OIE Collaborating Centres Reports Activities

Activities in 2020

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ToR: To provide services to the OIE, in particular within the region, in the designated specialty, in support of the implementation of OIE policies and, where required, seek for collaboration with OIE Reference Laboratories

ToR: To identify and maintain existing expertise, in particular within its region

1. Activities as a centre of research, expertise, standardisation and dissemination of techniques within the remit of the mandate given by the OIE

Disease control	
Title of activity	**Scope**
47th Meeting of the South American Commission for the fight of FMD (COSALFA)	The 47th Ordinary Meeting of the South American Commission for the fight of Foot-and-Mouth Disease (COSALFA 47) was held in August 27 and 28 as a virtual event. In the meeting was analysed the current FMD situation in South America according with the Hemispheric Program for the Eradication of FMD (PHEFA) Action plan 2011-2020.
Third Extraordinary Meeting of Hemispheric Commission for the Eradication of FMD (COHEFA)	In accordance with Resolution IV of COSALFA 46th, an Action Plan for the Hemispheric Program for the Eradication of Foot-and-Mouth Disease (PHEFA) was prepared for the period 2021-2025 in order to complete the eradication of the disease from the Continent. In order to approve this action plan, the third extraordinary meeting of the Hemispheric Commission for the Eradication of foot-and-mouth disease (COHEFA) was convened, which met, under a virtual modality on December 15, 2020. On that occasion the action plan presented was approved.
Sustainability of the FMD free status in Colombia	PANAFTOSA has provided technical cooperation to ICA to optimize the zoning and vaccination strategy to ensure long-term sustainability of Colombia's FMD free status with vaccination.
Restoration of the FMD control program in Venezuela	PANAFTOSA provided technical cooperation to INSAI and the associations of livestock producers in Venezuela to establish a vaccination strategy that considers the formation of a public-private entity that will give continuity and effectiveness to the foot-and-mouth disease program. In this sense, a 5-year strategy was approved with INSAI and a public-private association was established in Venezuela.
15th Annual Meeting OIE/FAO Reference Laboratories	This meeting coordinate international activities: a vaccine bank network (now the IVSRN), and this Foot-and-Mouth Disease Reference Laboratory Network. Attendance at the meeting by delegates from affiliate Foot-and-Mouth Disease laboratories is an essential component of the Network and provides an approach to ensure that the most relevant data is collected regarding FMD outbreaks and surveillance.
Virtual workshop on the official recognition of the OIE status for animal diseases, focused on the maintenance, reconfirmation, suspension and reinstatement of the status for FMD	To strengthen the capacity of Veterinary Services staff involved in preparing requests for changes in the FMD status of the country, to improve the understanding of the process, the quality of the presentations and facilitate their evaluation.
Epidemiology, surveillance, risk assessment, modelling	

Title of activity	Scope
Support to countries in the design and implementation of epidemiological studies	PANAFTOSA/PAHO provided assistance to COL and BRA in the design of the FMD NSP studies to detect/rule out FMDv transmission and to evaluate the post vaccination immunity. Likewise, provided assistance to PAN in the design of AI sero-surveys for poultry farms.
Development of IVVO information system	PANAFTOSA/PAHO completed the development of the Interface for Official Veterinary Surveillance (IVVO), an online information system to support official veterinary (passive and active) of animal diseases surveillance at national and regional level. It will be launched in 2021.

Training, capacity building	
Title of activity	**Scope**
Training and capacity building in the Americas	Through 2020 PANAFTOSA/PAHO has provided several training and capacity building services to the countries of the Americas region (check section 6).

Zoonoses	
Title of activity	**Scope**
World Rabies Day 2020	PANAFTOSA/PAHO has worked on rabies awareness with the countries of the region during the World Rabies Day 2020, with several events organized in each country that can be reached at: https://www.paho.org/es/campa%C3%B1as/dia-mundial-contra-rabia-2020
REDIPRA Network	Within the framework of the Americas Region's Network of National Rabies Control Programs Directors (REDIPRA), PANAFTOSA/PAHO has provided direct technical cooperation and followed the advances in each country of the region, promoting several virtual meetings (check section 6).
RELAPA Network	This network is responsible for sharing experiences, articulating among National laboratories producers of antivenom and promoting training and exchange of experiences in GMP practices
Cystic Echinococcosis Virtual Training	Preparation of a Virtual Training that will be take place in 2021 by performing recording of technical talks and keynote speakers.
Pre-exposure prophylaxis for rabies mediated by vampire bat in human population living at risk in Amazonia region	Elaboration, execution and analysis, in collaboration with the Ministry of Health of Brazil, of a human rabies vaccination pilot project to prevent human rabies mediated by vampire bat (Desmodus rotundus) in marginalized and indigenous native populations of Pará State, Brazil.

