

GF-TADs

GLOBAL FRAMEWORK FOR THE
PROGRESSIVE CONTROL OF
TRANSBOUNDARY ANIMAL DISEASES



1st West Eurasia FMD Epidemiology and Laboratory Networks Meeting

Tbilisi, Georgia, 18-20 September 2017

Report



Acknowledgements

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Additionally, the FAO and the OIE would like to express their deep appreciation to all countries of West Eurasia for their commitment and contributions over the years.

Abbreviations

ARRIAH	Federal Centre for Animal Health
CVO	Chief Veterinary Officer
EPINET	West Eurasia Epidemiology Network
EuFMD	European Commission for the Control of Foot-And-Mouth Disease (an Inter-Governmental Commission based in the FAO)
FAO	Food And Agriculture Organisation of the United Nations
FMD	Foot and mouth disease
FMDV	Foot and mouth disease Virus
GF-TADs	Global Framework for the Progressive Control of Transboundary Animal Diseases
IATA	International Air Transport Association
OIE	World Organisation for Animal Health
PCP	Progressive Control Pathway
PT	Proficiency Tests
PTS	Proficiency Testing Schemes
VMT	Vaccination Monitoring Tool
WELNET	West Eurasia Laboratory Network
WRL	World Reference Laboratory for Foot and Mouth Disease, Pirbright Institute, UK

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Meeting report

Background

Foot and Mouth Disease (FMD) severely affects the production of livestock, disrupting regional and international trade in animals and animal products.

In order to reduce the FMD burden, the Food and Agriculture Organization of the United Nations (FAO) and the World Organisation for Animal Health (OIE) developed a 15-year Global FMD control Strategy in 2012 and encourage endemic countries to progressively control FMD using the progressive control pathway for FMD (PCP-FMD) approach at country level, with aligned coordination at regional level.

West Eurasian Countries have participated in seven Regional Roadmap meetings aiming to monitor their progress along the PCP. To enforce the regional efforts, share information and build the national capacity, the Regional Epidemiology (EPINET) and Laboratory (WELNET) networks were established.

This first regional epi and lab networks meeting was organized under the umbrella of the FAO-OIE GF-TADs, in collaboration with the European Commission for Control of FMD (EuFMD) and was hosted by the Government of Georgia. Participants included Chief Veterinary Officers (CVOs), country-nominated laboratory and epidemiology points of contact, and representatives of the FAO, OIE, EuFMD, FMD World Reference Laboratory of Pirbright (WRL), ARRIAH, Eurasian Economic Commission and Merial-Boehringer Ingelheim. The list of participants is provided in Annex 1.

Objectives of the meeting:

1. share information on FMD virus (FMDV) circulation within the region and share expertise of countries on their FMD control initiatives,
2. link the laboratory and epidemiology networks for continuous support to the national and regional objectives for FMD control,
3. develop annual work plans for the regional epidemiology and laboratory networks, addressing the regional needs for 2018-2019,
4. strengthen field epidemiology and laboratory capacity to contribute effectively in the progressive control pathway for FMD in the areas of designing and implementation of surveillance plan, national control plan, vaccination strategy and preparedness, etc.,
5. gather, generate, analyse and make available information on the regional occurrence and spread of FMDV and on the characterization of circulating FMD strains.

Expected outcomes:

1. The epidemiology and laboratory networks are linked to carry out activities in tandem.
2. The work-plans for the laboratory and epidemiology networks are developed.
3. Information on virus circulation and FMD current situation in the region is shared.

Plenary session

Ten of the 14 West Eurasian countries attended the Networks meeting, namely: Afghanistan, Armenia, Azerbaijan, Georgia, Iran, Kazakhstan, Kyrgyzstan, Tajikistan, Turkey, and Uzbekistan. As for Syria, Iraq, Turkmenistan and Pakistan, they couldn't manage to attend.

Mr Nodar Kereselidze, First Deputy Minister of Agriculture of Georgia, Dr Zhurab Chekurashvili, Head of the National Food Agency, Chief Veterinary Officer of Georgia, Dr Samia Metwally (FAO) and Dr Mereke Taitubayev (OIE) delivered the welcome remarks and opened the meeting. The agenda is provided in Annex 2.

