Annual Joint Meeting of NHIS and IDSR Managers with Technical and Financial Partners in the ECOWAS Region

May 18–21, 2015
Mensvic Grand Hotel
Accra, Ghana

General Report

Annual Joint Meeting of

National Health Information System (NHIS)

and Integrated Disease Surveillance and Response (IDSR) Managers

with Technical and Financial Partners in the ECOWAS Region

May 18–21, 2015

Mensvic Grand Hotel, Accra, Ghana

GENERAL REPORT

West African Health Organization / Organisation Ouest Africaine de la Santé / Organização Oeste Africana da Saúde

Bobo-Dioulasso, Burkina Faso

CONTENTS

ABBREVIATIONS

CDC: Centers for Disease Control and Prevention

DHIS 2: District Health Information System 2

ECOWAS: Economic Community of West African States

eHealth: electronic health

ENDOS-BF: Burkina Faso Health Data Warehouse

EPD: epidemic-prone diseases

EVD: Ebola virus disease

HDGC: Health Data Governance Council

HIE: health information exchange

HIS: health information system

HISP: Health Information Systems Programme

ICT: information and communication technology

IDSR: integrated disease surveillance and response

InTEDD: Innovative Support to Emergencies Diseases and Disasters

LGA: local government area

mHealth: mobile health

MOTEC: mobile technology

NHIS: national health information systems

ONA WHO DCP: World Health Organization/Data Coordination Platform

OpenHIE: Open Health Information Exchange

RCDCP: Regional Center for Disease Control and Prevention

TFP: technical and financial partners

UNICEF: United Nations Children's Fund

USAID: US Agency for International Development

WAEMU: West African Economic and Monetary Union

WAHO: West African Health Organization

WHO: World Health Organization

Strengthening the Operational Capacity of Health Information Systems in West Africa in the Post-Ebola Period

The 2015 Joint Meeting of National Health Information Systems (NHIS) and of Integrated Disease Surveillance and Response (IDSR) Managers from the ECOWAS (Economic Community of West African States) region was held May 18–21, 2015 in Accra, Ghana. Convened in the wake of the Ebola crisis, still ongoing in some member states, participants came together to discuss the theme of "Strengthening the Operational Capacity of Health Information Systems in West Africa in the Post-Ebola Period."

The conference, hosted by the Ghana Ministry of Health, was co-organized by the West African Health Organization (WAHO) and the U.S. Agency for International Development (USAID), with support from MEASURE Evaluation, the West African Economic and Monetary Union (UEMOA), and the World Health Organization (WHO). More than 150 participants from the 15 member countries that make up ECOWAS—along with regional and international partners, nongovernmental organizations, academic institutions, and the private sector—discussed lessons learned related to the performance of health information systems, technical and policy considerations, and needs and priorities for action. By sharing information, experiences, and perspectives, the meeting provided an important framework to develop solutions to the long-term issue of achieving health information systems "interoperability" in West Africa—that is, the ability of governments, health care providers, and communities to access and exchange information about health.

Meeting objectives were to:

- Analyze the organization and performance of national health information systems and disease surveillance and response systems to identify strengths, weaknesses, and lessons learned in the Ebola crisis
- Identify mechanisms and concrete actions to support the integration of health management information systems in member countries

- Develop action plans to strengthen the institutional and operational capacity of national health information systems in member countries and to track implementation of proposed interventions

Situational analysis

Sessions began with presentations on health indicators and NHIS in the region. Speakers from ECOWAS member countries provided updates on the prevalence of meningitis, measles, yellow fever, cholera, and Ebola virus disease (EVD, herein called "Ebola"). Representatives from Guinea, Liberia, and Mali shared their experiences managing the Ebola crisis, and participants from Ghana, Côte d'Ivoire, and Cape Verde discussed preparedness steps in their countries. Presentations were also made by groups that deployed specialized software platforms, including mobile systems, to support health information sharing during the crisis.

Presenters noted that the current diversity and fragmentation of health information systems across the region impedes the process of rapidly detecting and effectively responding to epidemics beyond the national level. Of particular concern, they reported, are the lack of mechanisms to share information within health systems and across borders—especially for contact tracing—and weaknesses in human resource capacity at multiple levels of the health system.

Integrated health information systems architecture

A key focus in the conference was the importance of identifying practical steps towards establishment and use of a common health information system architecture, one that would integrate disease and risk surveillance data and other health data, including routine health information. A properly functioning health information system gets vital information into the right hands when needed, enabling policymakers, health managers, and individual health care providers to make informed choices about everything from patient care to national budgets. Strong health information systems are also crucial infrastructures that support governments' ability to respond to health emergencies.

While some countries were able to report progress in implementing recommendations outlined in the 2012 "Health Information Policy and Strategies in the ECOWAS Region" document, challenges remain. Many countries, including in the ECOWAS region, use DHIS 2, a health

management information system for data management and analysis. But in many settings in the region, infectious disease surveillance and response systems function in parallel to "trunk" systems such as DHIS 2, and are not interoperable or designed in a way for the two to exchange information.

For the health sector to benefit from real-time data, participants agreed, diverse technologies and systems need to be "interoperable," an effort that will require long-term commitment and investment. Countries should develop an architecture for federated, linked data systems. The development of more integrated, interconnected routine health information and disease surveillance systems will require both technical and policy coordination. Elements in data harmonization efforts will need to include the development of standards (e.g., protocols for data transmission), and the mapping of existing systems and information flows among them. Various presenters recommended that all of these information systems should make validated knowledge available through publicly available sources (an approach to ensure accountability) and explicitly aim to help the health sector make information-based, actionable decisions in a timely manner.

Conclusion

The ECOWAS region is at a decision point where crisis also spells opportunity. Donor organizations are poised to invest heavily in helping ECOWAS countries rebuild their health information systems. Discussions among ECOWAS countries and technical and financial partners at the 2015 annual WAHO conference have confirmed their collective interest in defining needs, coordinating, and helping chart a vision for the way forward.

As countries move from responding to the Ebola epidemic to longer-term planning, they will need to design health information systems that are sustainable and are driven by country needs. To achieve this, capacity building of personnel at all levels is crucial—including capacity building in data analysis and use at the lowest level of the health system, so that facilities and communities will be able to recognize problems and take appropriate action.

Building strong connections between citizens, health workers, governments, and the international community is key to ensuring effective health service provision as well as responsive relief efforts during crises. Coordinating and harmonizing approaches to strengthen

health information systems is an essential part of the internationally shared commitment to prevent the social and economic devastation and human suffering that infectious diseases are capable of inflicting. Strengthening the operational capacity of health information systems in the West African region will also advance broader efforts for better health care and better health for all.

Recommendations

Through discussion in thematic working groups, participants developed nine specific recommendations and identified proposed responsibilities for follow-through. These include the following:

For ECOWAS member states

1. Establish, adapt, or reenergize national, multi-stakeholder coordinating bodies for the coordination and management of health information, taking into account technological and communications innovations and emerging needs
2. Strengthen the competencies of health personnel at all levels to implement and manage health information systems and put in place mechanisms to retain health personnel in the health system longer
3. Engage the private sector and encourage telecommunications entities to support the development of applications that support health information systems

For WAHO

4. Reinforce mechanisms for data sharing (including strategies and policies, meeting structures, focal persons, etc.) in the ECOWAS region for the management of health crises
5. Advocate for ministries of health to establish and implement clear, national strategies to manage the integration of health information systems
6. Map available training services for health information systems and develop a plan to engage all health information system stakeholders in basic training and continuing education

For technical and financial partners

7. Support efforts to strengthen capacity in management of health information systems in the ECOWAS region
8. Contribute to the creation of a regional HIS center of excellence
9. Support countries to establish procedures for HIS interoperability including national health worker registries and health facility registries

INTRODUCTION

The 2015 Joint Meeting of National Health Information Systems (NHIS) and Integrated Disease Surveillance and Response (IDSR) managers from the ECOWAS (Economic Community of West African States) region was held May 18–21, 2015 in Accra, Ghana. Convened in the wake of the Ebola crisis, still ongoing in some member states, participants came together to discuss the theme of "Strengthening the Operational Capacity of Health Information Systems in West Africa in the Post-Ebola Period." The West African Health Organization (WAHO) began this series of annual meetings in 2010 as a platform to share experiences and strengthen each member country's NHIS and IDSR.

The meeting's overall objective was to accelerate the institutional and operational capacity building of ECOWAS's national health information systems in the wake of the Ebola epidemic. The meeting's specific objectives were to:

- Critically analyze the structure and functioning of national health information systems and integrated disease surveillance and response in order to draw lessons from the Ebola crisis (strengths, weaknesses, and the way forward)
- Propose mechanisms and concrete actions to efficiently integrate health data management in member states
- Draw up action plans for building the institutional and operational capacities of national health information systems in ECOWAS
- Establish a mechanism for monitoring the implementation of proposed actions
- Further reflect on the establishment of an HIS center of excellence in the ECOWAS region
- Monitor the drafting of health profiles for ECOWAS countries

The meeting was jointly organized by WAHO and the US Agency for International Development (USAID) with the support of MEASURE Evaluation, the West African Economic and Monetary Union (WAEMU) Commission, and the World Health Organization. Attendees included 106 representatives from the 15 ECOWAS member states as well as subregional and international partners, nongovernmental organizations, academic institutions, and the private sector. Participants are listed in Appendix 1. The meeting, which included plenary sessions and working groups, was organized into four sessions (for a detailed agenda, see Appendix 5):

- Session 1: Opening Addresses
- Session 2: Health Information Systems and Ebola Response: Lessons Learned and the Way Forward
- Session 3: Mechanisms and Concrete Actions to Be Undertaken in the Near and Medium Term to Accelerate Integration of Key Health Information Systems in ECOWAS Member States
- Session 4: Country Priorities and Needs for 2015–2016

This report summarizes the major issues discussed at the meeting and presents the main recommendations that emerged.

I.   OPENING ADDRESSES

The opening session of the 2015 annual meeting was chaired by a representative of Ghana's Ministry of Health, assisted by the director general of WAHO, the interim director of USAID West Africa, and a representative of the WAEMU Commission. The first three gave addresses welcoming delegates.

In his speech greeting the participants, the WAHO director general underscored the need for high-performance health information systems to enable countries to intervene more effectively and allocate limited resources more efficiently in response to public health emergencies. The Ebola epidemic has exposed the weaknesses of health systems in general and health information systems in particular, a "wake-up call" to the need to strengthen mechanisms for the production, management, and timely sharing of reliable and up-to-date information on epidemic-prone diseases (EPDs) within and among countries of the subregion.

The WAHO director general expressed his gratitude to the Ghanaian authorities and to all delegates present. He also thanked partners, including USAID, who are investing in the improvement of ECOWAS health information systems.

The interim director of USAID West Africa congratulated Liberia for its victory over Ebola and urged the country not to relent in fighting the disease. He noted that the current diversity and fragmentation of health information systems hampers rapid detection of and effective response to epidemics beyond the national level, as seen during the Ebola epidemic. "A gap the detection of disease in a country is a threat not only to the country but also to all its neighbors," he said, reaffirming USAID's commitment to support initiatives aimed at improving the operational

capacities of regional and national information systems in order to prevent, detect, and rapidly react to emerging infectious diseases. These efforts are part of a larger regional movement to strengthen health systems in the wake of the Ebola crisis.

In his opening address, the deputy director of the Ghana Health Service's National Health Information System, who represented the Ministry of Health, emphasized the need to strengthen the governance of national health information systems, the integration of data management, the exchange of quality information within and between countries, and the promotion of information use and accountable health programs. After inviting participants to share their experiences, he declared the sixth annual joint meeting of ECOWAS NHIS and IDSR managers and technical and financial partners officially open.

After the opening ceremony, WAHO presented the recommendations of the previous meeting of NHIS and IDSR managers, held in Accra in 2014, and the terms of reference of the current meeting.

II.   HEALTH INFORMATION SYSTEMS AND THE EBOLA RESPONSE: LESSONS LEARNED AND THE WAY FORWARD

The objective of this session was to take stock of measures to control the Ebola epidemic and share experiences and lessons learned about health information management during the Ebola crisis. The proceedings at this plenary session consisted of papers presented by countries and partners, followed by discussion.

2.1. The epidemiological state of epidemic-prone diseases in ECOWAS countries: lessons learned and the way forward

The presentation by WAHO described the region's frequent epidemics of meningitis, measles, cholera, and, more recently, Ebola. The following events were recorded since the beginning of 2015:

- Twelve ECOWAS countries reported 6,728 cases (suspected or confirmed) of meningitis, with a mortality rate of 7.9% and 12 endemic districts in three countries: Ghana, Niger, and Nigeria

- – Measles was reported in 12 countries, with 14,032 cases suspected or confirmed and a mortality rate of 0.7%
- – Cholera is virtually endemic in some countries, with 1,519 cases reported in Côte d'Ivoire, Niger, and Nigeria
- – Suspected cases of yellow fever were reported in Burkina Faso, Côte d'Ivoire, and Senegal
- – The Ebola epidemic persisted in Guinea, Liberia, and Sierra Leone, with 6,805 cases and a

mortality rate of 47.3%. However, at the time of the meeting, no new case had been confirmed in Liberia for seven weeks.

