

GLOBAL HEALTH SECURITY AGENDA PILOT ASSESSMENT OF PERU

January 26 to 30, 2015



Global Health
Security Agenda



Global Health Security Agenda

Preamble

The Global Health Security Agenda (GHSa) is an effort by nations, international organizations, and civil society to accelerate progress toward a world safe and secure from infectious disease threats; to promote global health security as an international priority; and to spur progress toward full implementation of the World Health Organization (WHO) International Health Regulations 2005 (IHR), the World Organization for Animal Health (OIE) Performance of Veterinary Services (PVS) pathway, and other relevant global health security frameworks. Assessments will be performed in order to determine the status of participating Global Health Security Agenda participating countries for the purpose of identifying the baseline situation and later measuring progress of work implemented in the 11 Action Packages of the GHSa. Georgia was the first country to be assessed for the GHSa, in order to pilot test the usefulness of a novel GHSa Assessment Tool.

Background

Mission place and time

Lima, Peru; January 26 to 30, 2015

Mission team members

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Objectives

Primary objective

To assess the application of the GHSa Assessment Tool (version December 8, 2014) using information, data and observations on those structures and functions in Peru, which are included in or relevant for the 11 Action Packages of the GHSa Action Packages document (version adopted September 26, 2014), in order to make proposals for improving the Assessment Tool.

Secondary objective

To describe structures and functions in Peru essential in performing communicable disease surveillance and control, to the extent enabling application and evaluation of the GHSa Assessment Tool in the Peruvian context.

Preparation and Implementation of the Mission

- Prior to the visit, teleconferences were held with team members to review the agenda, responsibilities, and logistics.
- Information packets were provided to the team that included note-taking and report templates, Peru's self-assessment, and a PowerPoint giving an overview of Peru's health system. This packet proved to be very beneficial in understanding Peru's system and incorporating information during note-taking and developing the report.
- Peru invested much time and effort in pulling together information about their system, and freely provided information and documents that supported their positions. They were well prepared and very helpful to the assessment team.
- Meeting space, organization, and logistics were pre-arranged by Peru and the U.S. Embassy.

Limitations and Assumptions

- The assessment team was comprised of only 3 members, which limited areas of expertise across the 11 Action Packages and made it more difficult to share roles for leading discussions and note-taking.
- Country supporting documents were in Spanish, so were difficult to review. Only one team member spoke Spanish. Translators were available for presentations and immediate discussions, but were not available to help with understanding content of documents, as the days were full and these reviews were often done by the assessment team in the evenings.
- Some of the assessment questions were too broad and did not give a true picture of the capacity of the country. More specific questions were provided on the note-taking template to enable deeper discussions, but these points were often difficult to incorporate into the scoring because of the limited nature of the assessment questions.
- Some of the assessment questions seemed to give much weight to some factors (i.e., availability of rapid testing methods), but did not address other factors of greater importance when considering country capacity.
- Scoring was made on the basis of information provided by the country regarding testing, quality practices, and biosafety practices in regional public health laboratories, rather than evidence observed during site visits (i.e., there was no time for site visit to a regional level laboratory or veterinary laboratory) .

Structure of the Assessment

The assessment part of the report is organized by each of the 11 GHSA Action Packages, consisting of 1) key findings made in Peru that are relevant for scoring the 'Level of capability' according to the Assessment tool criteria; 2) comments on the Assessment tool (version December 8, 2014) regarding its applicability or difficulties in applying it in the context of Peru; and 3) comments on whether the GHSA Action Packages main document approved in September, 2014, contains components which could be introduced into the Assessment tool, when revisions are made.

The assessment and scoring by Assessment tool was based on the state of the structure or function at the time of the mission, regardless of possible plans or prospects of establishing the structure or function in the near future.

Documents and presentations acquired, as well as notes from interactive sessions are separately provided as a collection of supporting documents, covering in more detail the functions in Peru relevant for the GHSA Action Packages.