Wildlife	
Title of activity	**Scope**
WHO R&D Blueprint	Surveillance for spillover event and maintenance of SARS-COV-2 and other emergent virus in hematophagous bats (D. rotundus) population in Amazon Region

Avian diseases	
Title of activity	**Scope**
Guidelines for Avian Influenza survey design	PAHO/PANAFTOSA has prepared a document to provide guidance to carry out probabilistic surveys for detecting avian influenza in commercial poultry farms. This document is in the process of final editing. The document establishes the minimal requirements to be considered in the design of AI surveys. It is conceived to be used as complement for the technical cooperation activities on AI surveillance, as some countries have shown weaknesses in the design of this kind of studies.

Diagnosis, biotechnology and laboratory	
Title of activity	**Scope**
Reagents and reference materials for FMD and vesicular stomatitis diagnosis	Throughout 2020, PANAFTOSA/PAHO has continued to respond to the different countries' requests regarding reagents and reference materials for the execution of FMD and vesicular stomatitis diagnosis, epidemiological studies and vaccines quality control.
Technical cooperation on FMD and vesicular stomatitis diagnosis - Argentina	Technical visit to the National Reference Laboratories for FMD and vesicular stomatitis in Argentina to establish harmonized diagnostic protocols and discuss the development of joint projects/activities aligned with the new coming phase of PHEFA aiming the OIE status of FMD without vaccination.
Development of new diagnostic kit for FMD	In 2020 we finalized the validation of the bELISA diagnostic kit for FMD. A collaboration of PANAFTOSA/PAHO with international partner institutions.
Laboratory software development	The PANAFTOSA/PAHO team developed new software to calculate the results of diagnostic kits and sets produced and made available to countries by this Center.
Technical assistance to Paraguay	Technical assistance provided remotely to public and private laboratories in Paraguay in order to resolve doubts about procedures and treatments of samples under analysis. This assistance resulted in a request for technical training for users of the CFL set to be scheduled in 2021.
Reagents and reference materials for Glanders diagnosis	Throughout 2020, PANAFTOSA/PAHO has continued to respond to the different countries' requests regarding reagents for support the glanders diagnosis, epidemiological studies and vaccines quality control in the countries.
Interlaboratory trials for glanders	PANAFTOSA remains a member of a technical group for the promotion of interlaboratory trials of glanders in Brazil.
Vaccines	
Title of activity	**Scope**
Provision of canine and human rabies inmunobiologicals	PANAFTOSA have been technically responsible for the provision of canine and human rabies inmunobiologicals through the PAHO Revolving Fund in the Americas Region in order to support the national rabies programs: 10 countries have acquired more than 23.000.000 canine rabies vaccine doses for dog mass vaccination programs; 9 countries have acquired more than 94.000 vials of immunoglobulin for PEP; and 10 countries have acquired more than 2.100.000 human rabies vaccine doses for PEP and PrEP.
Food safety	
Title of activity	**Scope**