The countries undertook several measures, including the reinforcement of epidemiological surveillance, with the support of WAHO and other technical and financial partners to control epidemic diseases, especially Ebola. However, the scale and severity of the epidemic have shown that ECOWAS was unprepared for epidemiological surveillance and adequate response at either the national or regional levels. The major task going forward is to establish the Regional Center for Disease Control and Prevention (RCDCP), which will be a specialized ECOWAS agency under the authority of WAHO.

The recent Ebola epidemic has exposed weaknesses in the health and surveillance systems of ECOWAS member states, including their information management systems. A positive aspect of this crisis is that Ebola has greatly increased awareness of the importance of health information, uniting the 15 countries and technical and financial partners in their efforts to examine shared needs in terms of interoperability, integrated data management, and the proper operations of the health information systems. There is now greater understanding of the importance of each country's NHIS in the overall strengthening of health systems. Countries transitioning from epidemic response to long-term planning must design health information systems that are sustainable in the long term and tailored to their needs.

To attain this objective, capacity building of personnel at all levels is essential, including for data analysis and use at the lowest levels so that institutions and communities can recognize problems and take action. Donors are ready to invest massively to help ECOWAS countries rebuild their health information systems. Thus, this conference, which was based on the 2012

WAHO regional health information policy and strategy document, played an important role in identifying needs and formulating a vision for the future.

2.2. Experiences of countries affected by Ebola

Guinea, Liberia, and Mali shared their experiences concerning the management of the Ebola epidemic. Key lessons learned related to health information management during epidemics such as Ebola were that:

- Close surveillance of contacts allows for rapid identification of cases
- Health information systems must be effective to allow for real-time access to information, thus ensuring timely response
- Epidemiological surveillance information systems must be quickly expandable to match the scale of the epidemic
- Data entry and analysis must be done locally to improve the quality and use of information
- Integrating the management of all health data and defining the links between the various sources of information must be done
- Defining policies and standards for the collection of data by partners is essential
- Human resources with the necessary skills to manage information systems must be available
- Logistic support (transport, communication, supplies, etc.) is necessary
- Synergy and effective partnership are indispensable for a rapid response to the Ebola epidemic
- The broadcast of daily news bulleting (in Mali) helped maintain a constant flow of information to partners and sustain their level of commitment
- A consensus preparedness and response plan is indispensable for mobilizing resources

2.3 Experiences in preparedness and management of alerts in countries unaffected by EVD

Ghana, Côte d'Ivoire, and Cape Verde presented talks on their preparedness in the face of Ebola. Those countries took a number of measures to manage health information, including the following:

- The deployment of a plan to strengthen epidemic surveillance and response
- Establishment of coordination committees at various levels
- Reinforcement of epidemiological surveillance
- Surveillance at borders
- Systematic investigation of all suspected cases and rumors
- Organization of meetings to share experience among countries
- Training programs for personnel involved in surveillance and treatment of cases
- Simulation exercises

There was, however, a weak link between the NHIS and IDSR, and information systems capable of transmitting information in real time for decision making were absent. The presenters made the following observations about their country's experiences:

- All countries do not transmit epidemiological surveillance data to WAHO, which is why the WAHO Assembly of Ministers recommended the creation of a regional platform in order to facilitate the exchange of epidemiological data within ECOWAS.
- Zoonosis surveillance specialists need to be incorporated into epidemic control.
- Mechanisms for sharing information between countries on case and contact mobility are weak and must be strengthened.
- The porous nature of borders does not allow for contact tracing.

2.4. Lessons learned on the use of health information systems and platforms used in the response to Ebola

USAID presented a paper on the lessons learned in management of health information in the response to Ebola. The presentation was followed by group work on the challenges of collecting and using information and suggested solutions. The main lessons shared in the USAID presentation were that:

- Countries in the region face a technological challenge in terms of connectivity (mobile and internet network coverage) of health systems.
- Health information systems do not communicate among themselves and are either not interoperable or do not allow for the exchange of various types of information.
- Data are collected in formats that do not allow for comparison.
- Data must be analyzed locally.
- Although there are procedures and policies for collecting and aggregating data they are not shared with the collectors.
- There is inadequate sharing of data between organizations involved in the Ebola response and between countries.
- The effectiveness of Ebola response technology depends on available human capacities.
- Technical expertise and/or the logistic systems are often inadequate.
- It is crucial to provide information to communities and to receive their feedback.
- Tools needed to confront the epidemic were not available, given its unprecedented scale and impact.
- There is a need for flexible processes and mechanisms which strengthen the capacity to manage and analyze information in case of health emergency, and which are also adaptable to the coordinating needs of the various actors.

Group discussions centered on the following themes: collection of data on cases, management of cases in the community, communication among health personnel, motivation, burials, contact tracing, social mobilization, quarantines, and laboratory results. The main lessons learned from these discussions centered on:

- Insufficient human and technical capacities at the various levels of health information systems
- The importance of information flow

- The organization of data
- The definition of responsibilities for the collection of data and response
- The importance of psychosocial and cultural factors
- Capacity building for health professionals

Following the group discussions, various data management platforms used in the Ebola response were presented by Dimagi, Mercy Corps, ONA, InSTEDD, UNICEF, Grameen Foundation, IntraHealth, HISP, and eHealth Systems Africa. All presentations on these platforms are available at the links in the box summarizing select HIS platforms deployed for the Ebola response, below.

Summary of Select HIS Platforms Deployed for the Ebola Response: Highlighted during the Ignite Presentations at the ECOWAS HIS Meeting in Accra (May 18-21, 2014)

MOTECH Suite/CommCare (Dimagi): a comprehensive mHealth Solution for to improve health worker service delivery.

E-CAP (Mercy Corps): a mobile M&E using OpenDataKit and the MELS dashboard providing geo-spatial presentation with summary views of social mobilization activities and survey responses.

OpenDataKit (ONA): used by various partners in the Ebola Response, including Helen Keller International (HKI) and WHO for the Data Coordination Platform.

RapidPro (UNICEF): allows for visually building interactive SMS applications supporting faster and more effective two-way information.

EBODAC Mobile System (Grameen Foundation): a mobile system that directly contacts subjects to deliver engagement messages and reminders to ensure acceptance and compliance to clinical trials and broader vaccination efforts

mHero (IntraHealth): a two-way mobile communication platform to support dialogue between MOHs and health workers in areas of training, flash surveys to gather information in real time using simple SMS and IVR

DHIS2 Tracker (HISP/University of Oslo): a tool used for tracking Ebola cases, contacts and relationships

eHealth Systems Africa: implemented a number of projects and mobile systems including Sense Follow-up (an offline-first mobile app for contact tracing), Sense ID (an offline-first mobile app for person registration), Call centre (running emergency call centres), and Trace and Go (an SMS-based patient tracking).

InSTEDD's work on open source mobile-enabled **connected diagnostics tools**

III. MECHANISMS AND CONCRETE ACTIONS TO BE UNDERTAKEN IN THE SHORT AND MEDIUM TERM TO ACCELERATE INTEGRATION OF KEY HEALTH INFORMATION SYSTEMS IN ECOWAS MEMBER STATES

The session focused on three major stages in HIS integration, with discussions centering on the vision of integrated health information system architecture; policy and the regional strategies for strengthen health information systems in ECOWAS; and the process of setting up a regional platform, as well as group work on themes linked to health information management during epidemics.

3.1. Vision of an HIS architecture

Two papers were presented. Liberia reported on the current state of its health information system, which is characterized by the fragmentation of sub-systems and the use of various non-interoperable technological solutions. The country's vision for the future is to build a health information system within which all sub-systems communicate and exchange data in real-time, and are accessible through a common platform.

Liberia: Current HIS Framework
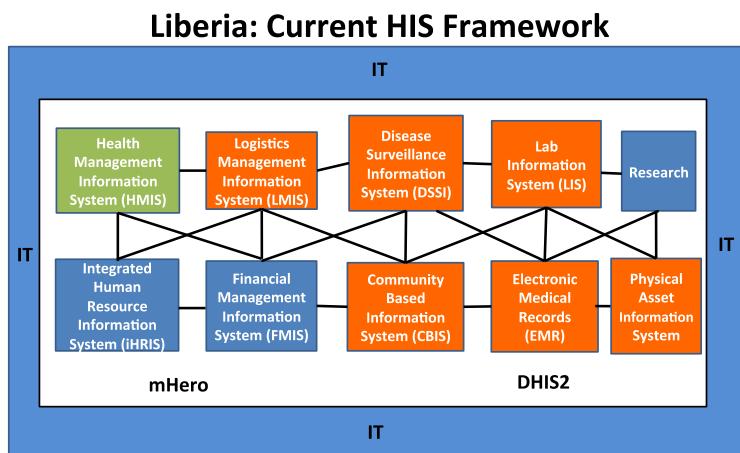
The second presentation, titled "Building for the Future," was presented by World Health Organization. According to the presentation, health information systems must contribute to the achievement of a number of objectives, including universal access to quality healthcare. In the wake of the Ebola crisis, efforts must be made to increase the capacity of health systems through, but not limited to, integrated health information systems which provide quality data. This will require the use of various interoperable applications, such as unique identification of patients, medical databases, client management tools, data aggregation systems, and various

applications for health professionals. Building such an integrated system is a long-term process which requires vision and progressive investment.

Discussions on these presentations centered on the capacity of countries to achieve the visions presented and the costs involved, given the meager resources of national health information systems. It was the view of participants that in spite of costs involved, countries cannot do without health information systems and effective response in the face of the threats posed by diseases such as Ebola. Consequently, they made the following recommendations:

– Countries and partners will have to mobilize the needed resources to strengthen the NHIS and IDSR.
– Countries were urged to accelerate the training of health personnel to define career plans and to develop incentives in order to retain health information system staff.
– ECOWAS and the African Union should also endeavor to open up countries by providing effective communication infrastructure.
– Partners should continue not only to support the countries but also to transfer skills and achievements in order to make investment sustainable.
– Donors should coordinate their interventions in order to support countries to set up robust nationwide systems aligned with country priorities and should not develop small competing projects without any real impact in terms of strengthening health information systems.

3.2. ECOWAS regional health information system policy and strategy and regional platform for information sharing on EPDs in ECOWAS

The goal of these presentations was to present and discuss the regional policy on health information system as well as the information sharing platform on epidemic-prone diseases (EPD) adopted by the 15 ECOWAS member states.

The presentation by WAHO and the University of Oslo reiterated WAHO's mission with regard to health information systems. The establishment of a regional platform for epidemiological surveillance information sharing among countries is a recommendation of the ECOWAS health ministers and aims at enhancing the real-time availability and sharing of information on EPD in order to achieve a coordinated and harmonized response in the subregion.
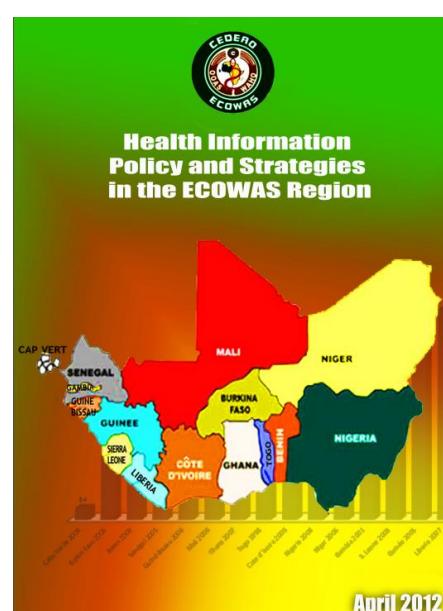
An update on the use of the regional information sharing platform set up by WAHO in June 2014 shared the following:

- Two countries, Benin and Burkina Faso, achieved 100% data entry.
- Eight (8) countries (Cape Verde, Côte d'Ivoire, Guinea Bissau, Mali, Niger, Senegal, Guinea and Togo) are at an acceptable level.
- Three countries (The Gambia, Liberia, and Nigeria) are below level.
- Two (Ghana and Sierra Leone) do not yet use the platform.

The problem of countries that have not yet entered data is more organizational than technical.

Given that the said countries already use DHIS, it is urgent that WAHO and its partners adopt an approach that ensures proper integration of surveillance data management and avoid double entry of data in these countries. The region could draw from the example of East African countries that have been able to integrate data management for the two services, NHIS and IDSR.