GHSA Antimicrobial Resistance

(GHSA Action Package Prevent-1)

Introduction

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

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

Peru Level of Capabilities

- Peru has a good level of capability for surveillance of AMR with interaction between the different healthcare institutes (i.e., hospital systems, local healthcare, public and private insurance) in sharing information regarding samples and test results.
- Peru is currently drafting a national plan for the control and surveillance of AMRs. Legislative norms (guidelines) about AMR were developed in 2007. Each region has its own operational action plan; there is not a uniform plan because of differing capabilities in the regions but the central level has an emergency plan to assist the regions when needed.
- The Peruvian National Institute of Health (INS) coordinates the AMR national network of surveillance; 25 regional laboratories carry out the process.
- For human health, tests for core WHO AMR priority pathogens include *Streptococcus pneumoniae*, *Hemophilus influenza*, *Neisseria meningitidis*, *Escherichia coli*, *Klebsiella* spp, *Pseudomonas aeruginosa*, *Staphylococcus aureus*, and *Shigella* spp. Clinical laboratories do culture, identification, and susceptibility testing of these pathogens and refer isolates to the regional laboratories as needed. Regional labs then refer to INS as needed. It is unclear what type of testing is done at INS for these pathogens. Documents provided describe culture, identification, and susceptibility testing by disk diffusion methodologies. It is unclear whether genotyping of resistant strains is done.
- Country-identified priority AMR pathogens in which testing is done include those for HIV, *Mycobacterium tuberculosis*; *Salmonella* spp. (no Typhi), *Vibrio cholera*, and *Acinetobacter* spp.
- AMR surveillance is focused on pathogens with public health importance causing nosocomial infections, acute respiratory infection, nontuberculous bacterial meningitis, acute diarrheal diseases and urinary tract infections (UTI) by *E. coli* of community origin. The actual system allows for uniform technical criteria, integrating the information that arrives from the national, regional and local levels and providing comparative analysis and trends of the profiles of antimicrobial resistance.
- There is a very comprehensive web-based laboratory information system (WHONet/NetLab) that manages patient AMR information, results, epidemiological information and other elements. Information from NetLab is accessible to the MoH, epidemiologists, and others, as authorized.

- The Servicio Nacional de Sanidad Agraria (SENASA) recently began a program for AMR for animals.
- Pharmaceutical stakeholders are missing from the process regarding AMR and use of antibiotics.

Scoring for Peru Using the Assessment Tool

- Surveillance plan implementation: 2
Peru has a draft plan and many elements of this plan are implemented, but the plan has not yet been approved and finalized.
- Laboratory testing: 4
The INS and the regional laboratories are capable of testing for four or more WHO priority AMR pathogens and results are used for policy decisions on AMR.

Assessment Tool

- Need more detail regarding the intent of laboratory testing of WHO priority AMR pathogens in order to score more appropriately. For example, is it sufficient that clinical labs do susceptibility testing by disk diffusion and report resistance of these pathogens to the national level? Is it sufficient that the national level lab also only do susceptibility testing by disk diffusion, or is it expected they should do further testing (i.e., genotyping of the resistant strains)? Also, scoring choices should reflect the differing testing methodologies and levels of sophistication. Perhaps a score of 1 would reflect testing only done at the hospital level laboratories using disk diffusion, whereas a score of 4 would indicate that genotyping is done at the national level reference laboratory.

GHSA Action Packages Main Document

- The questions in the tool focus on having a plan for AMR surveillance and testing, but there is not an indicator for controlled usage of antibiotics.
- The questions in the tool should be subdivided to cover both human and animal AMR surveillance, testing, and antibiotic usage practices and restrictions.

GHSA Zoonotic Disease

(GHSA Action Package Prevent-2)

Introduction

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

Peru Level of Capabilities

- Peru's zoonotic pathogens of main interest are brucella, leptospira, anthrax, influenza, plague, and rabies. Surveillance systems are in place; pathogens that are routinely monitored are plague, leptospira, rabies, and influenza.
- Reports are generated each week for the pathogens of PH concern. Outbreaks are reported immediately through an electronic system. Reports are generated every 6 months of trends related to new pathogens.
- There is good interaction and coordination between the different agencies involved in zoonotic disease management. Several regional agencies collaborate in outbreak investigations.
- There is evidence of policies being put in place in response to epidemiological data (i.e., Peru established a goal (and policy) of covering 100% of the population for vaccination against rabies where rabid bats are endemic and incidence of bat bites is high. They may adopt this practice in other areas of Peru, as applicable.)
- Peru does not have a category of Public Health Veterinarians now, but they have veterinarians who work on public health issues (e.g., more than 50 veterinarians working in the regions meet regularly to discuss macro-regional issues).

