dates

Dakar, Senegal, from 28 November to 2 December 2016

Mission team members

Dr Karen Sliter (team lead)	United States Department of Agriculture
Dr Yahaya Ali Ahmed (team co-lead)	WHO Regional Office for Africa
Dr Barry Ahmadou	WHO Country Office, Guinea
Dr Soatiana C. Rajatonirina	WHO Regional Office for Africa
Dr Sheick Oumar Coulibaly	WHO Regional Office for Africa
Dr Pissang T. Dademanao	Food and Agriculture Organization of the United Nations
Ms Kalondo Ebba	WHO Regional Office for Africa
Dr Anderson Latt	WHO Country Office, Sierra Leone
Dr Chris Murrill,	US Centres for Disease Control and Prevention
Dr Pierre Nabeth	WHO headquarters
Dr Soatiana C. Rajatonirina	WHO Regional Office for Africa
Dr Mohammed Rbai	Military Health Service headquarters, Morocco
Ms Dana Schneider	US Centres for Disease Control and Prevention
Dr Julie Sinclair	World Organisation for Animal Health
Mr Roland K. Wango	WHO Regional Office for Africa
Dr Daniel Yota	WHO Intercountry Support Team

Objective

To assess Senegal's capacities and capabilities in the 19 technical areas of the joint external evaluation (JEE) tool in order to provide baseline data to support the country's efforts to reform and improve its public health security.

The JEE process

The JEE process is a peer-to-peer review. As such, it is a collaborative effort between host country experts and JEE team members. The entire external evaluation, including discussions around the scores, the strengths, the areas that need strengthening, best practices, challenges and the priority actions should be collaborative, with JEE team members and host country experts seeking full agreement on all aspects of the final report findings and recommendations.

Limitations and assumptions
- The assessment was limited to one week, which limited the amount and depth of information that could be managed.

- It is assumed that the results of this assessment will be made publically available.

- The assessment is not an audit and information provided by Senegal will not be independently verified. Information provided by Senegal will be discussed and the host country and assessment team will mutually agree on an assessment rating. This is a peer-to-peer review.

Appendix 2. Main participants and institutions in Senegal

First and last names	Institution
Dr Ibrahim Oumar BA	WHO Country Office
Mr Makhtar BA	Min. of Health
Ms Fatou NDIAYE BADIANE	Min. of Health
Dr Ousseynou BADIANE	Min. of Health
Dr Abdoulaye BOUSSO	Min. of Health
Dr Kéba CAMARA	Min. of Health
Dr Malang COLY	WHO Country Office
Mr Brahame COUNDOUL	Min. of Health
Dr Bakary DANFAKHA	Min. of the Interior
Dr Rokhaya DIAGNE	Min. of Health
Dr Malick DIAGNE	Min. of Health
Dr Moussa DIAKHATE	USAID
Cdt Elhadji Tidiane DIALLO	Min. of the Interior
Mr Ousmane DIALLO	WHO Country Office
Mr Oumar DIALLO	Office of the PM
Ms Khadidiatou DIAMANKA	Min. of Trade
Dr Boly DIOP	Min. of Health
Dr Djibril DIOUCK	Min. of the Environment
Mr Ablaye DIOUF	Min. of Health
Dr Aloyse DIOUF	Min. of Health
Ms Dioma DIENE DIOUF	Min. of trade
Mr Elhadji DIOUF	Min. of Health
Dr Gorgui Lamine DIOUF	Min. of Health
Ms Sene Waly Bintou FALL	Min of agriculture
Dr Coumba FAYE	Livestock Ministry
Mr Gorgui GUEYE	Min. of the Interior
Mr Mbaye KA	Min. of Health
Mr Ousseynou KASSE	Min. of the Environment
Ms Mame Diarra LEYE	Min. of health
Dr François LIBAMA	WHO Country Office
Mr Khalifa MBENGUE	WHO Country Office
Dr Modou Moustapha LO	Min. of Agriculture
Dr Adiaratou NDIAYE	Office of the PM
Dr El Hadji Mamadou NDIAYE	Min. of Health
Dr Mamadou NGOM	WHO Country Office
Ms Aissatou DIOUF NIANG	Min. of Health