- From the recommendations of the 7th meeting in Bishkek in April 2016, Dr Djahne Montabord (OIE) extracted those of major interest to the networks members in Tbilisi, relating to laboratory capacity and epidemiology. Recommendations on cross border coordination, diagnostics capacity, monitoring and surveillance for early detection and vaccine recommendations would have to be taken into account when drafting and implementing the networks' action plans. Information sharing is the keyword to have appropriate knowledge of the circulating strains to control the disease, not only from an epidemiological point of view within and between countries, but also among laboratories, to better understand the disease, harmonize the control objectives and provide the veterinary services with the appropriate tools to progress along the FMD progressive control pathway.
- Dr Don King, on behalf of the WRLFMD and of his colleagues from ARRIAH (Russia) and SAP Institute (Turkey), presented the regional situation and most recent vaccine strains in the region. He highlighted the importance of collecting and testing field samples to ensure that there are no surveillance gaps in the region, which may bias our understanding of FMD epidemiology and recommended to not only rely on clinical disease but also on serological survey. He provided an update of data generated from specimens that have recently been received by the WRLFMD, as well as contributions from partner laboratories within the OIE/FAO FMD Laboratory Network. Genome sequence data can be used to understand the transboundary spread of FMDV and testing of these samples demonstrates that four FMD viral lineages are currently circulating in West Eurasia (O/ME-SA/PanAsia-2, A/ASIA/Iran-05, A/ASIA/G-VII and serotype Asia 1). Particular attention was paid to the distribution of the A/ASIA/G-VII lineage, that since 2015 has been introduced into the region (in Iran, Armenia and Turkey), and has required the development of new tailored vaccines to control field outbreaks. Beyond the boundaries of West Eurasia, recent long-distance transmission of FMDV into neighbouring countries in the Middle East raises concerns for onward spread into this region. These lineages include the O/ME-SA/Ind-2001d lineage that is also now widely distributed in many countries across South, Southeast and East Asia, as well as the O/EA-3 lineage that has recently moved north into Palestine and Israel from Egypt. Together with the four FMDV lineages already known to be present in West Eurasia, it is prudent to also consider these additional lineages in the vaccine recommendations for the region. He also highlighted the risk of spread from neighbouring countries, as well as the risk linked to long distance spread of the FMD virus, as recently demonstrated in the world.

SESSION 1. Country reports

- Countries delivered a short presentation on the FMD situation and on their progress along FMD control/ eradication, in accordance with a template provided before the meeting. Annex 3 gathers their summaries.
- On behalf of the GF-TADs FMD working group, Dr Silvia Kreindel (FAO) presented some thoughts on the objectives and activities of the Epi and Lab Networks, as well as on the terms of reference (TORs) for their network's leaders, that were further discussed on day 2, during the dedicated epi and laboratory sessions. The epi and lab work-plans, resulting of these consultations, are provided in session 4 hereafter.

SESSION 2. Simulation exercise and vaccination

- Drs Lasha Avaliani (Georgia) and Samat Tyulegenov (Kazakhstan) shared their experience in conducting FMD simulation exercises in their respective countries in 2017.

The trans Caucasus Regional FMD simulation exercise (SIMEX) was conducted in Georgia (Borjomi and Aspindza) as a 4-day exercise, from 12th to 15th July 2017, comprising desktop and field exercises. Georgia (EuFMD member state), Azerbaijan and Armenia were recipients of this exercise and Turkey and the Russian Federation were invited as neighbouring observers. The overarching aims was (i) to support the beneficiary countries to prepare their VS for the national and regional control of FMD, (ii) to test regional cooperation among the trans Caucasus countries, (iii) to challenge veterinary contingency plans, (iv) to discuss surveillance strategies, (v) to identify areas of cooperation and necessary international assistance in case FMD would occur. Participating countries indicated several take-home messages, such as “Chain of command is critical”, “Time is the most valuable resource during an outbreak”, “bio-safety should never be neglected”, “detailed instructions are needed for field specialists”, as well as “contingency plans must be shared with other authorities”.