Scoring for Peru Using the Assessment Tool

- Surveillance system in place for priority zoonotic diseases: 2
- Veterinarians: 0
Peru does not have a category of Public Health Veterinarians, but they have veterinarians who work on public health issues. They cover less than 40% of the regions, but work together to address macro-regional issues.

Assessment Tool

- One of the questions in the note-taking template asks for the current animal population in the country. Understandably, a country needs to know this information in order to monitor the health of their agricultural animals, but why is this question asked, when there is no way to capture this information in the broader questions or in scoring?

GHSA Action Packages Main Document

- No comments or recommendations

GHSA Biosafety and Biosecurity

(GHSA Action Package Prevent-3)

Introduction

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

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

Peru Level of Capabilities

- Biosecurity is a new concept in Peru so biosecurity concepts are not yet elaborated.
- General laws for worker risk prevention exist and are applied to laboratory work but currently there is no specific biosafety or biosecurity legislation. The current Peruvian biosafety law is focused on risk prevention in biotechnology when working with live modified pathogens.
- Peru has no specific list on especially dangerous pathogens. There is no laboratory licensing system. Currently, there is only one BSL-3 laboratory at the National Institute of Health (INS). A new BSL-3 laboratory will be opened at the Tropical Diseases Research Center (CIETROP) this year. Other laboratories also have especially dangerous pathogens that are endemic in Peru but they do not have an inventory for them.
- The assessment concentrated on biosafety and biosecurity of INS laboratories for human samples, which were also visited. Biosafety proceedings and regulations are in place and enforced in INS laboratories and biosecurity measures are being developed. The INS BSL-3 laboratory has been assessed by Sandia Laboratories, PAHO and the U.S. CDC. INS has a biosafety committee and a person responsible for biosafety and biosafety training. INS supervises regional laboratories and provides them training.
- Especially dangerous pathogens are also handled at the National Service for Agricultural Sanitation (SENASA) [veterinary samples] and the National Direction for Environmental Health (DIGESA) [environmental and food samples], which were not visited. These institutes do not have BSL-3 facilities. We were not able to assess the biosafety and biosecurity measures in those institutes. Also, the lack of visits to peripheral laboratories prevents getting the whole picture of biosafety and biosecurity in Peru.
- There is no academic education on biosafety, biosecurity or dual use issues. There is in-house training on biosafety at INS but there is a need for more biosafety and biosecurity training. There is no formal train-the-trainer program.
- The export legislation is strict and inhibits the ability to send samples outside the country for referral, confirmation, or research purposes. There are no national requirements for using certified couriers when transporting infectious pathogens locally. INS does have personnel that are certified by WHO in packaging infectious materials for shipment according to IATA

regulations.

Scoring for Peru Using the Assessment Tool

- Whole-of-government biosafety and biosecurity system is in place: 1 (limited capacity). There is no specific biosafety or biosecurity legislation and biosecurity is still a new concept in Peru. Based on the information given, the development of biosafety and biosecurity is focused on the human side of laboratories.
- Biosafety and biosecurity training and practices: For INS: 2 (developed capacity). There is a training program at INS laboratories including the BSL-3 laboratory, but more training is needed. We were not able to assess the biosafety and biosecurity training and practice measures in other laboratories.

Assessment Tool

- The indicators of these action packages are too long and complex. The scoring of the two main indicators is difficult because there are numerous sub-indicators.
- There is no clear definition of “especially dangerous pathogens”.
- The tool does not have any questions on biorisk management system, even though there are related questions in the note-taking template.
- There should be biosafety and biosecurity questions more specific to agricultural, veterinary, food safety, research and clinical laboratories.

GHSA Action Packages Main Document

- No comments or recommendations

GHSA Immunization

(GHSA Action Package Prevent-4)