Dr Mbayame NDIAYE NIANG	Pasteur Institute
T.S.G.S. Aliou POUYE	Contrôle Sanitaire aux Frontières Maritimes
Mr Souleymane SAMB	Office of the PM
Ms Fatou SAR	Min. of Industry
Mme Fatou BEYE SARRE	Min. of Trade
Ms Khady SECK	Min. of Health
Pr Ibrahima SECK	Min. of Health
Mr Malamine SECK	Min. of Health
Ms Fatou SOCK	FAO
Mr Moustaphe Sadibou TALL	Radio protection authority

Appendix 3. Supporting documentation provided by host country

Please note: The reference documents can be accessed using the following link:

http://www.sante.gouv.sn/page-reader-content-details.php?jpage=Njg=&jmenu=Mg==

- EPR-Lessons Learnt 2012: Lessons Learnt from the Response to Radiation Emergencies (1945-2010)

- Act No. 2004-17 of 15 June 2004 on protection against radiation

- Integrated nuclear security support plan, Senegal

- Decree No. 2010-893 of 30 June 2010 on the organization and role of the radioprotection and nuclear safety authority

- IAEA Safety Standards Series: Preparedness and Response for a Nuclear or Radiological Emergency. Requirements No. GS-R-2

- Internal IHR evaluation report, Senegal, November 2016

- PowerPoint presentations on 1) the country's health system, the public health services and the health security system, and 2) the 19 technical areas

National legislation, policy and financing

- Hygiene code

- Environment code

- Sanitation code

- Sea fishing code

- Decree No. 60-121 of 10 March 1960 establishing phytosanitary controls in Senegal

- Decree No. 2016-933 of 5 July 2016 on the health of seafarers

- IHR workshop report, November 2011

IHR (2005) coordination, communication and advocacy

- 2015 report on the implementation of the IHR (2005)

- Report on the risk mapping workshop held in June 2016

- Draft ministerial order appointing the national IHR focal point

Antimicrobial resistance

- Roadmap for the national programme for nosocomial infections control (PRONALIN)

- National medical waste management plan

- Memorandum establishing the steering committee for the infection control and prevention strategy

- Guidelines on priority operations (aide-mémoires and guides)

- Memorandum establishing the committees against nosocomial infection and for hygienic and safe working conditions

Zoonotic diseases

- Decree No. 2002-1994 of 4 November 2002 cancelling and superseding decree No. 62-0258 of 5 July 1962 on the animal health authority

- OIE analysis of varying performance of veterinary services in Senegal, March 2010

- Ministerial Order No. 021144 of 16 November 2015 organizing the veterinary services directorate

- Decree No. 95-645 of 6 July 1995 establishing health authorizations in Senegal

- Decree No. 2002-628 of 25 June 2002 governing implementation of Act No. 79-33 of 24 January 1979 on the special status of national park staff

- Order No. 005917 of 25 October 2005 on the creation of the national system of epidemiological surveillance of animal diseases in Senegal

Food safety

- Report on the inter-ministerial Codex Alimentarius council meeting on Monday, 3 May 2013

- Memorandum from the Ministry of Health and Social Welfare setting up the working group in charge of developing the national response plan for food safety emergencies

- Memorandum No. 05997 appointing the INFOSAN focal points

- Act No. 66-48 of 27 May 1966 on food controls

- Report on the national workshop to strengthen the surveillance and rapid alert system for food safety

Biosafety and biosecurity

- General report on the transport of specimens

- DTRA-1 report on biosafety and biosecurity in the ISRA-LNERV laboratory

- DTRA-2 report on biosafety and biosecurity in the ISRA-LNERV laboratory

Immunization

- EPI guide for Senegal 2016

National laboratory system

- Guide to the integrated disease and response surveillance strategy, Senegal, 2008

- Report on the visit to assess the specimen transport system and the ASLM referral networks

- Weekly epidemiology bulletin

- Order on the creation and organization of the national surveillance system

Real-time surveillance

- Guide to the integrated disease and response surveillance strategy

- Weekly bulletin of the 4S network

- An edition of the weekly epidemiology bulletin

- Guide to the DHIS 2 software

- Screenshot of surveillance pages on DHIS 2

Reporting

- Note appointing the Director of Prevention in the Ministry of Health and Social Welfare as national IHR focal point
- Report on the investigation into the Crimean–Congo haemorrhagic fever outbreak detected in November 2015

Workforce development

- The Ministry of Health and Social Welfare's national HR development plan
- The Ministry of Health and Social Welfare's national HR development plan 2
- Logical framework