In Kazakhstan, a field deployment simulation exercise on FMD has been organized in the village of Kievka, Nurinsky district, Karaganda region, from 5th to 9th September 2017, under the framework of an OIE-Kazakhstan joint collaboration programme. Gathering representatives of all interested state bodies, the exercise aimed at assessing the preparedness of the country to ensure an early and adapted response to a potential FMD outbreak, identifying weaknesses and improving the FMD national contingency plan accordingly. All steps, chains of actions and reactions and collaboration between involved structures have been assessed, including laboratory diagnostic, notification to the OIE and measures taken. After the exercise, the mission recommended Kazakhstan to (i) raise awareness and responsibility of owners and veterinarians (private or public practitioners) on passive surveillance of animal diseases and on animal movements, (ii) increase the level of qualification of private veterinarians, veterinary and sanitary inspectors and laboratory staff, through seminars, refresher courses, simulation exercises, (iii) set up an implementation programme of the recommendations for short, medium and long-term actions and (iv) consider implementing a permanent review and updating of the FMD contingency plan, including chapters such as preparedness, prevention, detection (early warning), rapid response and recovery phase.

- The leaders of EPINET and WELNET were elected, respectively Dr Lasha Avaliani (Delegate of Georgia), and Dr Naci Bulut Abdulnaci (SAP Institute, Turkey). Later on during the meeting, Dr Shalala Zeynalova (Azerbaijan) was nominated as a co-leader for the WELNET, and Dr Tamilla Aliyeva (Azerbaijan) as co-leader for EPINET to support the training activities.
- Dr Samia Metwally provided an overview on the content of the FAO-OIE FMD vaccination and post-vaccination monitoring (PVM) guidelines published in December 2016 (www.fao.org/3/a-i5975e.pdf). The guidelines aimed to provide background information on the FMD vaccine and vaccination, evaluation of the effectiveness of the vaccination programs, and monitoring the impact of vaccination and other control measures. Points of interest for the participants were how to determine the vaccine coverage which is well covered in the guidelines and the available tests for PVM. The guidelines recommend that countries should request reference post-vaccinal sera from the manufacturers to deliver along with the vaccine orders. These sera would be used as a reference for the protective titers in any employed tests for the PVM studies. This discussion led to the formulation of two recommendations (see session 9). Countries were encouraged to use the guidelines to design their PVM studies and to seek assistance from the FMD Working Group and the OIE/FAO network of Reference Laboratories for the study design of the PVM. Copies of the PVM book were distributed at the meeting. The participants were then divided into three groups to exchange their views on i) the way to ensure quality of the vaccines used, ii) the monitoring of effectiveness of the vaccination programmes and iii) the main priorities to enable countries to evaluate the vaccine effectiveness.

SESSION 3 - EPI NETWORK, Experience from the field

- Dr Lasha Avaliani started Session 3 with the veterinary control guidelines developed in Georgia, to face the increasing and wide range of activities, as well as the progressing standardization process in veterinary field. These guidelines include a description of technical procedures around the implementation and evaluation of FMD vaccination/surveys. They are distributed to field official veterinarians during training/informative meetings, and updates are sent via emails when needed. An intranet for guidelines is under development with the purpose of ensuring easy access (PC, Tablet, Smartphone) and staff notification regarding their updates. As a further perspective, Georgian veterinary services plan to translate them into English and Russian. The development of protocols (manuals) for other diseases, including all related SOP-s is also planned, in order to share them within EPINET. Feedback from other countries would be welcome.
- Dr Anton Karaulov (ARRIAH) highlighted the importance of clinical surveillance for identification of the circulating virus, and the relevance of rapid response to limit the spread of the outbreaks. He outlined the evolution of the clinical lesions in cattle, sheep and pigs and stressed the little clinical signs in sheep and goats and the difficulty to differentiate FMD from other vesicular diseases without a laboratory confirmation. He concluded that clinical examination, targeted surveillance, and diagnostic testing should complement each other. He insisted on the need to use high quality vaccines and to appropriately target the population to vaccinate.