Introduction

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

Peru Level of Capabilities

- Peru's national immunization program began in the 1970's. Its national immunization plan includes 15 vaccines covering 26 preventable diseases.
- Legislation (Law 28 010) supports the immunization program by providing guaranteed funding and vaccine supply for the entire country.
- Vaccinations are free and provided in each of the country's 25 regions. Each region is responsible for distribution to reach its population. In addition, the Es Salud (healthcare provided to Peru's workforce) and several private healthcare providers play a role in the delivery of vaccines.
- Peru's goal is for universal coverage, with the target of achieving more than 95% coverage of the population greater than 5 years of age. This target is consistent with PAHO recommendations.
- The MMR vaccination coverage of children 1 to 4 years of age exceeds 90% and 60% respectively.
- According to the final report of a seroprevalence study of measles, rubella and hepatitis B in children aged 1-4 years, Peru UNAGESP / INS 2012: The prevalence of antibodies in children aged 1-4 years against measles and rubella ranged between 90-93% and remained consistent across the seven areas of study that spanned the country.
- In 2006, Peru conducted a vaccination campaign for the "Elimination of rubella and congenital rubella syndrome (CRS)." During this campaign, they vaccinated 20,070,343 males and females aged 2-39 years with MR, reaching 98% coverage, certified by PAHO / WHO.
- There is a legislation that requires the notification of adverse events due the vaccinations. Every notification is checked by the General Directorate of Epidemiology of the Minister of Health.
- Statistics show that the general vaccination coverage for 2013 was 90% of the population. This percentage represents a decrease from 95% (2012 data) because of three reasons:
 - decentralization of the national healthcare program, resulting in initial difficulties in the organization and management of programs;
 - adverse events from the polio vaccine, which negatively impacted the population response to receive vaccines;
 - changes in the way vaccine administration is captured on registries.
- Peru has a significant investment in equipment to insure cold chain of vaccines, including cold rooms and solar refrigerators to reach remote area of the nation.
- Peru has conducted a number of specific campaigns to encourage immunization, including those for rabies, yellow fever, rubella, measles, and unvaccinated children.

- There are two Committees involved in the vaccine decisional processes: Expert Committee (comprised the Health Ministry) and the Consulting Committee.

Scoring for Peru Using the Assessment Tool

- Vaccine coverage (measles): 4
- National vaccine access: 4

Assessment Tool

- The tool should include a question about country-initiated vaccination campaigns to address diseases identified by the country as problematic and vaccine preventable.
- The tool should include a question about a country's communication strategies to reach the population with important health messages.

GHSA Action Packages Main Document

- Comments above are applicable here.

GHSA National Laboratory System

(GHSA Action Package Detect-1)

Introduction

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

Peru Level of Capabilities

- The National laboratory system (human) has well defined tiers that include the Reference labs at the national level (INS) and 25 regional labs. The regional labs are autonomous but work with national labs through MOUs. The regional labs accept samples from hospitals and health centers and coordinate referral testing for these samples with the reference laboratories at the National Institute of Health (INS).
- INS has reference labs for malaria, plague, respiratory diseases (including influenza), and TB. Laboratories at the regional level serve as reference labs for HIV testing. All viral load testing is done at the laboratory for infectious diseases within the INS in Lima.
- For human health, core tests for priority pathogens include influenza (by PCR), HIV, *Mycobacterium tuberculosis* (particularly multi-drug resistant), and malaria (by thick and thin smears). Country-identified priority pathogens in which testing is done include those for yellow fever, rabies, plague, immune-preventable Bartonella, and leishmania. Peru has the capacity to do testing for all priority diseases except polio. Peru collects samples for polio testing but sends outside the country for testing (US CDC).
- Rapid testing is limited to HIV. No rapid testing for malaria; this is done using the gold standard of examination of thick and thin blood smears.
- There is good coordination of efforts and sharing of information between the human, food, veterinary, and environmental laboratory agencies. Decrees and MOUs are in place.
- There is a Quality Office (CNSP) within INS that oversees quality control and quality assurance, and manages an external quality assessment (EQA) program that sends out EQA panels for proficiency testing 2 times/ per year to labs at the regional level, as well as to other applicable labs. The office was established in 2006, and employs about 50 professional staff. Within this office, a newly formed team was established that will focus on Quality Management Systems (QMS) for INS. A Quality Manual is in place that addresses many elements of a quality management system. QMS activities have been initiated, but have not yet been fully implemented.
- There is a very comprehensive web-based laboratory information system (NetLab) that manages patient information, sample tracking, results, epidemiological case information, and other elements. Information from NetLab is accessible to the MoH, epidemiologists, and others, as authorized; access is controlled to protect confidentiality.
- There is a good system for referral of samples throughout the tiered laboratory network. Clinical laboratories, the healthcare system servicing workers, and private healthcare centers refer samples to the regional level laboratories. When needed, the regional level labs

coordinate the submission of samples to INS for these lower level labs, and refer their samples to INS as needed. Regional labs are autonomous, but the referral system functions through MoUs.