The comprehensiveness and the quality of data in the platform are major challenges that need to be tackled.

3.3. Specific thematic discussions

Four specific themes were selected for detailed discussion in working groups. These themes had earlier been discussed in a presentation at the plenary session before participants formed groups. The following themes were discussed:

– Theme 1: Leadership and governance structure required to strengthen health information systems
– Theme 2: Example of interoperable use and reference architecture for information exchange
– Theme 3: Integration of surveillance data management for epidemic-prone diseases and for standard health information systems
– Theme 4: Harmonization and sharing of data

Leadership and governance structure required to strengthen health information systems

Two countries (Senegal and Nigeria) presented their examples of health information system leadership and governance. These examples showed the importance of a formal coordination framework for information systems in order to regulate the ongoing reinforcement process by these countries.

The strengthening of leadership and governance in Senegal is based on a participatory approach strategy whereby the opinions of all stakeholders regarding the strengthening of NHIS were sought from the onset. The slogan chosen, "No GAR without a strong HIS, no effective HIS without leadership, no strong health system without an effective HIS" contributed to the success chalked up by Senegal. Having identified leadership and governance of health information systems as a major weakness, Nigeria proceeded to set up strong coordination structures including the High Data Governing Council (HDGC) and LGA (Local Government Area).

The working group on this theme highlighted challenges related to coordination:

- The complexity of coordination mechanisms slows down decision making
- The roles and duties of coordinating members are often poorly defined
- The fact that ICT is considered as a solution to all information systems problems—to the detriment of other aspects such as the definition of processes and methods
- The need to integrate data management, to harmonize data collection, and to ensure that the coordinating structure is action-oriented.

Group members made the following recommendations:

- Create mechanisms at the global, regional, national, and local levels to coordinate efforts to reinforce health information systems
- Improve the institutional anchoring of structures in charge of health information systems
- Align national health information system strategies with national health priorities
- Map out existing health information systems and spell out criteria for evaluating the proposed new information systems
- Create subgroups within the coordination groups, taking into accounts priority themes (technology, indicators, funding, etc.)

– Ensure the inclusion of all stakeholders in the coordination group

Example of interoperable use and reference architecture for information exchange

An example of the interoperable use of information exchange was presented by the OpenHIE community. Interoperability is a mechanism that allows various health data management software to communicate, thereby facilitating information sharing and cooperation among health professionals. It requires a framework that stipulates rules of communication.
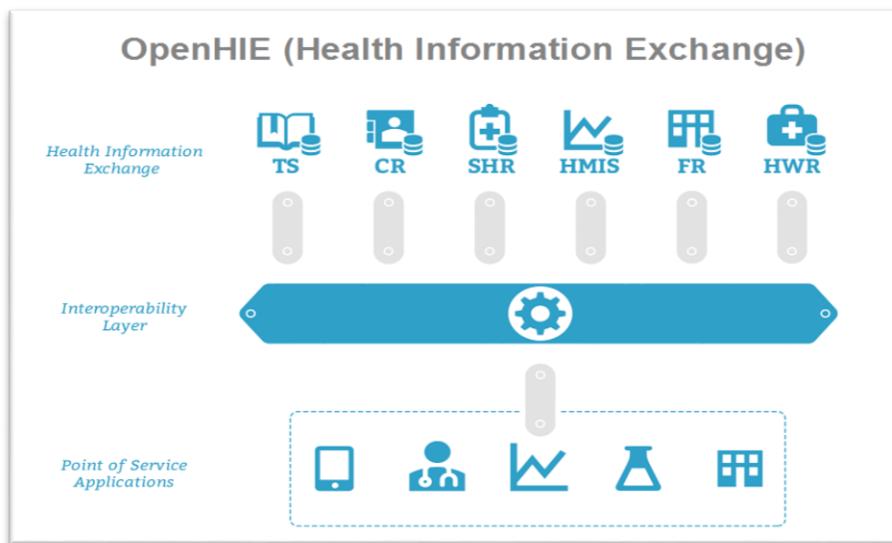
In his exposé, the presenter gave examples of information sharing and architectural development models capable of facilitating the re-use of data. He also presented other models used in Tanzania (BID), South Africa (momConnect), Liberia (mHero), Bangladesh (BHIE), and the Philippines (Philippines Health Information Exchange, or PHIE). He ended by presenting the standards of "IHE" interoperability promoted by an OpenHIE community whose mission is to improve the health status of less-resourced communities through information sharing.

After the presentation, participants affirmed that interoperability technology requires the availability of software developers at the local level, which is not always feasible. The deliberations of this working group helped clarify the notions of "standardization," "interoperability," and "integration"—which are interconnected. However, the first step in interoperability is standardization. The concept of interoperability can be classified into three categories: technical, semantic, and organizational. The group made the following recommendations (with the actors indicated in parentheses):

– Draw up e-Health action plans in the member states (countries)

– Define regional interoperability standards and the process of adoption (WAHO)

– Provide technical and financial support to countries (technical and financial partners)

– Provide peer mentoring for heads of NHIS in order to reflect on long-term strategic plans, data sharing, governance, and practices and to provide short-term technical assistance for specific advice (e.g., on systems integration) (technical and financial partners) to ensure the sharing of best practices (WAHO)

– Evaluate all 15 ECOWAS countries to understand their needs in terms of leadership, deployment, and integration of health information systems.

Integration of EPD surveillance data management into standard HIS

The goal of this thematic focus was to determine the optimal approaches for integrating the management of all health data in general, particularly integrating data from IDSR into the routine HIS. Two papers were presented by CDC and a delegation from the Ministry of Health of Burkina Faso.

The paper presented by CDC emphasized the principles articulated in the global health security agenda, namely:

1) Prevent avoidable catastrophes

2) Detect threats early

3) Respond rapidly and effectively to emergency situations

These principles are universal and show that it is the responsibility of the state to define approaches for strengthening surveillance systems, taking into account priorities such as the validation of national strategies, human capacity building, cross-border surveillance, laboratory information systems, and the capacity of systems to exchange data. For countries to build interconnected systems and to set standards, they will need to map sources and the flow of existing data. All these sources of information should help provide validated knowledge through sources that are accessible to the public and help the health sector make achievable and timely decisions based on the information.

The paper presented by Burkina Faso showed that it is possible to integrate the two systems. Indeed, Burkina Faso uses DHIS 2 for NHIS data and (ENDOS-BF) and the WAHO database for IDSR data. With the experience gained from the pilot transmission of surveillance data by mobile phone it should be possible to use this technology for routine data.

Factors that contributed to success in Burkina Faso included the continuous support of partners, the commitment of stakeholders, and collaboration among diverse entities working at various levels of the system. However, challenges remain in the integration process, especially the cases of parallel collection of data, the insufficient number of qualified personnel and their mobility, and technological difficulties—especially internet connectivity.

The problem of data integration is not only a policy decision, but also requires a pragmatic approach and close collaboration among NHIS and IDSR stakeholders. Concerns were raised related to the understanding of the notion of integration. The discussions helped clarify that integration is not synonymous with merger, but that it is rather about the integration of data management, which necessarily requires close collaboration among entities, coordination of the interventions of various actors, and data sharing, harmonization, and integration of data management tools.

The group work on this theme helped identify critical factors in terms of integration of health information systems. These factors include policies and regulations, coordination, human capacity, and funding.

The group made the following recommendations:

- National plans should take into account clear policies for the integration of health data management.
- Identify human resources capacity building needs for NHIS and IDSR data management.
- Establish a regional mechanism for building technical capacities for the continuous management of health information systems.

Harmonization and sharing of data

Discussions on this theme centered on the sharing of information within countries, cross-border exchange of data, and the avenues for improving existing health information system platforms. Papers were presented by USAID, CDC, and Guinea on procedures and technologies, along with examples of data exchange related to Ebola control.

The presentations and discussions emphasized the need to exchange data at the national and international levels through interoperable information systems. The main points were:

- Depending on the emergency, data-sharing systems can be developed before data-sharing standards are established.

- USAID proposed three principles for integrating systems: 1) data sharing is good; 2) it is good to have control over the data sharing process (i.e., who shares what?); 3) it is good to share data in a format that is already used by the system.
- The process of integration comprises five fundamental phases, namely: 1) definition of goals and objectives of the integration, 2) motivation of the stakeholders involved in the integration process, 3) implementation of rules and policies pertaining to the process, 4) feasibility of semantic interoperability, and 5) technological feasibility.
- It is important to know who in the country can authorize data exchange between systems and between organizations and how this authorization is granted.
- Although cross-border movements play an important role in the control or spread of the epidemic, countries affected by the Ebola virus do not have an effective system for controlling all border crossing points: they lack a data exchange system, cross-border coordination, a system for thermal screening, a protocol for investigation, contact tracing, etc.

Group work on this theme emphasized the setting of priorities and principles to achieve harmonization and data sharing objectives. The following priorities were identified:

- The existence of a strong and clear authority or mandate for data sharing through appropriate policies, procedures, and tools
- The establishment of interoperability standards (technical standards and specification standards)
- Creating consensus mechanisms for sharing epidemiological surveillance data among countries
- Feedback loops and appreciation for the efforts of those who share information
- Access to data and information

Draft Mapping of HIS Platforms in ECOWAS countries
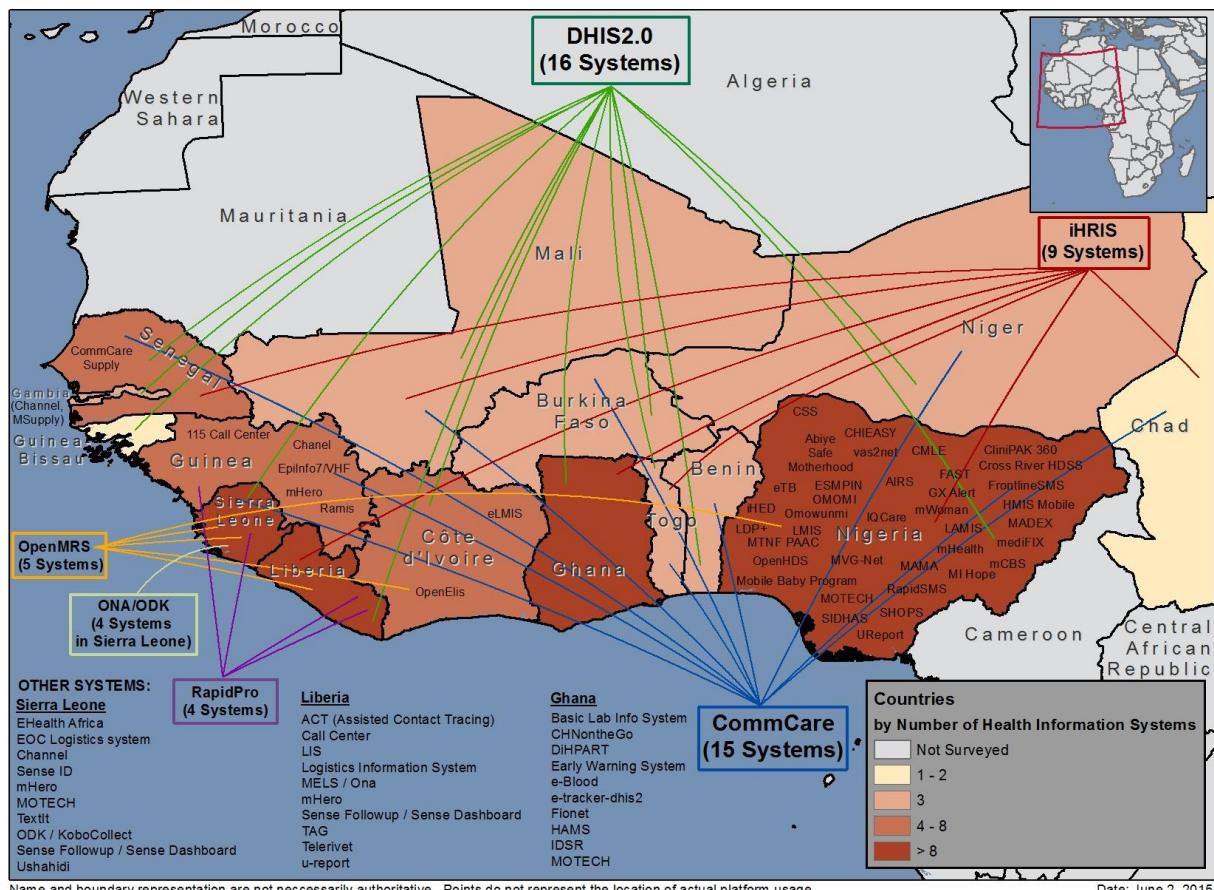
Name and boundary representation are not neccessarily authoritative. Points do not represent the location of actual platform usage.   Date: June 2, 2015

At the end of the session the presenter reiterated the fact that governments and partners need a good understanding of HIS available in their countries to facilitate the implementation of data-sharing agreements. Group participants worked on a comprehensive compilation of HIS platforms deployed in West Africa. The compilation is a continuing document which can be reviewed and updated on the site: www.bit.ly/WAHISMap

3.4. Group work on strengthening of health information systems

In order to identify the challenges and priorities for strengthening health information systems and for the management of epidemics and other health emergencies, five working groups were created on each of the following themes:

- Capacity-building
- Shared resources
- Real-time access to communities
- Real-time access to health personnel
- Laboratory information management systems integrated to NHIS

The groups identified the challenges for each theme and made recommendations to enable countries to put in place integrated and effective information systems in order to respond to epidemics. The main recommendations of these working groups are provided below.