Inter American Network of Food Analysis Laboratories	The Inter American Network of Food Analysis Laboratories (INFAL) conducted six online technical trainings that were followed by 1510 analysts from 20 countries in the Americas. The INFAL organized two regional interlaboratories one in food microbiology with the participation of 17 laboratories from 10 countries and another in food chemistry with the participation of eleven laboratories from 10 countries. The INFAL launched a webinar to mark the World Accreditation Day that was followed by more than 1200 participants from 19 countries in the Americas. Finally, the network organized virtually the first Extraordinary Assembly where the new version of the network's statute was approved unanimously by the 20 countries participating in the Assembly.
Food Safety Capacity Building	PAHO/PANAFTOSA and FAO leads the Food Safety Risk Analysis Network (FSRisk) that aims to strength and share experiences in risk analysis among international and regional organizations, government, academia and other specialists. On behalf of the network, the Secretariat (PAHO/PANAFTOSA and FAO) launched an online questionnaire to assess the food safety risk analysis capabilities of different countries in the Americas. The outcome of this report served as the basis to offer technical support to the countries based on South-South cooperation principles.
Risk Communication	PAHO/PANAFTOSA has built a great number of infographics, brochures, videos and other communication materials related to Food Safety to increase awareness about food safety in the Americas. In the context of the COVID-19 pandemic, PAHO/PANAFTOSA participated in some seminars and created a series of infographics to prevent the spread of COVID-19 among professionals working along the food value chain.
World Food Safety Day	PAHO/PANAFTOSA and FAO jointly organized several events for the World Food Safety Day across the region of the Americas to increase awareness on Food Safety and emphasize the importance of safe food markets. The events reached approx. 5176 people in Latin America and 530 in the Caribbean.
Food Safety and Climate Change	PAHO is leading the EU funded Project "Strengthening Climate Resilient Health Systems in the Caribbean". The project includes a Food Safety component that aims to increase awareness and prevent the spread of environmental contaminants derived from the food value chain.
WHO R&D Blueprint project	Improve preparedness and reduce risks of spillover events along the food value chain. The project primarily supported activities on risk inspection and risk communication to reinforce good hygiene practices at different segments of the food value chain.
Other (Name the category)	
Title of activity	**Scope**

AMR Tripartite EU Project	To strengthen integrated AMR surveillance in the Americas, the PAHO-FAO-OIE Tripartite was awarded the project “Working Together to Combat Antimicrobial Resistance” funded by the EU to help selected countries implement their National Action Plans (NAP), share experiences, advocate for best practices and stimulate collaboration. During 2020, the three organizations have been jointly managing the project under the overall supervision of PAHO. The beneficiary countries of the project are Argentina, Brazil, Chile, Colombia, Paraguay, Peru and Uruguay.
AMR Codex Task Force	PAHO/WHO-FAO through its Codex Intergovernmental Task Force on Antimicrobial Resistance is developing science-based guidance on how to assess and manage the risks to human health associated with the presence of antimicrobial resistant bacteria in food and feed and their transmission along the food chain. Codex Alimentarius is currently revising the guidelines on integrated monitoring and surveillance of foodborne antimicrobial resistance and code of practice to minimize and contain antimicrobial resistance.
AMR Awareness	With PAHO/PANAFTOSA support, the PAHO-FAO-OIE Tripartite has developed a series of communication materials related to One Health and AMR that are of public domain and are accessible in the following website: https://www.paho.org/en/together-fight-antimicrobial-resistance. To mark the World Antimicrobial Awareness Week, PANAFTOSA/PAHO organised one webinar in Latin America and another in the Caribbean to increase awareness on AMR integrated surveillance according to One Health approach. The event was followed by 125 viewers in Latin America and 58 in the Caribbean.

ToR : To propose or develop methods and procedures that facilitate harmonisation of international standards and guidelines applicable to the designated specialty

2. Proposal or development of any procedure that will facilitate harmonisation of international regulations applicable to the surveillance and control of animal diseases, food safety or animal welfare

Proposal title	Scope/Content	Applicable area
Glanders diagnostic kit	Request for registration in the Manual of Diagnostic Tests and Vaccines for Terrestrial Animals is still for a glanders disease diagnostic ELISA kit developed by PANAFTOSA’s Production Laboratory (LPRO) with the collaboration of the Instituto Biológico of São Paulo and MAPA Brazil still being processed.	☒Surveillance and control of animal diseases ☐Food safety ☐Animal welfare
FMD diagnostic kit	PANAFTOSA’s Production Laboratory (LPRO) finalized the development of a new ELISA 3ABC kit, which has been adjusted to the new epidemiological situation in the region (free with or without vaccination). Improvements to produce new clones of the current proteins used in the FMD Western Blot kit (EITB) as confirmatory test, are still being developed in collaboration with the National Center for Exotic Diseases (NCFAD) of the Canadian Agency for Inspection of Food (CFIA).	☒Surveillance and control of animal diseases ☐Food safety ☐Animal welfare

Action Plan of PHEFA 2021-2025	Action Plan 2021-2025 of PHEFA was approved at the end of 2020 and gives guidance to the FMD National Programs to prevent and eradicate the FMD by the end of 2025.	☒Surveillance and control of animal diseases ☐Food safety ☐Animal welfare

ToR: To establish and maintain a network with other OIE Collaborating Centres designated for the same specialty, and should the need arise, with Collaborating Centres in other disciplines

ToR: To carry out and/or coordinate scientific and technical studies in collaboration with other centres, laboratories or organisations

3. Did your Collaborating Centre maintain a network with other OIE Collaborating Centres (CC), Reference Laboratories (RL), or organisations designated for the same specialty, to coordinate scientific and technical studies?