- There is an office (ROM) that oversees sample packaging requirements. The transport system is ad-hoc, with no requirement for certified couriers. Experience was shared of an incidence of sample transport on a public bus in the same area as passengers.
- Accreditation of labs:
 - The national reference laboratory in the environmental agency (DIGESA) achieved ISO 17025 accreditation in June 2014. CNAS was the accrediting body.
 - INS is certified by WHO programs for testing of certain diseases (i.e., measles), but otherwise is not accredited by international or other standards. A future goal is to strive for ISO 15189 accreditation.
- There are no national standards for laboratories, including clinical labs, and no licensure for laboratory personnel.
- Equipment is needed for molecular methods. Laboratories at the regional level do not have consistent access to calibration mechanisms for their equipment.
- Peru expressed the need for developing a national policy to facilitate the import of reagents through customs. (e.g., particularly for reagents sent by other countries for testing emerging diseases).
- Peru adheres to international algorithms for some diseases, such measles, but other algorithms are established by Peru according to their population needs.

Scoring for Peru Using the Assessment Tool

- Laboratory testing capacity for 10 core tests for detection of 10 priority diseases: 4
- Specimen transport: 0
Peru has a system in place for transport of specimens, but it is ad hoc, and not formalized with documented processes. It does have policies in place for safe and appropriate packaging of samples.
- Effective modern point of care and laboratory based diagnostics: 4.
INS serves as the national reference laboratory for human public health testing and has very good capability of testing with modern laboratory design and methodologies. The tiered laboratory system is well defined with a formalized referral system in place. Point of care testing is limited to HIV.

Assessment Tool

- Need clarification on the weight of point of care testing. Peru only uses rapid testing for HIV. Malaria testing methodology is microscopic examination of thick and thin blood smears, which is the gold standard, but it is not rapid testing.
[The initial assessment question for the 3rd point focused only on rapid (point of care) testing. Has the tool been revised to now incorporate other methodologies? Please clarify. Note: if the question focus is only on point of care testing, this would have too much weight when considering total national lab capacity]
- One of the points for scoring is: “Specimen referral and transport,” but the scoring categories only focus on transport systems. Referral systems and sample transport systems are not the

same; please clarify the intent. Peru has a well-defined referral system in place, but an ad-hoc transport system.

- Peru's system for transport of specimens is ad hoc, and not formalized with documented processes. It is unfortunate to give them a score of 0 when they make it happen in spite of difficulties (consider transporting samples from the remote areas in the highlands of the Andes Mountains by horseback or from remote areas of the jungle in the Amazon regions by boat). They plan to work on formalizing this system, but should be given some credit in the scoring mechanism.

GHSA Action Packages Main Document

- No comments or recommendations

GHSA Real-Time Surveillance

(GHSA Action Package Detect-2/3)

Introduction

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

Peru Level of Capabilities

- Peru has a national plan for surveillance. Regions have their own plans, but they are derived from the national plan.
- There are 11 syndromes under surveillance, including: febrile icterohemorrhagic syndrome, febrile anemia, diarrhea, respiratory syndromes, neurological syndromes (including rabies), and some that are zoonotic (leishmania, anthrax).
- There are 21 hospitals nationwide involved in the surveillance programs; their involvement is specific to the syndromes that are the most prevalent and problematic in their area.
- Syndromic data is collected from participating sources (hospitals, clinics, military, etc.) through a mixture of electronic reporting systems, email, and manual reporting. Military, veterinary, and hospitals all have different information systems, but data is shared among the differing sectors.
- Daily reports are submitted through a web-based reporting system for epidemiological data (NOTI) and sent to public health authorities at the Ministry level. Additionally, feedback is provided to participating hospitals on data captured in their facility. Reports generate response and deployment of intervention teams when needed, and show where resources should be shifted.
- Peru has demonstrated experience in event-based surveillance. One example is the preparation and monitoring of health and other events during a large, world-wide convention on climate change (COP 20) that was held in Peru in December 2014. This involved coordination of a multi-sectoral response across ministries, police force, hospitals, ambulances, port authorities, and others, and also involved responding to a potential ebola case from a traveler from Africa. Other examples include response to earthquakes and other natural disasters.