Recommendations for capacity building

– Ensure effective mechanisms for retaining human resources.
– Develop innovative human resource development plans that include non-medical and paramedical profiles.
– Develop roadmaps that involve all stakeholders, and including a mapping of resources
– Make the Ministry of Health play a leadership and governance role that is strong enough to support health systems strengthening
– Put in place a single framework to manage the numerous platforms and various ICT tools available in country and to ensure adequate preparation
– Create a center of excellence for information systems in order to build human resource capacities
– At the country level, undertake an overall situational analysis to engage stakeholders, including mapping existing resources and institutional capacity—leading to the creation of a concrete roadmap
– Strengthen political will, governance, and the required authority mechanisms with officials of the health ministry at all levels of the health system
– Strengthen the capacity for real-time communication including distance education and modalities such as electronic communities of practice

Recommendations for shared resources of national information system

– Improve shared cloud-hosting policy
– Strengthen the management of shared resources for health information systems
– Define interoperability procedures and references for health information systems data

Recommendations for real-time access to communities

– Re-establish trust between government and communities
– Build on existing structures
– Enhance technological development at the community level
– Ensure the appropriateness of technology to be used
– Find approaches that are tailored to the needs and constraints of communities

- Form integrated community themes
- Design a program relevant to the community
- Promote incentives for personnel

Recommendations for real-time access to health personnel

- Draw up a reference document in respect of workflow based on international standards
- Put in place a framework for coordination and negotiation with operators of mobile networks
- Provide capacity building for officials in management of technology and administration for ICT in the countries, with the support of technical and financial partners
- Harmonize data collection standards at the national and regional levels

Recommendations for laboratory management information sub-systems

- Ensure ownership, authority, and leadership at the national level
- Integrate laboratory information management systems with the country's health information system

IV. COUNTRY PRIORITIES AND NEEDS FOR 2015–16

Countries were invited to identify and plan actions to accelerate the strengthening of their respective health information systems for 2015–2016. Action plans from Liberia and Mali were presented and discussed by way of example. Final country action plans will be shared with technical and financial partners in order to identify possible support for implementation.

V. RECOMMENDATIONS AND RESOLUTIONS

At the end of the meeting participants addressed recommendations and resolutions for the countries, WAHO, and all technical and financial partners.

Recommendations for ECOWAS countries

R1: Set up and/or adopt national multi-sectorial coordination frameworks for health information management, taking into account technological innovations and emerging needs.

R2: Build the capacity of health officials involved in health information management at all levels.

R3: Engage the private sector and specifically telecom operators to operationalize support for health information systems.

Recommendations for WAHO

R4: Strengthen regional mechanisms for sharing health information (strategy/policy, meetings, structures, officials, etc.) in ECOWAS for management of health crises.

R5: Undertake advocacy with health ministries with the view to implementing coherent national strategies for the integrated management of health data.

R6: Draw up a roadmap for all stakeholders for basic and continued education for health professionals in the area of health data management.

Recommendations for Technical and Financial Partners

R7: Support efforts aimed at building capacities of health information systems in ECOWAS.

R8: Contribute to efforts to create a regional center of excellence for health information.

R9: Support countries to establish procedures for interoperability and data references for health information systems.

VI. WORKSHOP CLOSURE

The annual joint meeting of heads of national health information systems and of integrated surveillance of disease and response with technical and financial partners of ECOWAS came to a close on Thursday May 21, 2015. The main speakers were from WAHO, USAID, and a representative of the Ghana Ministry of Health.

On behalf of their respective institutions, the WAHO professional in charge of integrated disease surveillance and response to epidemics and the one in charge of health information systems thanked participants for their participation and for the quality of results achieved. They lauded the contribution of various technical and financial partners, especially USAID which co-organized and co-funded the meeting. Finally, they hoped that all stakeholders would get involved in implementing the recommendations of the meeting.

For his part, the USAID representative invited all stakeholders to fulfil all commitments and implement all recommendations. He pledged the continued support of his institution to the improvement of health information systems in the ECOWAS region.

The deputy director of the health information system of the Ghana Health Service, who represented the Ministry of Health of Ghana, gave the closing speech. He reiterated the importance of this annual meeting and thanked all those who contributed to the success of the meeting.

CONCLUSION

The annual joint meeting of NHIS and IDSR manager with technical and financial partners of the ECOWAS region, held from May 18 to May 21, 2015 at the Mensvic Grand Hotel in Accra, achieved the expected results.

The meeting provided an occasion to reviewing the organization and performance of HIS by drawing lessons from the Ebola epidemic, which ravaged the region.

Proposals were made with the view to ensuring efficient integration of both systems and data in ECOWAS countries, strengthen institutional, technical and human capacities, and focus thinking about an HIS center of excellence.

Member states and partners committed themselves to implement the suggestions and recommendations made at the meeting.

Reporters
1. Boureima Ouedraogo
2. Seydou Golo Barro
3. Elizabeth T. Robinson

APPENDIXES

I. List of participants
II. Day 1 Report
III. Day 2 Report
IV. Day 3 Report
V. Program of the annual meeting

Appendix 1 : LISTE DES PARTICIPANTS / LIST OF PARTICIPANTS / LISTA DE PARTICIPANTES

FULL NAME	COUNTRY / ORGANIZATION	TITLE	CONTACT (TEL / EMAIL)
REPRESENTANTS PAYS / COUNTRIES REPRESENTATIVES / REPRESENTANTES PAISES			
GLELE KAKAI CLEMENT	MINISTERE DE LA SANTE BENIN	CHEF SERVICE EPIDEMIOLOGIE ET SURVEILLANCE SANITAIRE FRONTALIERES PORT ET AEROPORT	(+229) 21 33 12 99 kgclement@gmail.com
KOUKOUI Y. R. NESTOR	MINISTERE DE LA SANTE BENIN	CHEF DE LA DIVISION DES STATISTIQUES SANITAIRES	(+229) 21 33 12 99 cakonery@yahoo.fr
YAMEOGO ISSAKA	MINISTERE DE LA SANTE BURKINA FASO	CHEF DE SERVICE DE LA SURVEILLANCE EPIDEMIOLOGIQUE	(+226) 70 24 57 44 yameogoissaka@yahoo.fr
ILBOUDO TINGA FULBERT	MINISTERE DE LA SANTE BURKINA FASO	CHARGE DE LA GESTION DES DONNEES DE ROUTINE DU SNIS	(+226) 70 26 58 99 ilful@yahoo.com
TAVARES MARIA FILOMENA SANTOS	MINISTRY OF HEALTH CABO VERDE	LABORATORY NETWORK COORDINATOR	(+238) 2610 161/2610 125 filomena.t.mouiz@gmail.com
DUARTE YVONE MARIA DE SANTOS	CABO VERDE	TEC. ESTATISTICA DE SAUDE	(+238) 261 91 25 yvone.santos@ms.gor.cv
SAMBA MAMADOU	COTE D'IVOIRE	DIRECTEUR DE LA PROSPECTIVE DE LA PLANIFICATION	(+255) 20 22 60 43 samba.mamadou@gmail.com
N'GUETTA NIAMKE EMILIENNE	COTE D'IVOIRE	MEDECIN SANTE PUBLIQUE CHARGEE DE SURVEILLANCE EPIDEMIOLOGIQUE	(+225) 21 25 35 10 ebouanguetta@yahoo.fr
KEITA NFAMARA	MINISTRY OF HEALTH & SOCIAL WELFARE THE GAMBIA	ACTING PROGRAMME MANAGER-HMIS	(+220) 64 23 839 knfamara@yahoo.com
AMADOU WOURY JALLOW	MINISTRY OF HEALTH & SOCIAL WELFARE THE GAMBIA	NATIONAL DISEASE SURVEILLANCE OFFICER	(+220) 99 21 415 amadou.jallow@gmail
ADU GEEGEE KWAME	GHANA HEALTH SERVICE GHANA	HEALTH INFORMATICIAN	(+233) 0244 928 764 adugeegee@yahoo.com

FULL NAME	COUNTRY / ORGANIZATION	TITLE	CONTACT (TEL / EMAIL)
AMPOMAH SAMUEL	MINISTRY OF HEALTH GHANA	HEAD ICT-MOH	(+233) 0269 279 040 sam.ampomah@moh.gov.gh
OFOSU ANTHONY ADUFO	GHANA HEALTH SERVICE GHANA	DEPUTY DIRECTOR	(+233) 0208 180 111 anthony.ofosu@ghsmail.org
MOHAMMED ALI	GHANA	MR	(+233) 0206 475 002 mohammed-ali@org-org
DIALLO ALPHA AHMADOU	MINISTERE DE LA SANTE GUINEE/ UNIVERSITE DE CONAKRY	CHEF SERVICE RECHERCHE ET ENSEIGNANT CHERCHEUR	(+224) 622 251 317 dalphm@yahoo.fr
RICHARD JAMES	MINISTERE DE LA SANTE GUINEE	RESPONSIBLE SURVEILLANCE EPIDEMIOLOGIQUE	(+224) 628 711 712 richardssera@yahoo.fr
DR CAMARA SOULEYMANE	MINISTERE DE LA SANTE GUINEE	RESPONSIBLE DU SNIS	(+224) 631 49 61 21 souleymanecmr@yahoo.com
DIALLO MAMADOU RAFI	SERVICE NATIONAL PROMOTION DE LA SANTE GUINEE	DIRECTEUR GENERAL	(+224) 622 251 317 dmrafi365@yahoo.fr
BETUNDE AGOSTINHO GOMES	GUINEE BISSAU	RESPONSABLE SIS	(+245) 530 0204/664 5852 gomesbetas@gmail.com
ISSIS JULIETA PINA FERREIRA GOMES FERREIRA	INASA, GUINEE BISSAU	PONTO FOCAL RSI/ VIGILANCIA EPIDEMIOLOGICA	(+245) 660 69 08 jssisferreira@inasagb.org
NAGBE THOMAS KNUE	MOH-LIBERIA	DIRECTOR DISEASE PREVENTION & CONTROL	(+231)886937386 tnknue31112@gmail.com
PARKER DAVID THOMAS	LIBERIA	INFORMATION SYSTEMS MANAGER	(+231) 886 193 738 david.parker@lr.ehealthafrica.org
SAAH MOHAMMED K.	LIBERIA	M & E COORDINATOR	(+231)777544259 saah.mohammed@resure.org
BOIMA TAMBA M	MOH LIBERIA	DIRECTOR, COMMUNITY HEALTH SERVICE	(+231)88651539 borimatamba@gmail.com

FULL NAME	COUNTRY / ORGANIZATION	TITLE	CONTACT (TEL / EMAIL)
BAWO LUKE L	MOH LIBERIA	COORDINATOR/RESEARCH/M&E/HMIS	(231)1886909945 lukebawo@gmail.com
LAH BEATRICE	MOH LIBERIA	DIRECTOR OF ICT	(+231)886900052 beeatucc@gmail.com
SUMO JOHN B	MOH LIBERIA	DIRECTOR HEALTH PROMOTION DIV/SOCIAL MOBILIZATION	(+231)886374733 jsumo2013@gmai.com
GBANYAN JR STEPHEN MAMBU	MOH LIBERIA	DIRECTOR-HMIS	(+231)886847915 mambu9@gmail.com
DIABATE MAMOUTOU	DIRECTION NATIONALE DE LA SANTE MALI	RESPONSABLE SIS	(+223) 20 22 64 97/76014467 diabatemam@yahoo.fr
BERTHE OUASSA	DIRECTION NATIONALE DE LA SANTE MALI	CHARGE DE LA SURVEILLANCE EPIDEMIOLOGIQUE	(+223) 20 22 64 97/ 66822602 ssogodo@usaid.gov
ADAKAL ABOUBACAR	MINISTERE DE LA SANTE PUBLIQUE NIGER	DIRECTEUR DES STATISTIQUES	(+227) 96 82 54 21 adakalabou@gmail.com
DR GOUMBI KADADE	MINISTERE DE LA SANTE PUBLIQUE NIGER	DIRECTEUR DE LA SURVIELLANCE ET RIPOSTE AUX EPIDEMIES	(+227) 96 58 69 94 goumbikadad@yahoo.fr
OJO OLUBUNMI	FEDERAL MINISTRY OF HEALTH NIGERIA	DIRECTOR (DISEASE SURVEILLANCE/IHR)	(+234)8033024638/8176900548 olubunmiojo2002@yahoo.com
ADEBAYO WURAOLA	FEDERAL MINISTRY OF HEALTH NIGERIA	HEALTH RESEARCH OFFICER(NHMIS)	8055171424 wuradebayo@yahoo.com
NDOYE BABACAR	SENEGAL	CHEF DIVISION SURVEILLANCE EPIDEMIOLOGIQUE ET RIPOSTE VACCINALE	(+221) 338 694 242 bdndoye@gmail.com
COULIBALY SIAKA	SENEGAL	CHEF DIVISION DU SYSTEME D'INFORMATION SANITAIRE ET SOCIAL	(+221) 338 694 242 siaka91@hotmail.com