- Dr Paolo Motta presented a project sponsored by EuFMD, related to main drivers for animal movements: the use of prices and population data enables a better understanding of trade-related livestock movements. This is a key driver of FMD circulation and dissemination, essential as early warning system to identify the high and low risk areas of FMD incursion and to assess how the risk varies overtime. In the region, traceability of livestock is still limited and methods using alternative indicators can offer the opportunity for movement surveillance. An online survey is being developed and will be circulated to the countries in the region to identify data sources and areas/zones of interest for piloting the system at a national or regional level.

Zoning approach

- The topic of zoning was briefly introduced by Dr Laure Weber-Vintzel to remind the participant of the key parameters to consider for a zoning approach. Examples from Asia, South America and Africa fed the discussion.
- Kazakhstan has divided the country in six zones officially recognized, one FMD free zone without vaccination in the North and five FMD free zones with vaccination in the South. The Kazakh participants shared their experience in zoning, using administrative divisions and geographical barriers and highlighted that all physical barriers can be used as artificial barriers between zones, including fenced railways.
- Georgia and Azerbaijan discussed their plans in terms of zoning. Georgia clarified that they focus on a geographically isolated area in the North of the country (mountains and only few roads). Azerbaijan explained the reasons why they adjusted their strategy by targeting another zone (the Absheron peninsula) when realised that the initial plan targeting an autonomous area would not be under the direct control of the Central Veterinary Services.
- All agreed that borders of zones and movement control measures should be discussed and accepted by all stakeholders before being implemented, in particular before building up artificial barriers (e.g. fences).

Way forward to advance to PCP stage 2 for Kyrgyzstan, Tajikistan and Uzbekistan

- The participant from Kyrgyzstan presented the efforts made in the past years to strengthen their Veterinary Services, taking advantage of the OIE PVS pathway and the different available tools. He also explained the implementation of a national working group to develop a risk-based strategic plan (RBSP) composed of five veterinarians from Kyrgyzstan supported by two FMD experts from EuFMD.
The Kyrgyz RBSP was submitted to the FAO-OIE FMD WG in January 2017 and the GF-TADs FMD working group provided feedback to the plan in mid-2017. Kyrgyzstan might only need minor additional assistance to address the feedback for the amendment and subsequent acceptance of the national RBSP.
- The representatives of Tajikistan and Uzbekistan expressed their willingness to advance to PCP stage 2. Both countries had PVS missions in 2017 and are committed to use the mission results to improve FMD control and develop national RBSPs to progress to PCP stage 2. Tajikistan and Uzbekistan would need international assistance.

SESSION 4. EPI NETWORK, Workplan 2018-2019

Roundtable discussion to develop Epi Network Work-plan 2018-2019:

- Dr Lasha Avaliani, leader of the Epi Network, led the discussion on the objective and future activities of the Epi Network and the terms of reference of the Epi Network leader. Countries agreed to amend the proposals shown the first day in Session one, according to the discussions within the Epi Network.
- The participants agreed on the relevance of sharing information in a timely manner (FMD documents, experiences in controlling FMD, including follow up activities, surveillance strategies, vaccinations, ...) but the type of data to be shared and the specific mechanism to be used for sharing is still to be discussed in further detail.
- They also highlighted the need for the development and conduction of trainings and workshops based on the work plan.
- Support is still needed in trainings and scientific exchange of information on FMD (PCP and epidemiology) and funds are being sought for to support the network activities. However, even though the FAO, OIE and EuFMD may contribute, major funding for the implementation of activities decided in the work-plan should come from countries themselves.
- The members of Epi Network also discussed the Action Plan and agreed that it should be realistic and not over-optimistic.
- Acknowledging that without an active support and commitment from all EPINET members, the Leader would not achieve the Action Plan alone, participants agreed to have co-leaders on some specific activities. Dr Tamilla Aliyeva volunteered to support the leader on training activities.
- Dr Lasha Avaliani presented the main points to be included in the Action Plan.