Yes

Name of OIE CC/RL/other organisation(s)	Location	Region of networking Centre	Purpose
Caribbean Animal Health Network (CaribVET)	Virtual	☐Africa ☒Americas ☐Asia and Pacific ☐Europe ☐Middle East	PANAFTOSA/PAHO is a CaribVET Steering Committee member, involved in veterinary public health topics.

4. Did your Collaborating Centre maintain a network with other OIE Collaborating Centres, Reference laboratories, or organisations in other disciplines, to coordinate scientific and technical studies?

Yes

Name of OIE CC/RL/other organisation(s)	Location	Region of networking Centre	Purpose
National Centre for Foreign Animal Disease (NCFAD)	Canadian Food Inspection Agency (CFIA), Winnipeg, Manitoba, CANADA	☐Africa ☒Americas ☐Asia and Pacific ☐Europe ☐Middle East	Full genome sequencing of historical strains FMDV isolates in South America and Validation of the FMD cELISA 3ABC/ enzyme linked immunoblot assay (EITB) for multiple species.

OIE Reference Laboratory for avian influenza and Newcastle disease	LFDA-SP/MAPA, Rua Raul Ferrari, s/n° Jardim Santa Marcelina CEP 13100-105 Campinas SP BRASIL	☐Africa ☒Americas ☐Asia and Pacific ☐Europe ☐Middle East	Collaborating work on avian Influenza diagnosis capacity building

ToR: To place expert consultants at the disposal of the OIE.

5. Did your Collaborating Centre place expert consultants at the disposal of the OIE?

Yes

Name of expert	Kind of consultancy	Subject
Dr. Alejandro Rivera	Advisor	FMD
Dr. Ana Paula Alvim	Advisor	Laboratory
Dr. Baldomero Molina	Advisor	Zoonosis
Dr. Edviges Maristela Pituco	Advisor	FMD
Dr. Guilherme F. Marques	Advisor	VPH
Dr. Julio Pompei	Advisor	Zoonosis
Dr. Manuel Sánchez Vázquez	Advisor	Epidemiology
Dr. Marco Vigilato	Advisor	VPH
Dr. Margarita Corrales	Advisor	Food Safety
Dr. Monica Martini	Advisor	Cooperation Programmes
Dr. Ottorino Cosivi	Advisor	VPH
Dr. Rodrigo García	Advisor	FMD

ToR: To provide, within the designated specialty, scientific and technical training to personnel from OIE Member Countries

6. Did your Collaborating Centre provide scientific and technical training, within the remit of the mandate given by the OIE, to personnel from OIE Member Countries?

Yes

a) Technical visits: 2
b) Seminars: 15
c) Hands-on training courses: 10
d) Internships (>1 month): 1

Type of technical training provided (a, b, c or d)	Content	Country of origin of the expert(s) provided with training	No. participants from the corresponding country
b	Meeting of the Working Group for the Preparation of the Regional Program for the Control of Herbivore Rabies in the Americas. Sep 2020.	Argentina, Brazil, Colombia, Ecuador, Mexico, Paraguay, Peru and Uruguay	8
c	Training in Surveillance, Prevention and Control of Herbivore Rabies in Peru. PANAFTOSA-PAHO/WHO and SENASA. Sep 2020.	Peru	15
b	III Virtual Meeting with the Rabies Program Directors in the Americas - Laboratory Diagnosis of Rabies in the Americas. Aug 2020.	Argentina, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Trinidad and Tobago, United States of America, Uruguay and Venezuela	120
b	II Virtual Meeting with the Rabies Program Directors in the Americas - Rabies transmitted by the hematophagous bat in herbivores. July 2020.	Argentina, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Trinidad and Tobago, United States of America, Uruguay and Venezuela	75
b	I Virtual Meeting with the Rabies Program Directors in the Americas - Update on the Regional Rabies Program in the Americas and activities for the prevention and control of rabies in the context of the COVID-19 pandemic. June 2020.	Argentina, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Trinidad and Tobago, United States of America, Uruguay and Venezuela	96