FULL NAME	COUNTRY / ORGANIZATION	TITLE	CONTACT (TEL / EMAIL)
CONTEH ROLAND	SIERRA LEONE	PROGRAMME MANAGER (IDSR)	(+232) 766 128 12 rmconteh09@gmail.com
ZARA KAMARA	SIERRA LEONE	HMIS MANAGER	(+232) 76 201 869 zee21kam@gmail.com
TAMEKLOE TSIDI AGBEKO	MINISTERE DE LA SANTE TOGO	RESPONSIBLE SIMR	(+228) 222 141 94 stantamekloe@yahoo.fr
DEGBEY YAWO	MINISTERE DE LA SANTE TOGO	CHEF DIVISION INFORMATION, STATISTIQUE, ETUDES ET RECHERCHES	(+228) 90 05 05 33 d_degbey@yahoo.fr
PARTENAIRES / PARTENERS / PARCEIROS			
ODUSOTE KAYODE	NIGERIA	INDEPENDENT CONSULTANT	(+234) 8023 050 629 oduste.kayode@gmail.com
MOHAMED F. JALLOH	SIERRA LEONE/ FOCUS1000/SMAC	SENIOR PROGRAM MANAGER	(+232)7994 7035/ mfjalloh@focus1000.org
JI BAE	SIERRA LEONE	INFORMATION SYSTEMS MANAGER	(+232) 99 901 002 ji.bae@si.ehealthafrica.org
KOSSI EDEM	NORWAY TOGO	COORDINATEUR HISP WEST AFRICA	(+228) 22 25 83 01 ekossi@gmail.com
SOGOBA SOULEYMANE	USAID/ MALI	PROJECT MANAGEMENT SPECIALISATION	(+223) 20 70 27 24/76 31 16 16 ssogoba@usaid.gov
TAMARA CHIKHRADZE	USAID/ WEST AFRICA, ACCRA GHANA	MSS COORDINATOR	tchikhradze@usaid.gov
MERRICK SCHAEFER	USAID/USA	LEAD REAL TIME DATA	(+1) 206 484 9177 mschaefer@usaid.gov
LUNGI OKOKO	USAID/ USA	SENIOR ADVISOR	(+1) 571 282 5261 lokoko@usaid.gov
ERIC KING	USAID/ USA		eking@usaid.gov

FULL NAME	COUNTRY / ORGANIZATION	TITLE	CONTACT (TEL / EMAIL)
FAST LARISSA	USAID/USA	AAAS FELLOW, USAID/ LAB.	larissafastphd@gmail.com
MANISCALCO LISA	USA/USAID	HEALTH INFORMATION SYSTEMS EVALUATION ADVISOR	(+1) 571 551 7384 imaniscalco@usaid.gov
KHAN MOHAMMAD	USAID/WASHINGTON	HMIS/ADVISOR	(+1) 203 362 6542 mokhan@usaid.gov
CITRON RACHEL	USAID/ WEST AFRICA	DIRECTOR REGIONAL HEALTH OFFICE/RHO	(+233) 0244 325 972 rcintron@usaid.gov
MENSAH SHEILA	USAID/ WESTAFRICA	SNR COMM, M&E ADVISOR/RHO	(+2330)203207044 smensah@usaid.gov
TUTEN DANIEL	USA /CENTERS FOR DISEASE CONTROL	ASSOCIATE DIRECTOR OF INFORMATION RESOURCES	(+1) 770 488 8015 dtuten@cdc.gov
BLANTON JESSE	USA/CDC	EPIDEMIOLOGIST	(+1) 404 639 2289 asis@cdc.gov
LIS JODI	USA	ICT4D ADVISOR	(+1) 202 835 3187 jodi.lis@jhpiego.org
MALIEJ CHMIELEWSKI	USA	ONLINE MEDIA STRATEGIST	mchmic@dexisonline.com
CAMILLA HERMANN	USA ODISI	CHIEF EXECUTIVE OFFICER	(+1) 617 934 8534 camilla@odisi.org
STOTISH TIMOTHY	USA	INTERNATIONAL PROJECT MANAGER	(+1)5712892682 timothi.r.stotish.civ@mail. mil
MATTHEW KASPER	US-DOD	DEPUTY DIRECTOR, GLOBAL EMERGENCY INFECTIONS SURVIELLANCE	3013192241 matthew.r.kasper2.mil@mail.mil
DELWIN MICHAEL HUNT	US MD/GER	DIRECTOR OF DISASTER EMERGENCY MEDICINE	(+1) 706 869 6911 michael.hunt@ger911.com
PAUL BIONDICH	USA REGENSTRIEF INSTITUTE	ASSOCIATE PROF. OF PEDIATRICS/ INFORMATICS	(+1)3174185612 pbiondic@regenstrief.org

FULL NAME	COUNTRY / ORGANIZATION	TITLE	CONTACT (TEL / EMAIL)
JOLY DAMIEN OLIVER	USA METABIOTA/PREDICT	INFORMATION MANAGEMENT COORDINATOR, PREDICT	(+1) 917 512 2890 djoly@metabiota.com
DYLAN JONES	USA DEFENSE THREAT REDUCTION AGENCY	INTERNATIONAL PROJECT MANAGER	7037675989 dyland.m.jones44.civ@mail.mi
JONATHAN PAYNE	USA/UNITED NATIONS FOUNDATION	SR. TECHNICAL ADVISOR	(+1) 615 579 5413 paynejd@gmail.com
LAYTON CHRISTINE	USA JOHNS HOPKINS CENTER FOR COMMUNICATION PROGRAMS	RESEARCH & EVALUATION OFFICER	(+1) 410 659 6300 clayton1@jhu.edu
BONTEMPO JAMES	USA/ JOHNS HOPKINS CENTER FOR COMMUNICATION PROGRAMS	DIRECTOR OF ICT & INNOVATION	(+1)4116596124 james.bontempo@jhu.edu
SERLEMITSOS ELIZABETH	JOHNS HOPKINS CENTER FOR COMMUNICATION PROGRAM	REGINAL PROJECT DIRECTOR	(+231)777988963 eserlem1@jhu.edu
THOMAS JAMES	MEASURE EVALUATION USA	PROJECT DIRECTOR	Jim.thomas@unc.edu
SMITH JASON	MEASURE EVALUATION USA	DIRECTOR OF HEALTH SYSTEMS STRENGTHENING	(+1) 919 445 9275 jbsmith@unc.edu
MAMADOU ALIMOU BARRY	MEASURE EVALUATION	SENIOR HIS SPECIALIST	(+1) 919 445 0421 abarry@jsi.com; alimoub@yahoo.com
N'GUESSAN SERGE PATRICK	MEASURE EVALUATION COTE D'IVOIRE JSI	IT/ ELMIS	(+225) 06 08 06 09 patrick_nguessan@ci.jsi.com
ROBINSON ELIZABETH T.	MEASURE EVALUATION/ USA	DIRECTOR OF COMMUNICATION	(+1) 919 360 0765 bethrobinson@unc.edu
RODRIGUEZ MICHAEL P.	USA/ABT ASSOCIATES	EHEALTH DIRECTOR	(+1)3013475447 michael_rodriguez@abtassoc.com

FULL NAME	COUNTRY / ORGANIZATION	TITLE	CONTACT (TEL / EMAIL)
SAVART CAMPO	UNICEF	INNOVATION DEPLOYMENT SPECIALIST	(+254)718764526 scampo@unicef.org
MWAMBA REMY	UNICEF WEST CENTRAL AFRICA OFFICE UNICEF	HEALTH OFFICER	(+221) 774 609 523 rmwamba@unicef.org
DIAKITE ABOUBACAR NASSAGBE	GUINEE/ UNICEF-JHU/CCP HC3	CONSULTANT/RESEARCH OFFICER	(+224) 628 548 894 diakite@jhuccpguinea.org
LEE KIRONGET	UNICEF LIBERIA	INNOVATION LEAD	lkkironget@unicef.org
DABIRE ERNEST	UNICEF WCARO	REGIONAL EMERGENCY HEATH SPECIALIST	(+221) 338 697 667/774 504 232 edabire@unicef.org
MEGGINSON DAVID	UN OCHA	STANDARDS LEAD - TECHNOLOGY ARCHITECT	(+1) 613 791 8553 megginson@un.org
JULIUS MATTAI	UNOPS	MIS/GIS SPECIALIST	(+231) 770 124 433 juliusm@unops-org
WOODFILL CELIA	CDC/ GHANA	COUNTRY DIRECTOR	(+233) 302 741 781 cjw9@cdc.gov
ALEX WATILA	EHEALTH SYSTEMS AFRICA LIBERIA	IT PROJECT COORDINATOR	(+231) 880 463 307 alex.watila@lrehealthafrica.org
KAISEK NILS	E-HEALTH AFRICA	PRODUCT MANAGER, EBOLA INFORMATION	(+49) 178 807 9029 nils.kaiser@ehealthafrica.org
PUCKETT AMANDA	INTRAHEALTH INTERNATIONAL	TECHNICAL ADVISOR	9193139122 apuckett@intrahealth.org
MCMANUS LEAH	INTRAHEALTH INTERNATIONAL LIBERIA	PROGRAM OFFICER	770422218 mcmanus@intrahealth.org
CARL LEITNER	INTRAHEALTH	ASSOCIATE DIRECTOR HEALTH WORKFORCE INFORMATION	(+1) 9193605408 cleitner@intrahealth.org

FULL NAME	COUNTRY / ORGANIZATION	TITLE	CONTACT (TEL / EMAIL)
MAGNUS MORDU CONTEH	WORLD VISION/ IRELAND	DIRECTOR, GLOBAL HEALTH PROGRAMMES, STRATEGIC PARTNER AND INNOVATION	(+353) 877 560 264 magnus_conteh@wvi.org
CHRISTIAN BOORABU JOHNSON	WORLD VISION SIERRA LEONE	ICT MANAGER	(+232) 766 24 518 christian_boorabu-johnson@wvi.org
ROWIMA LI LUK	DIMAGI SOUTH AFRICA	VP 06 STRATEGY	
SHAH SHEEL	DIMAGI USA	TECHNICAL PROJECT MANAGER	(+1) 781 428 5419 sshah@dimagi.com
HAMBLION ESTHER	WHO LIBERIA	EPIDEMIOLOGIST	(+231) 888 070 524 hamblione@who.int
D'ALMEIDA SELASSI AMAH	WHO/ GHANA	HEALTH ECONOMICS ADVISOR	(+233) 0262 273 906 dalmeidas@who.int
GARRETT MEHL	WHO	SCIENTIST	(+41)227740836 mehlg@who.int
KAJLWARA MAKL	WHO SWITZERLAND	TECHNICAL OFFICER	(+41)764949477 kajiwaram@who.int
ASHER GREENBERG	FIO CORPORATION WESTAFRICA	MANAGER, HSS	agreenberg@fio.com
OSTOJIC PREDRAG	FIO CORPORATION CANADA	SYSTEM ARCHITECT	(+1) 416 666 1952
JEFFREY WISHNIE	MERCY CORPS USA	SENIOR DIRECTOR, PROGRAM TECHNOLOGY	(+1) 503 893 9193 jwishnie@mercycorps.org
ROBEN SOPHE	MERCY CORPS LIBERIA	MONITORING & EVALUATION + LEARNING NARAGAL	(231)888817350 sroden@ir.mercycorps.org
LANEY SANDRA	PAUL GALLEN FAMILY FOUNDATION/ SEATTLE, WA /USA	DEPUTY DIRECTOR OF HEALTH INNOVATION	sandral@vulcan.com
TAURSIN BRIANL	PATH/USA	SYSTEMS ANALYST	(+1) 206 387 8932 btaliesn@path.org