Action items towards developing the EPINET workplan:

- Finalise the objectives and future activities of the Epi Network and the terms of reference of the Epi Network leaders
- Finalise the completion of the national Epi points of contact in the region (name, emails) and identification of possible EPINET co-leaders
- Establish the information sharing system, collect the information that countries are ready to share, draft a template for information collection, propose options for data distribution to EPINET members
- Compile all existing guidelines, procedures (e.g.: Georgian guidelines for FMD control) and distribute them within the Network
- Compile the needs/suggestions for epidemiology assistance from all EPINET members (by November 2017) - Survey Monkey.
- Organise regular electronic discussions to discuss matters of interest (EPINET Action Plan, state of play of vaccination campaign, training, etc.)
- Develop a procedure to organise emergency electronic meetings in case of need.

SESSION 3 - LAB NETWORK, Data sharing and development of lab network workplan

- The utility for setting a database to store and analyse genomic data was discussed and there was a general agreement for the need of having a regional database. Currently, Turkey is discussing unilateral agreements with Afghanistan, Pakistan and Iran for sharing data. One of the issues discussed is that countries having no access to the WRL database to create the virus phylogeny, send the blast to WRL to help designing the phylogenetic trees. Dr Donald King (WRL) welcomed countries to have access to their database, upon request. A tool enabling laboratories to build their trees with all the sequences available in the WRL database should be available within few months.
- Based on the proficiency testing schemes (PTS) shown by Donald King, the advantages of participating in the PTS provided by the WRL for laboratories to progress on their diagnostic ability were discussed. Depending on the type of containment level of the laboratories, the infectiousness of the material and tests targeted, WRL proposes 4 types of PTS (panels) for the EU Member Countries and reference laboratories. Members of WELNET unanimously agreed to annually participate in the PTS and Merial, as vaccine manufacturer, requested to have the possibility to also participate in PTS. WRL and ARRIAH laboratories agreed to take turns in administering the PTS. WRL can send the PTS as early as this October. Currently, EuFMD supports PT panels for five countries of the West Eurasia roadmap. Central Asian countries highlighted the difficulty in paying for PT panels, as dangerous goods at Customs (countries can pay the panels by themselves only if suppliers are registered in the country or in a country of the Eurasian Economic Union). The way around this issue is to receive PTS as no-value order (paid by a third party), the shipping costs remaining at the countries' financial burden. This point is left out to be addressed in coordination with EuFMD, FAO and the countries.
- The network reviewed and accepted the proposed network objectives, activities and terms of reference for the network leader with some modifications. Countries requested an additional time to provide their comments.
- The WELNET agreed to the following work-plan for 2018-2019:
 - participate in PTS annually, starting as early as this October, coordinated by WRL, if the issues of payment of PTS is solved among the concerned countries,
 - assess the capacity/capability and performance of the national veterinary diagnostic laboratories: the network leader, with support from the WRL and ARRIAH, agreed to carry out such assessment early 2018
 - train one staff member from each national laboratory on diagnostics (train the trainer approach) at SAP Institute, in the last quarter of 2018: funding is required to cover the staff travels.
- For lab assessment, Dr Samia Metwally presented the FAO Lab Mapping Tool (http://www.fao.org/ag/againfo/programmes/en/empres/news_130514.html) and a simple questionnaire addressing the 'general information of the facility' and 'FMD lab and testing information'. The participants agreed to use tools to evaluate the capability and capability of the laboratories in conducting FMD diagnostics, addressing gaps and biorisk management. Countries requested to translate the two tools into Russian.

- Dr Laure Weber-Vintzel developed for the participants the bases of the OIE PVS laboratory tool, a complementary tool for sustainability of the lab service and its cost-benefits. PVS laboratory missions, one of the “treatments” of the OIE PVS pathway, were not designated to evaluate technical capacity and efficiency or to suggest technical improvements, objectives for which numerous tools already exist. The PVS laboratory missions rather aim at evaluating the pertinence and sustainability of national network of laboratories in the national context and priorities.