a	Technical meeting with experts in human rabies prophylaxis at the State Secretary of Health of the Ministry of Health of Brazil. March 2020.	Brazil	15
c	Training course in epidemiological research on rabies for the Field Epidemiology Training Program of the Colombian National Institute of Health (INS). Dec 2020.	Colombia	100
b	II Meeting of the Network of Public Antivenom Manufacturing Laboratories in Latin America (RELAPA).	Argentina, Bolivia, Brazil, Colombia, Costa Rica, Ecuador, Mexico, Peru and Venezuela	22
b	V Virtual Diagnosis Workshop of the South American Network of Diagnostic Laboratories of Avian Influenza and Newcastle Disease (RESUDIA). Oct. 2020	Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru and Uruguay	100
c	e-Training in attending to suspected vesicular disease. Aug-Nov 2020	Brazil	705
a	SENASA technical cooperation on FMD and vesicular stomatitis diagnosis. January 2020	Argentina	15
a	DGSG/MGAP training for BTV diagnostic. 2020	Uruguay	30
d	Internship in the area of Food Safety. July-October 2020.	Spain	1
b	Food Handlers virtual training. June 2020.	All countries in the Americas	1500
c	Virtual Food Safety Training. September-December 2020.	Guyana	50
b	Online Seminar Series: Role of Molecular Biology in Integrated AMR Surveillance within the framework of One-Health. August-October 2020.	Argentina, Brazil, Chile, Colombia, Paraguay, Peru and Uruguay	100
b	Refresher online training on risk-based food inspection for the Caribbean. December 2020.	Barbuda, Bahamas, Belize, Bonaire, Jamaica, Guyana, Suriname and Trinidad & Tobago	150
b	Online Training and open consultation on food safety risk communication to broad their knowledge and apply good practices on this subject. December 2020.	All countries in the Americas	64
b	Verification of microbiological test methods, according to the requirements of the ISO / IEC 17025: 2017 standard	All countries in the Americas	357
b	Interlaboratories interpretation and benefits. July 2020.	All countries in the Americas	203
b	Considerations for the interpretation of antibiograms in automated equipment.	All countries in the Americas	121

b	Session 1: Reference Materials and Control Materials for traceability assurance and quality assurance in chemical measurements. September 2020.	All countries in the Americas	340
b	Session 2: Reference Materials and Control Materials for traceability assurance and quality assurance in chemical measurements. October 2020.	All countries in the Americas	201

ToR: To organise and participate in scientific meetings and other activities on behalf of the OIE

7. Did your Collaborating Centre organise or participate in the organisation of scientific meetings on behalf of the OIE?

Yes

National/International	Title of event	Co-organiser	Date (mm/yy)	Location	No. Participants
International	15th Annual Meeting OIE/FAO Reference Laboratories	The Pirbright Institute	Dec 2020	Online	0
International	Virtual workshop on the official recognition of the OIE status for animal diseases, focused on the maintenance, reconfirmation, suspension and recovery of the status for FMD	Instituto Colombiano Agropecuario (ICA)	Dec 2020	Online	0
International	11th Meeting of Regional Steering Committee of the GF-TADs for the Americas	FAO	June 2020	Online	0
International	OIE ad hoc Group for FMD status	-	Oct - Nov 2020	Online	0
International	OIE ad hoc Group on COVID-19 and safe trade in animal and animal products	-	Several dates in 2020	Online	0

ToR: To collect, process, analyse, publish and disseminate data and information relevant to the designated specialty

8. Publication and dissemination of any information within the remit of the mandate given by the OIE that may be useful to Member Countries of the OIE