FULL NAME	COUNTRY / ORGANIZATION	TITLE	CONTACT (TEL / EMAIL)
ASEIDU-BEKOE FRANKLIN	GHS GHANA	PROGRAMME MANAGER PUBLIC HEALTH SPECIALIST	(+233)244643142 kofi2711@gmail.com
ADJABENG MICHAEL	DISEASE SURVEILLANCE DEPARTMENT GHANA	AG. HEAD, DISEASE SURVEILLANCE DEPARTMENT	(+233) 0208 157 618 golejeroen@yahoo.com
ZEFERINO BENJAMIN SAUGENE	UNIVERSITY OF OSLO/HISP /MOZAMBIQUE	HEALTH CONSULTANT/ RESEARCHER	(+258) 824 045 520 zsaugene@gmail.com
STARING KNUT	UNIVERSITY OF OSLO/HISP	RESEARCHER	(+47) 9188 0522 knutst@gmail.com
IMAN KALIFA	CDC-ATLANTA	CDC INTERNATIONAL BORDER TEAM	(+1)7342777305 ikmartin@cdc.gov
HAMIDINE MAHAMANE	COMMISSION DE L'UEMOA BURKINA	CHARGE DE LA SANTE	(+226) 25 30 88 51 mhamidine@uemoa.int
BERG MATTHEW	ONA	CEO	(+254) 725 640 695
MACDONALD PIA	RTI INTERNATIONAL	SNR EPIDEMIOLOGIST	9194855575 pmacdonald@rti.org
KOUAKOU KOUA LOUIS	BANQUE AFRICAINE DE DEVELOPPEMENT COTE D'IVOIRE	STATISTICIEN	(+225) 77 30 75 50 kl.kouakou@afdb.org
JEZIERSKI EDUARDO	CEO/CTO INSTEDD		edjez@instedd.org; info@instedd.org
KENNY AVI	LAST MILE HEALTH LIBERIA	DIRECTOR OF MONITORING & EVALUATION	(+231)775206566 avi@lastmilehealth.org
NGETHE RICHARD	FUTURES GROUP KENYA	COUNTRY MANAGER	(+254) 723 406 522 rngethe@futuresgroup.com
NYALE DZIGBOR REUGEN	WAHIFP/GHANA	SYSTEMS DEVELOPER	(+233) 0205 607 925 nprofaust@hotmail.com
BOB JOLLIFFE	UNIVERSITY OF OSLO/HISP NORWAY		(+353) 879 749 876 bobjolliffe@gmail.com

FULL NAME	COUNTRY / ORGANIZATION	TITLE	CONTACT (TEL / EMAIL)
JASPAL SANDHU PND	GOBEE GROUP USA	FOUNDING GROUP	(+1) 510 282 7113 jaspal@gobeegroup.com
IROGIGO ABDEL NASSER	COLUMBIA UNIVERSITY GUINNEE - CONAKRY	REGINAL INFO. SYSTEM MANAGER	(+224)624828234/624226481 abdel.nasser.iro.gigo@millenniumpromise.org
LIU ALICE	JHPIEGO USA	DIRECTOR OF ICT4D	(+1) 202 835 6088 alice.liu@jhpiego.org
GRANNIS SHAUN	REGENSTRIEF/ OPENHIE	MD, BIOMEDICAL INFORMATICIAN	(317) 274 9020 sgrannis@regenstrief.org
KARL BROWN	M-THOUGHTWORKS	DIR. OF TECH	karl.brown@thoughtworks.com
RUCHIN SHARMA	UNMEER	SENIOR COORDINATION OFFICER	(+232) 995 006 74 ssharma092@gmail.com
OOAS / WAHO			
SOMBIE ISSIAKA	WAHO	PROFESSIONNEL EN CHARGE DE LA RECHERCHE	isombie@wahooas.org
KAMBOU SANSAN STANISLAS	WAHO/OOAS	DRHMIS	(+226) 20 97 57 75 skambou@wahooas.org
DR BARRO SEYDOU	OOAS/MSH	CONSULTANT HIS (OOAS)	seydou_golo@yahoo.fr
OUEDRAOGO ALBERT K.	OOAS	PO/TIC	(+226) 74 21 75 22 aouedraogo@wahooas.org
DR CHOKI LALELE	OOS- BOBO DIOULASSO	P.O. EPIDEMIES/URGENCES	(+226) 20 97 57 72 fchokki@wahooas.org
METANGMO PIERRE- MARIE	OOAS-BURKINA	COORDONNATEUR WARDS	(+226) 6651 6232 pmetangmo@wahooas.org
OUEDRAOGO BOUREIMA	OOAS BURKINA FASO	CONSULTANT	(+226) 70 35 46 16 boureimaoued@gmail.com

FULL NAME	COUNTRY / ORGANIZATION	TITLE	CONTACT (TEL / EMAIL)
DIAGNE ABDOULAYE	BURKINA FASO/ MSH (LMG)	STA- ICB/ MSH/WAHO	(+226) 20 97 57 75 adiagne@msh.org
INTERPRETES / INTERPRETERS / INTERPRETES			
GADZEKPO JOHN	GHANA	INTERPRETER	(+233) 0244 091 074 amuzu22@yahoo.com
YENNAH ROBERT	GHANA	INTERPRETER	(+233) 0244 732 600 yennah@yahoo.com
OFIMIBO FRANCIS KUOZO	GHANA	INTERPRETER	(+233) 0243 829 707 fofinibo@yahoo.com
NDJALA TOTOLO STEVY DAK	GHANA	INTERPRETER	(+233) 0246 144 530 totoloworld@yahoo.com
SERY ZADI AURELIEN	GHANA	TRANSLATOR	(+233) 0263 699 982 zadiaurelien@yahoo.com
FAMBE KOFFI KUNALE	GHANA	INTERPRETER	(+233) 0248 733 970 fambekof@yahoo.fr
N'DOUA OI N'DOUA DIBY GASTON	GHANA	INTERPRETER	(+233) 0249 323 284 dibygaston88@yahoo.fr
AJAGBE STEPHEN	WAHO	TRANSLATOR	(+226) 74 60 48 48 sajagbe@wahooas.org

Appendix 2: Day One Report – May 18, 2015

RENCONTRE ANNUELLE CONJOINTE DES RESPONSABLES NATIONAUX DES SNIS & SIMR AVEC LES PARTENAIRES TECHNIQUES ET FINANCIERS
Accra, 18 – 21 /05 / 2015

RAPPORT DU J1 : 18 /05/ 2015

L'an deux mille quinze et le dix-huit Mai ont débuté dans la salle de conférence de l'hôtel Mensvic d'Accra les travaux de la rencontre annuelle de renforcement des systèmes nationaux d'information sanitaire pour une surveillance épidémiologique plus efficace

Le but de la rencontre est de renforcer les capacités opérationnelles des systèmes d'informations sanitaires en Afrique de l'Ouest dans le post Ebola.

Cette réunion regroupe :
* Les responsables nationaux des SIS et des SMIR des 15 pays de l'Afrique de l'Ouest;
* Les partenaires de la sous-région ;
* Les partenaires internationaux (bailleurs de fonds);
* Les organisations non-gouvernementales;
* Les institutions académiques ;
* Le secteur privé.

Trois allocutions ont marqué la cérémonie d'ouverture.
Le Directeur Général de l'OOAS, dans son mot de bienvenue a rappelé l'importance d'un système d'information sanitaire robuste, de qualité afin de permettre aux décideurs de cibler les interventions efficaces de riposte dans un contexte de rareté de ressources. Devant la faiblesse des systèmes de santé révélée par la maladie à Virus Ebola, l'objectif de l'OOAS doit être le contrôle des épidémies dans l'espace à travers les informations de qualité. Il a remercié les partenaires dont l'USAID qui s'investissent dans l'amélioration de nos systèmes d'information sanitaire. Il a invité les participants à faire le suivi des recommandations de la rencontre de 2014 et à renforcer nos systèmes d'information sanitaire.

Le Directeur adjoint de l'USAID a félicité le Libéria pour sa victoire sur Ebola et l'a exhorté à maintenir les efforts de lutte. Il a rappelé l'importance de l'information sanitaire de qualité qui constitue l'un des objectifs spécifiques de l'USAID. Il a mis l'accent sur les préoccupations du gouvernement des USA qui a mobilisé et mis à la disposition une somme de 1,5 milliard de dollars US pour la lutte contre Ebola et le développement des outils des informations sanitaires de qualité qui permettront d'atteindre les objectifs.

Dr Antony, représentant le Ministre de la santé du Ghana, a mis aussi l'accent sur l'information sanitaire de qualité qui nécessite une intégration des approches, l'échange d'information, la gouvernance sanitaire et surtout la redevabilité. Après avoir invité les participants à un partage d'expériences, il a déclaré ouverte cette 15e rencontre annuelle conjointe SNIS, SIMR et partenaires.

Après la cérémonie d'ouverture, M. Tome CA a présenté le suivi des recommandations de la réunion d'Accra de 2014 et les Termes de références.

L'Objectif Général de la rencontre:

Accélérer le processus de renforcement des capacités institutionnelles et opérationnelles des Systèmes Nationaux d'Information Sanitaire dans l'espace CEDEAO à l'issue de la MVE

Les Objectifs spécifiques sont :
- ❖ Faire une analyse critique de l'organisation et du fonctionnement des SNIS et des SIMR et tirer des leçons face à la crise Ebola (les forces, les faiblesses et les perspectives) ;
- ❖ Proposer des mécanismes et des actions concrètes pour assurer l'efficacité du processus d'intégration de la gestion des données sanitaires dans les pays membres ;
- ❖ Elaborer des plans d'actions pour le renforcement des capacités institutionnelles et opérationnelles des systèmes nationaux d'information sanitaire (SNIS) dans l'espace CEDEAO;
- ❖ Mettre en place un mécanisme de suivi de la mise en œuvre des actions proposées;
- ❖ Approfondir la réflexion sur le centre d'excellence en matière de SIS de l'espace CEDEAO;
- ❖ Faire le suivi du processus d'élaboration des profils sanitaires des pays de la CEDEAO

Résultats des présentations :

Les participants ont eu à suivre 8 présentations et 9 communications des partenaires techniques, tous en rapport avec le système d'information sanitaire et réponse à Ebola.
Dr CHOCKKI-LALAYE, professionnel en charge des épidémies à l'OOAS, a fait le point des maladies à potentiel epidemique dans l'espace CEDEAO, principalement sur la méningite, la rougeole et le choléra.
On note que :
- ❖ la méningite demeure un problème majeur de santé publique avec une létalité de 7,95% due aux germes tels que le Neissaria méningitus C, W et les pneumocoques ;
- ❖ Malgré l'ampleur de la rougeole, elle a occasionné une faible létalité (0,7%). Ce qui démontre de la bonne prise en charge médicale des cas ;
- ❖ Le choléra est endo-épidémique dans certains pays de la CEDEAO ;
- ❖ Pas d'épidémie de la fièvre jaune.

L'épidémie de la maladie à virus Ebola survenue dans l'espace CEDEAO est une première dans l'espace et d'une gravité sans précédent. Jusqu'à mai 2015, l'épidémie a occasionné 25 085 cas avec une létalité de 41%. Le personnel médical a payé un lourd tribut avec 591 cas et une létalité de 51,9%.

On note:

❖ Une baisse sensible des nouveaux cas de la MVE avec le Libéria déclaré pays indemne du virus Ebola.
❖ Les pays de l'espace n'étaient pas préparés pour une détection précoce et une riposte adéquate.

En perspectives de la lutte contre les épidémies, une réflexion est en cours pour la création d'un Centre Régional de Prévention et de Lutte contre les Epidémies. Ce centre aura pour mission de prévenir, dépister les maladies et apporter une riposte efficace aux épidémies.
Après cette présentation, les représentants de la Guinée, du Libéria et du Mali ont partagé leur expérience de la gestion de l'épidémie de la MVE dans leur pays respectif.
En Guinée, plusieurs défis s'opposent au contrôle de l'épidémie. Ces défis sont entre autres:

❖ Les réticences communautaires;
❖ Le transport des corps d'une localité à une autre ;
❖ Le suivi des personnes contacts (perdu de vue élevé) ;
❖ L'infection continuelle des agents de santé,

On retient comme leçons apprises :

- La persistance du virus dans les liquides biologique (contamination sexuelle et présence du virus dans le lait maternel 3-4 mois après un contrôle de sang dont le résultat est négatif) ;
- L'adhésion communautaire est un gage certain dans la lutte contre la FHV Ebola (rôle des CVV & Moso).

Au Libéria, on retient que :

- La surveillance doit être mesurable et adaptée à la maladie ;
- La saisie locale et simplifiée des données est indispensable ;
- L'intégration des données et la définition des liens sont nécessaires pour l'identité du malade ;
- La politique et les normes de collecte de données auprès des partenaires devraient être mises en place ;
- Les ressources humaines pour gérer le système est crucial ;
- L'appui logistique (transport, communication, fournitures, etc.) est aussi prépondérant.