SESSION 4 - LAB NETWORK, Experience from the field

- Dr Donald King briefly described sample shipping procedures of the *Terrestrial Manual* of OIE, with a specific focus on the requirements for FMDV. The specificity of IATA regulations caught the attention of the participants, not always aware of the acute requirements of sample shipping. A majority of the countries do not have a IATA certified shipper.
- At the end of the meeting, the network agreed in using the email for communication until an alternative is identified such as social media. Webinar was not highly recommended by several countries as the region has two languages and limited access to the internet.

SESSION 5. Surveillance and outbreak investigation

- Dr Artem Skrypnyk (FAO) presented a data sharing system for vaccination monitoring, based on free google services (Google fusion tables, Google maps, Google Earth Pro). This application follows the agreement between Armenia, Azerbaijan, Georgia, Iran, Russia and Turkey to share data on FMD and other important TADs. The FAO Vaccination Monitoring Tool (VMT) is a platform allowing countries to share and simultaneously map data on vaccination coverage, outbreaks, and other epidemiologically significant data for FMD and/or other TADs. Designed using modern cloud technologies, VMT provides dynamic visualizations of all data inserted into a database in real time, supporting Epi and Lab Network activities. VMT has enough potential to be expanded and includes densities of susceptible populations, different zones, as well as epidemiological analytics. The original data are accessible solely for the country which provided it.
- Dr Nicolas Denormandie presented the limits of the r1 (vaccine matching) value to predict FMD protection from vaccination. Merial - Boehringer Ingelheim Animal Health (Merial-BIAH) is now combining virus neutralisation test (VNT) heterologous titres, which mimics in vitro field virus challenge, together with r1 values, using a new Data Base tool. This Data Base compiles all r1 and related VNTs (heterologous and homologous) since 2009. Moreover, to improve harmonization with WRL r1 tests, Merial-BIAH provided since March 2016 its routine production vaccine batches (of 6 core vaccine strains) for WRL to generate independently appropriate reference sera (as per the *OIE Manual*). For standardization of procedures, Merial-BIAH recommends that the vaccine manufacturers send their vaccine strains to WRL for them to make independently bovine-post vaccinal sera or share their post vaccinal sera with WRL for vaccine matching test.

- Dr Carsten Pötzsch (EuFMD) introduced basics and practical application of serosurveillance and facilitated a short training session on serosurveillance. Participants worked in three groups on the following topics:
 - identify objectives and considerations for serological surveys to estimate virus circulation in a country
 - calculate sample sizes for FMD serological surveys
 - representative and risk-based selection of individuals for FMD serological surveys.

Most participants had a basic understanding on how serological surveys should be planned but determining survey objectives, the subsequent selection of the survey design and sample size calculations was still a problem for them. A support in FMD sero-survey planning, data analysis and interpretation appeared to be needed in the region, especially for PCP stage 1 countries.

- A joint presentation then covered the skills needed in PCP Stage 3 when investigating outbreaks: all outbreaks should be fully investigated epidemiologically and should trigger a response to limit the onward spread of FMDV. After Carsten Pötzsch highlighted the requirements for outbreak investigations in PCP stage 3, the planned outbreak investigation procedures in the future FMD low risk zone of Turkey was presented by Abdalnaci Bulut (Turkey).
- Dr Dinara Imanbayeva provided the participants with some feedback of needs assessment conducted in 2015 and range of activities developed, with regard to EuFMD range of Epi training courses. Countries ranked as highest priority following issues:
 - lack of control on animal markets, animal movement, animal identification;
 - lack of resources, vaccines, diagnostic kits;
 - low biosecurity and awareness of farmers/field veterinary staff;
 - low capacity of veterinary services, especially in terms of epidemiology and risk analysis;
 - poor control of FMD and/or political instability in neighbouring countries.