a) Articles published in peer-reviewed journals: 12

1. Eschbaumer, M., Vögtlin, A., Paton, D.J., Barnabei, J.L., Sanchez-Vazquez, M.J., Pituco, E.M., Rivera, A.M., O'Brien, D., Nfon, C., Brocchi, E., Bakkali Kassimi, L., Lefebvre, D.J., Navarro López, R., Maradei, E., Duffy, S.J., Loitsch, A., De Clercq, K., King, D.P., Zientara, S., Griot, C., Beer, M., 2020. Non-discriminatory Exclusion Testing as a Tool for the Early Detection of Foot-and-Mouth Disease Incursions. Front. Vet. Sci. 7, 1–11. https://doi.org/10.3389/fvets.2020.552670
2. Buzanovsky, L.P., Sanchez-Vazquez, M.J., Maia-Elkhoury, A.N.S., Werneck, G.L., 2020. Major environmental and socioeconomic determinants of cutaneous leishmaniasis in brazil – a systematic literature review. Rev. Soc. Bras. Med. Trop. 53, 1–8. https://doi.org/10.1590/0037-8682-0291-2019
3. Seetahal, J.F.R., Greenberg, L., Satheshkumar, P.S., Sanchez-Vazquez, M.J., Legall, G., Singh, S., Ramkissoon, V., Schountz, T., Munster, V., Oura, C.A.L., Carrington, C.V.F., 2020. The serological prevalence of rabies virus-neutralizing antibodies in the bat population on the Caribbean island of Trinidad. Viruses 12. https://doi.org/10.3390/v12020178
4. Control of Rabies as a Victim of Its Own Success: Perception of Risk within a Latin American Population. Rocha, F. The American Journal of Tropical Medicine and Hygiene, Volume 103, Issue 3, 2 Sep 2020, p. 929 – 930.
5. Abreu, Diego Candido; Gomes, Aline Silva; Tessler, Danielle Klein; Chiebao, Daniela Pontes; Fava, Cláudia Del; Romaldini, Adriana Hellmeister De Campos Nogueira; Araujo, Mateus Carvalho; Pompei, Júlio; Marques, Guilherme Figueiredo; Harakava, Ricardo; Pituco, Edviges Maristela; Nassar, Alessandra Figueiredo De Castro. Systematic monitoring of glanders-infected horses by complement fixation test, bacterial isolation, and PCR. Veterinary and Animal Science, v. 10, p. 100147, 2020.
6. Nassar, A. F. C; Del Fava, C.; Tessler, D. K.; Cassiano, L. L.; Lezier, D. H.; Gunnewier, M. F. K.; Magrinho, F.; Pituco, E. M.; Chiebao, D. P. Burkholderia mallei isolation from milk of a mare and evidence of congenital transmission of glanders in equids: case reports. Ars Veterinária Jaboticabal, v. 36, p. 181-186, 2020.
7. Gomes, V.; Gonzalez, D. D.; Madureira, K. M.; Mozgovoj, M. V.; Baccili, C. C; Silva, B. T; Ramos, J. S.; Silva, K. N.; Pituco, E.M. Effect of Parenteral Vaccination of Newborn Holstein Calves against Viral Agents Involved in Bovine Respiratory Disease (BRD). Acta Scientiae Veterinariae (ONLINE), v. 48, p. 1-9, 2020.
8. Rysava, Kristyna; Mancero, Tamara; Caldas, Eduardo; de Carvalho, Mary Freire; Castro, André PB; Gutiérrez, Veronica; Haydon, Daniel T; Johnson, Paul CD; Mancy, Rebecca; Montebello, Lúcia R; Silene M Rocha, Jesús F Gonzalez Roldan, Marco Antonio Natal Vigilato, Victor Del Rio Vilas, Katie Hampson.Towards the elimination of dog-mediated rabies: development and application of an evidence-based management tool BMC infectious diseases 20 1 14-Jan 2020 BioMed Centra.
9. Lawson, Andrew; Boaz III, R; Corberán-Vallet, A; Arezo, Marcos; Larrieu, Edmundo; Vigilato, Marco A; Vilas, Victor J Del Rio. Integration of animal health and public health surveillance sources to exhaustively inform the risk of zoonosis: An application to echinococcosis in Rio Negro, Argentina PLoS neglected tropical diseases 14 8 e0008545 2020 Public Library of Science.
10. Benavides, Julio A; Valderrama, William; Recuenco, Sergio; Uieda, Wilson; Suzán, Gerardo; Avila-Flores, Rafael; Velasco-Villa, Andres; Almeida, Marilene; de Andrade, Fernanda AG; Molina-Flores, Baldomero; Marco Antonio Natal Vigilato, Julio Cesar Augusto Pompei, Paolo Tizzani, Jorge E Carrera, Darcy Ibanez, Daniel G Streicker. Defining new pathways to manage the ongoing emergence of bat rabies in Latin America Viruses 12 9 1002 2020 Multidisciplinary Digital Publishing Institute.
11. Laing, Gabrielle; Vigilato, Marco Antonio Natal; Cleaveland, Sarah; Thumbi, SM; Blumberg, Lucille; Salahuddin, Naseem; Abdela-Ridder, Bernadette; Harrison, Wendy; One Health for neglected tropical diseases. Transactions of The Royal Society of Tropical Medicine and Hygiene. 2020
12. Wallace, Ryan M; Cliquet, Florence; Fehlner-Gardiner, Christine; Fooks, Anthony R; Sabeta, Claude T; Setién, Alvaro Aguilar; Tu, Changchun; Vuta, Vlad; Yakobson, Boris; Yang, Dong-Kun; Gideon Brückner, Conrad M Freuling, Lea Knopf, Artem Metlin, Patricia Pozzetti, Pebi Purwo Suseno, Sean V Shadomy, Gregorio Torres, Marco Antonio Natal Vigilato, Bernadette Abela-Ridder, Thomas Müller. Role of Oral Rabies Vaccines in the Elimination of Dog-Mediated Human Rabies Deaths. Emerging Infectious Disease, 26, 12, 2020. Centers for Disease Control and Prevention.