Preparedness

- Decree No. 99-172 of 4 March 1999 adopting the national ORSEC response plan
- Public health OEC contingency plan
- Livestock contingency plan drawn up in July 2016
- The national preparedness and intervention plan in the event of an influenza pandemic, December 2013
- The emergency plan for military support for the civilian authorities in the event of a disaster, December 2013
- Order No. 4386/M.INT/DPC of 4 June 1999 setting out the terms for triggering, implementing and ending the national ORSEC response plan
- Order No. 4386/M.INT/DPC of 4 June 1999 setting out the terms for triggering, implementing and ending the national ORSEC response plan
- Order No. 04387/M.INT/DPC of 22 June 1999 cancelling and superseding Order No. 10507 of 16 December 1993 creating the resource management committee for the national ORSEC response plan
- Order No. 04388/M.INT/DPC of 22 June 1999 cancelling and superseding Order No. 10502 of 16 December 1993 creating the information and public relations units for the national ORSEC response plan
- Order No. 04389/M.INT/DPC of 22 June 1999 cancelling and superseding Order No. 10503 of 16 December 1993 creating the liaison-transmission unit for the national ORSEC response plan
- Order No. 04390/M.INT/DPC of 22 June 1999 cancelling and superseding Order No. 10506 of 16 December 1993 creating the response and rescue group for the national ORSEC response plan
- Order No. 04391/M.INT/DPC of 22 June 1999 cancelling and superseding Order No. 10508 of 16 December 1993 creating the health and mutual assistance group for the national ORSEC response plan
- Order No. 04392/M.INT/DPC of 22 June 1999 cancelling and superseding Order No. 10504 of 16 December 1993 creating the police–traffic–information group for the national ORSEC response plan
- Order No. 04393/M.INT/DPC of 22 June 1999 cancelling and superseding Order No. 10505 of 16 December 1993 creating the transport and works group for the national ORSEC response plan

Joint External Evaluation

Emergency response operations

- Public health EOC 2016–2018 strategic plan
- Ministerial order creating the public health EOC
- Ministerial order appointing the EOC coordinator
- EVD SOPs
- Report on the Kolda-Tambacounda simulation

Linking public health and security authorities

- Note No. 00457/DPAF/SP of 7 April 2015 on the management of the Daaka of Médina Gounass
- Note No. 00718/DPAF/DLS of 4 June 2015 on the persistence of EVD and the appearance of new cases in Guinea
- Note No. 00147/DPAF/DLS of 1 February 2016 on the reoccurrence of EVD in the subregion
- Regulation No. C/REG.21/11/10 on harmonizing the structural framework and operational rules for the health security of plants, animals and food in ECOWAS

Medical countermeasures and personnel deployment

- Decree No. 99-172 of 4 March 1999 adopting the national ORSEC response plan
- Feedback on the implementation of the 2012 national ORSEC response plan
- The "NOVI SAMU" plan
- Public health OEC contingency plan
- Report on the operational and coordination simulation exercise of 10 and 11 June 2015 for EVD, public health EOC, Senegal

Risk communication

- http://www.sante.gouv.sn/page-reader-content-details.php?jpage=Njg=&jmenu=Mg==
- Meeting report on the national committee for social mobilization
- EVD communication microplan template
- EVD communication scenarios, Senegal
- Training and research in tropical diseases – risk communication plan

Points of entry

- Report on the evaluation of points of entry, 2014
- Meeting report on the national committee for social mobilization

Chemical events

- Ministerial Order No. 852 of 8 February 2002 on the creation of the national commission for the management of chemicals
- Decree No. 2006-1257 of 15 November 2006 setting the minimum protection requirements against chemical risks
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (adopted on 22 March 1989)

- Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (entered into force on 24 February 2004)

- Stockholm Convention on Persistent Organic Pollutants, which prohibits the production of certain pesticides and industrial chemical pollutants (entered into force of 17 May 2004)

Radiation emergencies

- EPR-Lessons Learnt 2012: Lessons Learnt from the Response to Radiation Emergencies (1945-2010)

- Act No. 2004-17 of 15 June 2004 on protection against radiation

- Integrated nuclear security support plan, Senegal

- Decree No. 2010-893 of 30 June 2010 on the organization and role of the Radioprotection and Nuclear Safety Authority

- IAEA Safety Standards Series: Preparedness and Response for a Nuclear or Radiological Emergency. Requirements No. GS-R-2