Scoring for Peru Using the Assessment Tool

- Syndromic surveillance systems: 3
- Inter-operable, interconnected, electronic real-time reporting system: 2

Assessment Tool

- No comments or recommendations

GHSA Action Packages Main Document

- No comments or recommendations

GHSA Reporting

(GHSA Action Package Detect-4)

Introduction

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

Peru Level of Capabilities

- The Epidemiology Directorate of the Ministry of Health is the first institutional agency that intervenes when the capability of the regional organization has been exceeded.
- IHR focal points for response are multi-sectoral and include the Ministry of Health, the Ministry for Foreign Affairs, the Ministry of Economy, the Ministry for Internal Affairs, the Ministry of Transportation, the Police Forces, the INS, the Ministry of Agriculture and the Ministry of Production.
- Alerts first arrive at national epidemiological center and then control and response activities engage the INS.
- A recent event that tested the capacity of Peru to respond to a likely PHEIC occurred during a worldwide conference on climate change that was held in Lima December 2014 (COP 20). During this event, there was an alarm of a potential Ebola case among travelers to Lima from Africa. Laboratory results revealed the traveler was not positive for Ebola, but Peru's response and capacity were exercised across several sectors and ministries. As a result of this challenge, modifications were made to their response plan.
- In 2004 and 2005, Peru went through table-top exercises to prepare for the potential of SARS.
- Peru does not have regular table-top exercises built into their national plan, but will add them. They are considering working with Korea and the United States to develop challenging table-top exercises. They are set to have simulations in their work plan for radiological and chemical events.
- There was an important example of a meningitis outbreak that was identified at regional level in the north of Peru. This outbreak was confirmed by the national focal point (CNE) and then the INS; communication was transmitted to PAHO and WHO.
- INS has extensive laboratory information and reporting system (NetLab) that can be accessed across ministries, as applicable and authorized. There is also a web-based reporting system for epidemiological data (NOTI) collected from hospitals, health centers, and other healthcare providers.

Scoring for Peru Using the Assessment Tool

- System for efficient reporting to WHO, FAO and OIE: 4
- Reporting network and protocols in country: 4

Assessment Tool

- It could be interesting to introduce a process indicator for implementing the description of the epidemiological information chain

GHSA Action Packages Main Document

- No comments or recommendations

GHSA Workforce Development

(GHSA Action Package Detect-5)

Introduction

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

Peru Level of Capabilities

- Peru states that it has at least 1 field epidemiologist per 200,000 population, mostly concentrated in Lima and other large cities. The country provided a document showing that there is at least 1 field epidemiologist located within each of the 25 regions of Peru.
- Peru has an FETP program (PREC) that was established in 1989. To date, a total of 6 cohorts have yielded 149 graduates of the program. One of the challenges has been a lack of continuity in the program. Between the 5th and 6th cohorts, there were 7 years with no training. Commitment has been made to strengthen and sustain the PREC program.
- FETP course curriculum is developed by Peruvian universities, which offer a degree upon completion. Additionally, there are approximately 900 epidemiologists in the country that have participated in basic or intermediate levels of training in the program, but not yet graduated from the Advanced level of the PREC program. Cohorts of the PREC program include epidemiologists, biologists, veterinarians, and clinicians. Currently, laboratory personnel have not participated, but plans are to include them in future cohorts.
- INS formalized an agreement with FioCruz University to provide training and offer a Master of Public Health degree in order to encourage more students to enter public health service. Since 2012, 25 professional at INS have been trained, and 12 have an MPH.
- INS works collaboratively with the Peru military to train soldiers to assist with public health functions such as responding to outbreaks, spraying for vector control, delivery of immunization, and surveillance, including surveillance for water quality, food preservation, and solid waste. They offer a formal course that covers 7 modules including theory and practical experiences, over a period of 6 months. The plan is that once military service is completed, these soldiers will choose a career in public health.
- For laboratory staff, INS generally recruits and hires medical technologists or biologists and provides training. Graduate level personnel are difficult to find unless returning from study abroad. INS routinely provides training to laboratory staff at regional levels when introducing new methodologies (technology transfer). Opportunities for continuing education are available from a number of sources, including courses offered by PAHO.
- Peru passed Law 30057 in 2013, with the objectives of reaching higher levels of efficiency and efficacy for public entities, as well as to promote the development of the people who work in the civil service.