b) International conferences: 7

1. III Seminario Internacional en Salud Pública Veterinaria y I Seminario Internacional de la Red SAPUVET-OHIN. Dec 2020. Presentation: Brucelosis: directrices para una integración "Una Salud".
2. XXXI Rabies in the Americas International Meeting (RITA). Oct 2020. Presentation: A regional perspective upon

domestic herbivore rabies mediated by hematophagous bat (D. rotundus) in the Americas.
3. XXXI Rabies in the Americas International Meeting (RITA). Oct 2020. Presentation: Actions taken by national public health programs on the fight against dog mediated rabies during struggles and difficulties faced by COVID-19 pandemic.
4. Foro virtual: “Recomendaciones para uso de cloro para la sanitización de alimentos y superficies para prevenir enfermedades, incluyendo COVID-19” - Recomendaciones para sanitización con cloro en hogares y establecimientos de alimentos, y medidas adicionales para prevención del COVID – 19
5. Open Session 2020 of EUFMD Commission. December 2020. Presentation: Control of an outbreak of Foot-and-Mouth Disease in Colombia 2017-2018. Lessons Learned.
6. Virtual Edition of the 6th World One Health Congress. Nov 2020. Presentation: Considerations for veterinary public health interventions at the human-animal interface.
7. V Seminario Internacional "Las Zoonosis en la incidencia de la salud humana y animal". Dec 2020. Presentation: Vigilancia y prevención de zoonosis emergentes y reemergentes con potencial pandémico y la importancia de Una Salud.

c) National conferences: 5
1. Reunión Nacional del Programa de Zoonosis. Secretaría de Salud de México/CENAPRECE. Virtual. Dec 2020. Presentation: Abordaje de la Brucelosis: directrices para una integración “Una Salud”.
2. Reunión Nacional del Programa de Zoonosis. Secretaría de Salud de México/CENAPRECE. Virtual. Dec 2020. Presentation: La rabia transmitida por murciélago hematófago en América.
3. World Food Safety day Guatemala– Webinar Food Safety and Codex Alimentarius – World Food Safety Day in Americas – Actions from PANAFTOSA.
4. Conmemoración al Dia Mundial de la Inocuidad de los Alimentos. Ministerio de Salud de El Salvador
5. Conferencia Nacional de Epidemiologia. Dec 2020. “Vigilancia y prevención de zoonosis emergentes y reemergentes con potencial pandémico y la importancia de Una Salud”. Virtual, República Dominica.

d) Other
(Provide website address or link to appropriate information): 9
1. Mediterranean epidemiology training program (MediPIET). Module 6. Zoonotic & vector-borne diseases. Oct 2020. Lectures: One Health approach to brucellosis eradication - Rabies control within animal-human interface.
2. MSc in Infectious Disease and One Health - Erasmus+ Programme of the EU. Universitat Autònoma Barcelona (UAB) Veterinary School. Sept 2020. Lecture: Integrated Surveillance & One Health.
3. Manual de Investigação de Doença Vesicular, 1a Edição, Ministério da Agricultura, Pecuária e Abastecimento, 2020 - elaborated with the partnership of the Ministry of Agriculture, Livestock and Food Supply (MAPA), Panaftosa, and State Veterinary Services (SVE).
4. COSALFA 47. Resoluciones de la 47a COSALFA (Reunión en línea vía Zoom - país sede Argentina, 27-28 ago. 2020). https://iris.paho.org/handle/10665.2/52674
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9. Additional comments regarding your report:

NA