Au Mali:

Les leçons suivantes ont été apprises dans la gestion de l'épidémie:

➢ La synergie d'action et le partenariat efficace sont indispensables pour la réponse rapide à l'épidémie de la MVE ;

- Le plan de préparation et de réponse consensuel est indispensable à la mobilisation des ressources ;
- La diffusion de SITREPS quotidiens a permis de maintenir le niveau d'information des partenaires ainsi que leur niveau d'engagement ;
- L'implication, engagement et adhésion de la population aux mesures de prévention contre la MVE a contribué à rompre la transmission.

Les difficultés enregistrées par le Mali sont entre autres :
- L'insuffisance de ressources humaines;
- L'insuffisance de mobilisation des ressources financières, de moyens logistiques, d'équipements et d'intrants à tous les niveaux;

En commun aux trois pays, on note entre autres :
- L'engagement des autorités ;
- La surveillance de proximité des contacts permet l'identification rapide des cas ;
- Le système d'information sanitaire doit être efficace pour permettre de disposer en temps réel les informations qui doivent permettre de riposter à temps,

Après le partage des expériences des pays affectés ; le Ghana, la Côte d'Ivoire et le Cap-Vert, tous pays non affectés, ont présenté leurs expériences en matière de préparation et de gestion des alertes et cas suspects dans leur pays respectifs.

De ces présentations les points de discussions ont portés entre autres sur :
- Persistance de l'épidémie de la maladie à virus Ebola en Guinée Conakry ;
- L'adhésion des communautés à la lutte contre la maladie à virus Ebola en Guinée Conakry ;
- La création du centre régional de surveillance épidémiologique et de lutte contre la maladie ;
- La persistance des épidémies de rougeole ;
- La surveillance des zoonoses et les maladies tropicales négligées ;
- Le partage de l'information sanitaire dans les pays de la CEDEAO.

Des clarifications ont été données aux préoccupations des participants sur les différentes présentations.

Les leçons apprises sur l'utilisation des systèmes d'information sanitaire dans la riposte à Ebola et au-delà a été présenté par l'équipe de l'USAID. L'étude a proposé un ensemble de mesures préparatoires et de structures souples qui renforcent la capacité de gérer et d'analyser des informations en cas d'urgence de santé. Il s'agit:
- Des données d'urgence standardisée
- Des modèles de capacités alternatives

Les participants ont été répartis dans des groupes de travail pour étudier les défis dans les domaines suivants : les données sur les cas, la gestion des cas de la communauté, la communication au sein du personnel de la santé et la motivation, les sépultures, la recherche des contacts, la mobilisation sociale, l'isolement et les résultats de laboratoire.

Après les travaux de groupe, les participants ont suivi 09 communications par des partenaires techniques qui ont présenté pour la plus part une plateforme du système d'information sanitaire applicable à l'épidémie d'Ebola.

La journée a pris fin aux environs de 18 heures.

Les Rapporteurs

Les participants du Togo et du Mali

Appendix 3 : Day Two Report – May 19, 2015

ANNUAL MEETING OF THE MANAGERS OF NHIS AND IDSR IN ECOWAS

Report of Day 2

The meeting started with the reading out of the Day 1 report by the rapporteurs, participants from Mali and Togo. After the presentation of the report, the chairperson asked participants about their reactions and observations about the report. The professional officer at WAHO mentioned that because of time constrains, countries like Cote d'Ivoire, Liberia and Guinea could not present all that they have prepared. As a result the component that talks about their health information system experience in respond to Ebola outbreak could not be presented. He commended the rapporteurs for the detailed report they had prepared.

Before going into the day's presentation, we were given the update of the discussions that took place in different groups concerning different areas:
- Inadequate human and technical capacity across various levels involve in HIS
- Information flow, its importance, the manner of collection and who collects and organizes a response
- Importance of use of behaviors and psychosocial factors
- Cultural factors are crucial
- Education and capacity building among health workers

Session 3: Mechanisms and concrete actions to undertake in the medium term to accelerate the process of integrating key HIS systems in ECOWAS member states

Vision of HIS – Liberia Model
- Overview of the architecture and system of HIS – including logistics, labs, financial
  - These different aspects of the HIS are not at the same level of implementation
  - Focusing on the interoperability of these systems – however there are large issues around inadequate HR
    - Poor logistics support
    - No existing supervision and monitoring
    - Low salaries
    - Poor internet facilities
    - No budget for HMIS
    - Low integration and interoperability
  - Using current HIS framework and architecture that is automated at the county level
- The future HMIS framework was then presented as follows
  - Expected to be interoperable and would include information sharing to all levels
  - Moving forward wanted to avoid parallel systems and authority
    - Leadership and open-source platforms necessary moving forward
    - Large focus on confidentiality and security
    - Mobile technology

- Their previous surveillance information system framework was fragmented, paper based,
  - Currently the LMIS is Excel based and also fragmented
  - EMR – which are 3 parallel separate efforts

Presentation from WHO

Summary – Presented on the importance of what health information systems must achieve. This includes universal access to healthcare, coverage, affordability. HIS must also be accountable and measureable. Moving forward from EVD outbreak there must be efforts to increase trust in the healthcare system and that a basic package of health services must be well defined. Stronger HMIS and data systems will assist in strengthening the ability to increase the quality of services rendered.

There are multiple aspects of the overall health system that needed to be addressed such as IPC, health worker gaps, and data usability. In terms of data usability this may require different systems and tools but the most important thing is that these systems and tools are interoperable with each other. Data systems may include well informed indicator set, ability to uniquely identify a patient, and longitudinal tracking. Must be able to aggregate these data systems

- Questions and reactions to presentations
  - Questions: around cost, being realistic, resource mobilization by partners, confidentiality data, and role of donor for HIS to be comprehensive and interoperable
  - Answer: cost (monetary and time) what would it cost politically, economically, educationally, of not having it?
  - Also WHO said a lot of investment have been made and will be made so governments should use opportunity wisely.
  - The MoH in each country must provide their vision to donors and partners to more effectively coordinate data and new HIS system. Directive must come from the government in order for partners to more effectively implement a comprehensive HIS.

WAHO Presentation

- Gave an overview of WAHO.
- Was created in 1987 with 15 member states.
- Has worked with partners to implement HIS, maximizing resources, promote research, and integrate health policies throughout the member states and other organizations.
- Establish the annual HIS since 2010 to promote information sharing.

University of Oslo

- University of Oslo had assisted in developing a data warehouse for WAHO.
- Presenter had discussed the usage of the warehouse by the different member states. DHIS2 is used as the regional tool and had different apps and dashboards for each member state and also had regional dashboards.
- Ghana and Sierra Leone have not used the WAHO regional data warehouse.

- Even though data is being reported to WAHO, the information is not being transferred effectively across different member states directly.
- There is currently no data sharing agreement among the member states directly with each other.
- While the data warehouse focused on information on vertical reporting moving up there is no focus on data moving down to lower levels.
- Countries need to also focus their HIS to include stronger data feedback to health workers and also promote local analysis of data.
- Another challenge is the completeness of data and the fragmentation of data.
- There is also an issue of IDSR indicators being integrated into the country HMIS.
- WAHO data for a country solely depends on the data quality of that country.
- Additionally it was noted for systems to talk to each other, it is important first for people to talk to each other.

Questions / Response
- **Ghana** - made a point that most of the systems have been maintained by the developers. Local staffs do not have enough capacity to maintain and use the system.
- **Senegal** – iHIRIS, Open MRS, OpenEMR, IMR, OMS, noted that all these systems had their purposes but need to interoperable with each other. They have DHIS2 across the country and DHIS2 focal points. They also have issues with recruiting personnel.
- **Nigeria-** Issues on political structure. National HDCC Focus of the presentation was on government structure directly providing strategic leadership on HMIS. List of stakeholders, community, districts each all have a committee meetings. Implemented a 3 tier, local, state, national level committees.

LUNCH
- **Drafted terms of reference for national HIS coordination group**
- **Use cases for interoperability and reference architecture**. Open HIE: Urban planning. If you have registry of health, registry of clients, national HIS, registry of health terms, registry health workers, all you need is an interoperable layer. Then you have health community workers supporting the interoperable layer.

Surveillance system for national HIS – CDC
- US government global health security agenda
- Principles of collaboration, surveillance, priorities for surveillance, cross border surveillance, idea framework, priorities for surveillance development; linked data systems
- Transition of the health information to HIS managing at the health at the community and preparing for a response in information exchange for action based decision; knowledge management challenges.
- Final thought was not enough to build and develop the system but enough to be sustainable
- The system solutions platform should keep security in mind

Burkina Faso

- Described their HIS as having a holistic approach.
- Multidisciplinary team of epidemiologists, statisticians etc. to implement DHIS2.
- Highlighted some problems: parallel collection, new solutions introduced without involving MoH, inadequate staff but also very attrition rate of qualified staff and training needs.

Questions/ Comments & Answers

Guinea:
- Expressed concern about lots of information at community level and how to collect
- Information not available in real time
- They have no reliable database and most of the information they have is from the public sector nothing about the private sector so information is incomplete
- No motivation

Liberia:
- Recognized effort over short or long time
- IDSRs priority was only on malaria, TB, etc.
- Adapted 2nd edition of IDSR guidelines
- High illiteracy
- Poor telecommunications networks except for use of High frequency radios outside Monrovia
- Introduced community-based surveillance
- WAHO to advocate on behalf of member states.

Burkina Faso's response
- They want to make reforms
- Use best practices for other countries
- Move towards data harmonization
- Work harder

Closing of Day

Tome CA of WAHO closed by highlighting that "integration is a technical issue not a policy issue" and the "partners bring resources but some programs make progress and others do not."

Appendix 4: Day Three Report – May 20, 2015

RENCONTRE ANNUELLE CONJOINTE DES RESPONSABLES NATIONAUX DES RESPONSABLES SNIS & SIMR AVEC LES PARTENAIRES TECHNIQUES ET FINANCIERS

Accra, 18 – 21 /05 / 2015

RAPPORT DU J3 : 20 /05/ 2015
L'an deux mille quinze et le vingt mai se sont poursuivis les travaux de la rencontre annuelle de renforcement des systèmes nationaux d'information sanitaire pour une surveillance épidémiologique plus efficace, dans la salle de conférence de l'hôtel Mensvic d'Accra.
Après amendements du rapport de la deuxième journée, le président de séance a donné lecture du programme de la journée ainsi qu'il suit :

1.   Présentations des expériences sur le renforcement des systèmes de santé ;
2.   Travaux de groupe en deux sessions ;
a.   Première phase ;
b.   Deuxième phase.

RESULTATAS DES TRAVAUX

PRESENTATIONS EXPERIENCES

- Harmonisation et partage des données ;
- Points essentiels sur la préparation de la riposte à Ebola aux frontières ;
- Présentation sur le HDX : Humanitarian Data Exchange ;
- Expériences sur la gestion de l'épidémie à Ebola en Guinée, au Libéria, et au Nigéria.

TRAVAUX DES GROUPES

PHASE 1 :

Groupe 1:   Renforcement des capacités humaines en SIS

Recommandations :

- Disposer d'un mécanisme performant de fidélisation des ressources humaines;
- Elaborer des plans de développement des ressources humaines innovants incluant les profils non médicaux et paramédicaux;
- Elaborer une carte de route engageant l'ensemble des parties prenantes y compris la cartographie des ressources;

- Le Ministère de la Santé doit jouer un leadership et une gouvernance suffisamment appuyés pour le renforcement des systèmes de santé;
- Mettre en place un cadre fédérateur pour gérer la pléthore de plates-formes et différents outils informatiques introduits dans les pays pour assurer une appropriation ;
- Créer un centre d'excellence afin de renforcer les capacités du personnel.

Groupe 2 :   Les ressources partagées du système national d'information

Recommandations

- Améliorer la politique d'hébergement mutualisée des cloud;
- Renforcer la gouvernance sur la gestion des biens publics;
- Etablir des procédures d'interopérabilité et de référence des données du SIS.

Groupe 3 : Accès aux populations en temps réel

Recommandations

- Gouvernance :

o   Rétablir la confiance entre le gouvernement et la communauté ;
o   Construire sur l'existent ;

- Technologie, infrastructures et logistiques

o   Accentuer le développement technologique au niveau communautaire ;
o   S'assurer de l'adéquation de la technologie à utiliser ;
o   Trouvez des approches qui répondent aux besoins et contraintes de la communauté ;

- Ressources humaines

o   Constituer des équipes communautaires intégrées ;
o   Concevoir un programme pertinent au niveau communautaire ;
o   Promouvoir des mesures de motivations du personnel.