- Peru has a national entity (la Autoridad Nacional del Servicio Civil – (SERVIR)) that developed a personnel development and management plan to modernize workforce development in Peru for civil servants, but it is not fully implemented. As with many countries, there is a problem retaining qualified staff because salaries are higher in the private sector. There are no official staff retention plans, but they try to offer a number of incentives. For higher degreed personnel, special contracts allow them to pay higher salaries. Other incentives include opportunities to receive training and attend meetings abroad, stable work environment, and others.

Scoring for Peru Using the Assessment Tool

- Trained field epidemiologists – human: 3
- Field Epidemiology Training program or other applied epidemiology training program in place: 4
- Workforce strategy: 2
Peru has a national plan that addresses workforce for public servants, but it is not fully implemented.

Assessment Tool

- No comments or recommendations

GHSA Action Packages Main Document

- No comments or recommendations

GHSA Emergency Operations Centers

(GHSA Action Package Respond-1)

Introduction

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

Peru Level of Capabilities

- The COE (centro operativo emergencia), the Peruvian EOC, is involved in emergency management led by the Civil Defense which has a component that supports the specific management of the health emergency (COES), as part of the ministry of health.
- The facilities of COE could be considered a logistical problem in the field of a good organization.
- The EOC facility is characterized by only four rooms, but has the necessary equipment. One room is for coordination, another is for operations (with 7 people working together in a small space), and two other rooms are used for communications via radio, personal computer, or phone.
- The EOC has a core staff of 12 people that provide coverage 24 hours a day, 7 days per week. These employees are involved in the different fields of health emergencies management: information, monitoring, analysis, coordination, response, and communication. Personnel from the regional Risk Management offices rotate through the EOC to provide additional coverage.
- The COES leads the coordination of local, regional, and multi-sectoral workgroups involved in the detecting and surveillance of emergencies.
- In the last year, a Ministerial Decree changed the process of managing emergencies from reactive to a proactive and preventive way of operating.
- There are components of the high-level management staff: the head of the structure, a coordinator of the activity, and a coordinator of the processes for monitoring and analysis.
- Personnel have received training in coordination with civil defense and are involved in mentorship processes of knowledge sharing.
- A national simulation for earthquake is organized each year involving all the population.
- A tabletop is organized with the high management of the nation (ministry, vice ministry of health, the head of the directories of the ministry, the INDESA (civil defense) top management for the earthquake management.
- In the last year there were completed three different simulations and several tabletops organized by EOC. The simulations were targeted on the Triage activity, on the Urgent Medical Aid Service organization and on the hospital evacuation plans. These simulations involved the military forces, all the healthcare system organizations, the civil defense and the firefighters.

- Different tabletops were organized and carried out jointly with the Peruvian neighboring countries: Ecuador, Chile, and Bolivia, especially for the management of the natural disasters like earthquakes and floods.

Scoring for Peru Using the Assessment Tool

- Status of EOC (space): 1
The activity that EOC is developing has a very good level quality. The space, the equipment and the facilities should be improved to be useful for the good work done.
- Status of EOC (staff):2
The staff is trained but it needs a continuous improvement plan.
- Emergency Operations Program: 3
There is a good level of real time surveillance of the public health emergencies with a good capability of response through the intervention of the EOC.

Assessment Tool

- This section is focused on the facilities and the programs. It could be useful to explain in a more specific way, the impact of the emergency center activities.
- There are different institutional documents about these issues not specific for this action package. It could be useful if the tool was more specific for each type of emergency (i.e. natural emergency, health emergency).

GHSA Action Packages Main Document

- No comments or recommendations.

GHSA Linking Public Health with Law and Multi-sectoral Rapid Response

(GHSA Action Package Respond-2)