Based on the gaps identified, EuFMD has developed in depth e-learning courses on topics such as FMD socio-economic impact analysis, risk analysis along the value chain, post-vaccination monitoring, laboratory diagnostics (with Pirbright Institute). The majority will be adapted into Russian, to cover the increasing audience of West Eurasian countries.

In order to raise countries' awareness on ongoing activities and to promote networking, EuFMD e-learning menu for 2017-2019 was detailed: trainings and online networks are available on the EuFMD platform to contribute to the EPINET and WELNET.

Conclusions

1. Uzbekistan and Tajikistan are pursuing to advance to PCP Stage 2.
Upon receipt of an official request for assistance, together with a preliminary FMD situation assessment from Uzbekistan and Tajikistan, FAO-OIE FMD WG would consider the options for supports.
2. Simulation exercises conducted in Georgia and Kazakhstan have proven useful and should be regularly conducted to validate the national contingency plan to make it operational.
3. Iran reported an incursion of new lineage of Asia1 virus that doesn't have a good match with the current vaccine strains.
The virus should be further characterized by the reference centres.
4. The Members of EPINET and WELNET agreed on sharing information on FMD virus circulation and control activities in the region.
5. The EPINET shared experience on FMD clinical surveillance and zoning approaches and challenges, as well as guidelines on FMD control.
6. Countries' knowledge of vaccination and post vaccination monitoring need to be enhanced. Further training is suggested.
7. Vaccination monitoring tool for FMD and other TADs has potential for tracking vaccination data and outbreaks in real time. This tool deserves further development for validation and endorsement by countries.
8. The leaders and co-leaders, of the epidemiology and laboratory networks have been elected:
 EPINET: Dr Lasha Avaliani (Delegate of Georgia), with Dr Tamilla Aliyeva (Azerbaijan) as co-leader
 WELNET: Dr Naci Bulut Abdalnaci (SAP Institute, Turkey), with Dr Shalala Zeynalova (Azerbaijan) as co-leader.
A sharing information tool is yet to be developed by the EPINET and WELNET.
9. The WELNET work-plan for 2018-2019, with the associated timeline, was developed and will be finalised and further adjusted, depending on the needs of the countries:
 - participate in PTS annually, starting as early as this October, coordinated by WRL, if the issues of payment of PTS is solved among the concerned countries,
 - assess the capacity/capability and performance of the national veterinary diagnostic laboratories: the network leader, with support from the WRL and ARRIAH, agreed to carry out such assessment early 2018,
 - train one staff member from each national laboratory on diagnostics (train the trainer approach) at SAP Institute, in the last quarter of 2018. Funding is required to cover the staff travels.

10. An initial work-plan for the EPINET was developed and will be finalised and further adjusted, depending on the needs of the countries:

- Finalise the objectives and future activities of the Epi Network and the terms of reference of the Epi Network leaders
- Finalise the Completion of the national Epi points of contact in the region (name, emails) and identification of possible EPINET co-leaders
- Establish the information sharing system, collect the information that countries are ready to share, draft a template for information collection, propose options for data distribution to EPINET members
- Compile all existing guidelines, procedures (e.g.: Georgian guidelines for FMD control) and distribute them within the Network
- Compile the needs/suggestions from all EPINET members (by November 2017).
- Organise regular electronic discussions to discuss matters of interest (EPINET Action Plan, state of play of vaccination campaign, training, etc.)
- Develop a procedure to organise emergency electronic meetings in case of need.

Annex 1 - Agenda



1st West Eurasia FMD Epidemiology and Laboratory Networks Meeting
Tbilisi, Georgia, 18-20 September 2017
Meeting Venue: Holiday Inn Tbilisi