Groupe 4 : Accès à temps réel aux professionnels de la santé

Recommandations

- Elaborer un référentiel du flux de travail basé sur les normes internationales;

- Mettre en place un cadre de coordination et de négociations avec les opérateurs de réseaux mobiles;
- Assurer le renforcement de capacités des agents sur la gestion de la technologie et de l'administration pour les TIC dans les pays avec l'appui des partenaires techniques et financiers ;
- Harmoniser au niveau régional et national les normes pour la collecte de données.

Groupe 5 : Sous-systèmes d'information de gestion des laboratoires

- Dispositions à prendre pour la mise en place des sous-systèmes de gestion de laboratoires
- Veiller à l'appropriation, l'autorité et le leadership du niveau national ;
- Mettre à jour et ou rédiger la politique nationale de santé en prenant en compte la stratégie mHealth et de cybersanté ;
- Elaborer un fichier mère pour les identifiants uniques;
- Evaluer les systèmes existants par pays;
- Mettre en place un registre de recherche.

DISCUSSIONS SUR LA PRESENTATION PHASE 1

La seule observation a été portée par le Nigéria sur la mise en place des procédures de gestion qui doivent être souples afin d'éviter d'éventuelles difficultés de coopération avec les pays de la CEDEAO.

PHASE 2 :
Les travaux de groupes de la deuxième phase ont porté sur :
1.	Structures de leadership et de gouvernance nécessaires pour renforcer les SIS ;
2.	Utilisation de l'interopérabilité et architecture de référence pour l'échange d'information ;
3.	Intégration des systèmes de surveillance des maladies sous surveillance aux systèmes nationaux d'information sanitaire ;
4.	Harmonisation et partage des données.
La plénière des travaux étant prévue le jeudi 21, le Président de séance à renvoyer les membres de groupes pour les sessions de travail.

Les rapporteurs
Représentants de la Guinée et du Niger

Appendix 5: Meeting Agenda

Agenda

Rencontre annuelle conjointe des Responsables Nationaux des SIS et SIMR avec les Partenaires techniques et financiers
Accra, Ghana
18 - 21 mai 2015

Day 1: Monday, May 18, 2015

HORAIRES	ACTIVITES	RESPONSABLE	Objectives
07.00 - 08.30	Enregistrement et installation des participants	Secrétariat	
Session 1. Ouverture de la rencontre			
08.30 - 09.30	Informations administratives	Organisateurs	
	Election du présidium (président et rapporteurs)		
	Présentation des organisations participantes		
	Discussion, amendement et adoption de l´agenda	Présidium	
	Suivi des recommandations de la rencontre 2014		
	Présentation des objectifs, méthode de travail et résultats attendus de la rencontre 2015		
09.30 - 10.00	Ouverture officielle de la rencontre ➢ Intervention du DG/OOAS ➢ USAID/WA Mission Director ➢ Discours d'ouverture par le Ministre de la Santé du Ghana Photo de Groupe	Protocole du Ministère de la santé du Ghana	
10.00 - 10.30	**Pause Café**		
Session 2. Systèmes d'informations sanitaires et réponse à Ebola: leçons à tirer et les perspectives			
10.30 – 11.15	Point sur la situation épidémiologique des MPE dans l'espace CEDEAO - Point sur Ebola (15 mn) - Point sur des autres Maladies Epidémiques (15 mn) - Echanges (10)	WAHO	Situer les participants sur le contexte épidémiques des pays de la CEDEAO
11.15 – 12.30	Expériences des pays affectés; **Points clés :** Organisation et fonctionnement des SNIS versus SIMR et la riposte à Ebola. Enchrase institutionnel, circulation des données forces et faiblesses; lésons à partager face à la riposte à Ebola	SNIS Guinée et SNIS Libéria SNIS Mali Présentations (20 min. par pays) et discussion (20 min)	Présenter les expériences de gestion des SIS&SIMR face à la crise d'Ebola Leçons à partager et perspectives pour amélioration
12.30 - 14.00	**Pause Déjeuner**		
Session 2. Continuation			

HORAIRES	ACTIVITES	RESPONSABLE	Objectives
14.00 - 15.20	Expérience des pays non affectés	Ghana, Cote d'Ivoire et Cap Vert	
15.20 – 16.00	Lecon apprises sur l'utilisation des systemes d'information dans la riposte à Ebola	USAID	Partager des lecons apprises dans la riposte à Ebola
16.00 - 16.15	**Pause Café**		
16.15 - 17.00	Platefomes SIS utilizer dans la rispotes riposte à Ebola (presentations rapide de 5min)	Partenaires et pays choisis base sur leurs experiences	Presenter les systèmes SIS développés et mis en œuvre par les partenaires de développement
17.00	**Fin du Jour 1**		
17.00 - 18.00	Preparation pour Jour 2: Rencontre du comité d'organisation, ainsi que des facilitateurs et des presentateurs du Jour 2		

Day 2: Tuesday, May 19, 2015

HORAIRES	ACTIVITES	RESPONSABLE	OBS.
08.30 - 09.00	Rapport J1 : (lecture, amendement et adoption)	Rapporteur du J1	
Session 3. Mécanismes et actions concrètes à entreprendre à court et à moyen termes pour assurer l'efficacité du processus d'intégration de la gestion des données sanitaires dans les pays membres			
09.00 – 10.00	Vision d'une architecture SIS	WHO and Liberia MOH	Definir une architecture SIS
10.00 - 10.30	**Pause-Café**		
10.30 – 11.30	La strategie and politique regional SIS adoptee en 2012 Plateforme Régionale de partage d'informations sur les MPE dans l'espace CEDEAO *Exchanges sur la plateforme et perspectives*	WAHO / Université d'Oslo	Presenter la politique régionale SIS ainsi que la platforme de Afrique de l'Ouest adopté par les 15 Etats membres de la CEDEAO
11.30 – 11.45	Introduction au Travail de groups	USAD/Lab	Compositions des groups et TDR
11.45 – 12.45	**Thematique #1:** Structures de leadership et de gouvernance nécessaires pour renforcer les SIS (alignement de MS et bailleurs, les exigences nationales / sous- nationales , supervision) Présentations des pays sur leurs groupes de coordination nationaux suivis par des séances de travaux de groupe	USAID Nigeria and Senegal	Discussion de TDRs pour un mechanism multi-partenaire de coordination SIS national dans les pays
12.45 - 14.00	**Pause Déjeuner**		
14.00 – 15.45	**Thematique #2:** Exemple d'utilisation de l'interoperabilite et Architecture de reference pour l'echange d'information -Exemple de systeme d'information interoperable pour l'amelioration des services de santé -composantes critiques pour l'interoperabilite des systemes	Regenstrief Institute	Partager un exemple de la façon dont l'interopérabilité est opérationnalisée et l'architecture necessaire pour l'interopérabilité
15.45 - 16.00	**Pause-Café**		
16.00-17.00	**Thematique #3:** Intégration des systemes de surveillance des maladies (MPE) aux systèmes SIS nationaux -Partage des donnees a l'intérieur du pays pour integrer la surveillance epidemiologique dans les systemes SNIS	Partenaires	Déterminer des approches optimales pour l'intégration des systemes SIMR dans les SIS national
16.00	**Fin du Jour 2**		
17.00 - 18.00	Preparation pour Jour 3: Rencontre du comité d'organisation, ainsi que des facilitateurs et des presentateurs du Jour 3		

Day 3: Wednesday, May 20, 2015

HORAIRES	ACTIVITES	RESPONSABLE	OBS.
08.30 – 09.00	Lecture, amendement et adoption du rapport J2	Rapporteur du J2	
Session 3. Continue			
09.00 – 10.30	**Thematique #4: l'harmonisation et partage des données** -Partage des donnees a l'intérieur du pays (le partage de donnees base sur les Interface de programmation API et les standards) - Des accords de partage au-delà des frontières nationales pour la surveillance des maladies transfrontalières - Possibilités d'amélioration des plates-formes SIS et des sous- systèmes existants	USAID et la communaute SNIS	Faire des recommendations pour le partage des donnees Déterminer nécessité de politiques et régionale nationaux de partage de données les accords de partage de données Identifier les composantes d'architectures SIS manquants des systèmes actuels
10.30 - 11.00	**Pause-Café**		
11.00 - 12.30	Groupe de travail concurrent #1: Renforcement des capacites humaines en SIS -Approches pour renforcer les capacités humaines (mécanismes nationales et régionaux pour renforcer les compétences en matière de leadership , gestion du changement , et de l'informatique de la santé) Groupe de travail concurrent #2: Les resources partagées SIS - Biens publics nécessaires pour un SIS national efficace (par exemple les short codes, des registres des établissements sanitaire, les registres des professionels de la sante) -Co-investissements nécessaires des bailleurs de fonds Groupe de travail concurrent #3: Accès aux populations en temps reel -Mobilisation social dans la riposte Ebola et de récupération -Outils mobile pour la surveillance sanitaire a base communautaire -Ajout de feedback loop dans SIS national Groupe de travail concurrent #4: Accès en temps réel aux professionels de la santé -mHero - communication bidirectionnelle pour les professionels de la santé -Les meilleures pratiques des systemes permettant la transmission des données en temps réel Groupe de travail concurrent #5: Sous-systèmes SIGL et de laboratoire - Intégration de la gestion de la chaîne logistique (SIGL) et laboratoire dans les SIS national	MEASURE Evaluation Instedd et USAID JHU and UNICEF UNICEF and IntraHealth JSI and Dimagi	WG # 1 . Déterminer le soutien collectif nécessaire pour des initiatives nationales et régionales de renforcement des capacite (y compris le centre d'excellence SIS régionale) WG # 2 . Recommander un paquet minimum de biens publics SIS WG # 3 . Recommander des approches clés pour intégrer le feedback des populations et la surveillance sanitaire a base communautaire dans l'architecture nationale HIS WG # 4 . Recommander des approches clés pour l'intégration des systèmes de communication avec les professionels de la santé WG # 4 . Déterminer les meilleures approches pour intégrer les systèmes de SIGL et de laboratoire dans les SIS

HORAIRES	ACTIVITES	RESPONSABLE	OBS.
12.30 - 14.00	Pause Déjeuneur		
Session 3. Continue			
14.00 - 15.00	Rapportage des travaux de group Concurrent	Rapporteurs des des travaux de group Concurrent	5 minutes par groupe suivi de 30 minutes d'echange
15.00 – 17.00	Continuation des travaux de group Thematique • Thematique #1: Structures de leadership et de gouvernance nécessaires pour renforcer les SIS • Thematique #2: Exemple d'utilisation de l'interoperabilite et Architecture de reference pour l'echange d'information • Thematique #3: Intégration des systemes de surveillance des maladies (MPE) aux systèmes SIS nationaux • Thematique #4: l'harmonisation et partage des données Partage des données sur les profils sanitaires des pays		Poursuivre les discussions en groupes de travail sur les domaines thématiques clés afin de préparer des recommandations concrètes pour le rapportage
17.00	Fin du Jour 3		
17.00 - 18.00	Preparation pour Jour 4: Rencontre du comité d'organisation, ainsi que des facilitateurs et des presentateurs du Jour 4		

Day 4: Thursday, May 21, 2015

HORAIRES	ACTIVITES	RESPONSABLE	OBS.
08.30 – 09.00	Lecture, amendement et adoption du rapport J2	Rapporteur du J2	
Session 3. Continue			
09.00 - 10.30	Presentations des resultats des travaux de groupe sur les thematiques	Rapporteurs des des travaux de groupe sur les thematiques	Presentations des travaux de groups (5 minutes chaque) suivi de questions/echanges
10.30 - 10.45	**Pause-Café**		
Session 4. Priorités et Besoins des pays en appui pour 2015			
10.45 – 12.30	Les equipes des pays developpe leurs plans d'action (ou le mettent a jour)	Directeurs des SNIS and SMIR	Mise à jour / développement des plans d'action à court terme et moyen terme pour la riposte Ebola et la préparation en cas d'épidémie
12.30 – 14 :00	**Déjeuner**		
14.00 – 15.30	Présentations, discussions et adoptions des recommandations de la rencontre -Bailleurs de fonds partage leurs perspectives Prochaine étapes		
Session 5. Clôture des travaux des travaux de la rencontre 2014			
15.30 - 16.00	Mot de clôture	USAID WAHO MOH Ghana	
16.00	Fin de Reunion Rencontre du Comité d'organisation avec les PTF	Analyse des priorités et besoins des pays ; Identification et partage des domaines d'intervention ; Bilan des travaux de l'atelier et perspectives par le comité d'organisation	

Rencontre Annuelle Conjointe des Responsables SNIS et SIMR avec les Partenaires Techniques et Financiers de l'Espace CEDEAO