Introduction

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

Peru Level of Capabilities

- Peru formed a permanent cross-cutting ministerial council to put policies, plans, and processes in place to comply with the International Health Regulations. At the national level, this Council has been defined by a law and there is a common memorandum of understanding between the involved partners.
 - This council addresses public health emergencies and oversees efforts toward continuous improvement of Peru's response capabilities. It supports the response to public health emergencies with a technical and political address, especially following the Peruvian decentralization.
 - The Council is comprised of: the Ministry of Health, the Ministry of Defense, the Ministry of Finances; the Ministry of Agriculture, the Ministry of Foreign Policies, the Ministry of Tourism, the Ministry of Transportation, the Ministry of Tourism, the Ministry of Economic Development in the political and the technical parts. Also involved are: the Armed Forces, the Port authorities, the Civil Defense and the Authority for Nuclear Energy.
- This Committee drafted a plan for the management of Ebola and Chikungunya virus
- The Committee provided the organizational, logistical, technical and legislative support for COP20 (worldwide conference on climate change held in Lima in December 2014), and had to respond to a potential Ebola case from a traveler from Africa during this event.
- The Committee organized a simulation for ebola management jointly with the Transport authorities, the Armed Forces and the Civil Defense. Other simulations included one of a nuclear accident, organized jointly with the Nuclear Authority, and an earthquake, as above mentioned for EOC.
- These experiences are considered the basis for recently creating a Peruvian CDC.
- Several training courses have been organized jointly by the Ministry of Health, Civil Defense, and Armed Forces that target health professionals at different levels of capability. An example was the development of a basic on-line course providing a basic knowledge for Ebola management; training participants included more than 6500 public health professionals. Other courses for selected personnel are more focused on actions and response according to the IHR requirements.

- Joint training is organized by INS and the Ministry of Health for the military to build the capability of the armed forces regarding entomological surveillance, epidemiology, and public health technical skills.
- Peru does not have a bioterrorism response plan.

Scoring for Peru Using the Assessment Tool

- Public Health and Law Enforcement are linked during a suspect or confirmed biological event: 3

Assessment Tool

- The responses to a natural threat and a deliberate threat should be separated in the indicator even though these two responses should be discussed together.

GHSA Action Packages Main Document

- No comments or recommendations

GHSA Medical Countermeasures and Personnel Deployment

(GHSA Action Package Respond-3)

Introduction

Medical Countermeasures (MCM) are vital to national security and protect nations from potentially catastrophic infectious disease threats. Investments in the MCM create opportunities to improve overall public health. In addition, it is important to have trained personnel would can deploy in case of a public health emergency for response.

Peru Level of Capabilities

- Peru does not have a structured plan to send or receive medical countermeasures during a public health emergency, but has several agreements with other agencies and countries to obtain them in case of emergency.
- Each region has autonomy about this item; there is a law that makes the process easier at the national level in case of a public health emergency. Peru is in the process of drafting a manual for this kind of cooperation.
- A plan has been developed and applied, but limited to TB and Malaria emergencies.
- In Peru there is not a stockpile of medical counter measures (including drugs and vaccines) but they are able to interchange several drugs with the neighboring countries when needed
- There is a national plan drafted by armed forces for the recruitment coordination of personnel to send to peace missions.

Scoring for Peru Using the Assessment Tool

- System is in place for sending and receiving medical countermeasures during a public health emergency: 3
- System is in place for sending and receiving health personnel during a public health emergency: 3

Peru demonstrated these capacities during the worldwide meeting of COP20 in December 2014, and during earthquake drills.

Assessment Tool

- No comments or recommendations

GHSA Action Packages Main Document

- No comments or recommendations

Attachments

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| Attachment 1 | <u>Global Health Security Agenda Action Packages</u> |
| Attachment 2 | <u>Global Health Security Self-Assessment for Peru</u> |
| Attachment 3 | Peruvian EOC DOCUMENTS: Policy for Alert system, Simulations, instrument implementation, National Law for EOC. |
| Attachment 4 | Multi-sectoral response to Emergency (Transport Authority policy, Commission policy, proceedings of meetings and related law) |
| Attachment 5 | Outbreaks detecting and Notification flow, Policy (2012-2103) and Law |
| Attachment 6 | Ebola Virus crisis management (protocol and law) |
| Attachment 7 | Technical standard for zoonosis prevention and control in Peru (for Plague, Human Rabies, Anthrax), Agreement between Ministry of Health and Ministry of Agriculture |
| Attachment 8 | Biosafety and biosecurity (standards, law and INS manual) |
| Attachment 9 | Laboratory network (ministerial decrees) |
| Attachment 10 | Quality Management Systems (INS quality management manuals, INS inter and intra laboratory trial report, INS capability development workers plan) |
| Attachment 11 | AMR documents (WHO priority pathogens evaluations list, INS lab standards for the evaluation of AMR) |
| Attachment 12 | GHSA Peru Visit (Overview of Peru's systems, presented to the Assessment Team) |

Note: Numerous additional documents were provided by Peru for evidence.