Day 1 - 18 September 2017 Plenary session: Epi and Lab Networks

Schedule	Topic	
08:00 - 09:00	Registration	All
09:00 - 09:15	Opening/Welcoming Remarks	Officials Georgia Minister of Agriculture (TBC) Samia Metwally (FAO) Mereke Taitubayev (OIE)
09:15 - 09:25	Objective of the meeting	Samia Metwally (FAO)
09:25 - 09:35	Epi & Lab networks priorities from the 7 th West Eurasia Roadmap	Djahne Montabond (OIE)
09:35 - 10:10	Regional situation and recent circulating strains	ARRIAH / Sap / WRL
10:10 - 10:30	Coffee-break	
	Session 1: Country reports	Chairs Lasha Avaliani (GEO), Joldoshbek Kasymbekov (KGZ)
10:30 - 12:45	Country reports on the FMD situation in the region (3 groups - 10 min country + 10 minutes discussion for each group) - Armenia, Azerbaijan, Georgia, Turkey, Russia - Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan	Countries
12:45 - 13:00	Role of EPINET and WELNET Leaders (ToRs)	Silvia Kreindel (FAO)
13:00 - 14:00	Lunch	
14:00 - 15:00	Country reports on the FMD situation in the region (3 groups - 10 min country + 10 minutes discussion for each group) - Afghanistan, Pakistan, Iran, Iraq, Syria	
	Session 2: Simulation exercise and vaccination	Chair Tamilla ALIYEVA (AZE)
15:00 - 15:30	Simulation exercises on response to FMD outbreaks conducted in Georgia and in Kazakhstan	Lasha Avaliani (GEO) Samat Tyulegenov (KAZ)
15:30 - 15:45	Election of EPINET and WELNET Leaders	All participants
15:45 - 16:05	Coffee-break	
16:05 - 17:00	Post Vaccination Monitoring	Samia Metwally (FAO) Carsten Pöttsch (EuFMD)

Day 2 - 19 September 2017 Parallel Session: Epi Network Meeting

Schedule	Topic	
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	Session 3 Epi: Experience from the field		Chair : Saltanat Abylkassymova (KAZ)
09:00 - 09:30	Georgia's vaccination guidelines		Lasha Avaliani (GEO)
09:30 - 10:00	Feedback on clinical surveys		Anton Karaulov (ARRIAH)
10:00 - 10:30	Share of experience on clinical surveys, questions and answers		All participants
10:30 - 11:00	Transboundary movement: Potential for a network project to capture livestock prices across the region		Paolo Motta (EuFMD)
11:00 - 11:30	Coffee-break		
	Session 4 Epi: Epi Network work plan 2018-2019		Chair Akyn ISPULLAYEV (EEC)
11:30 - 12:30	Round table discussion to develop Epi Network work plan 2018-2019		All participants
12:30 - 13:30	Lunch		
13:30 - 14:20	Round table discussion to develop Epi Network work plan 2018-2019 – conclusion		All participants
14:20 - 14:30	Presentation of EPINET work plan 2018-2019		EPINET Leader
	Breakout groups		
14:30 - 15:30	Group I: 1. Way forward to advance to PCP Stage 2 (Kyrgyzstan, Tajikistan, Uzbekistan)	Group II: 2. Zoning approach: experience of Turkey, Kazakhstan, Russia, South America and southern Africa (Caucasian countries + Turkey+ Russia + Kazakhstan)	Facilitators: 1. Carsten Pötzsch 2. Laure Weber-Vintzel+ TUR, RUS, KAZ
15:30 - 16:00	Coffee-Break		
16:00 - 16:30	Risk-based strategic plan: development and plan for implementation		Murat Abdrayev (KGZ)
16:30 - 17:30	Offered talks from participants (voluntary)		Participants
17:30	Closure of day 2		

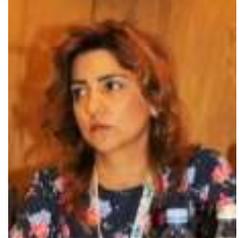
Day 2 - 19 September 2017
Parallel Session: WELNET Meeting

Schedule	Topic	
	Session 3 Lab: Data sharing and development of Lab Network workplan 2018-2019	Chair Reza Hassanzadeh (IRN)
09:00 - 10:00	Database for genomic analyses (experience between Afghanistan, Pakistan, Iran and Turkey)	All participants
10:00 - 10:30	Proficiency Testing Schemes (PTS)	WRL / Sap / ARRIAH
10:30 - 11:00	Round table discussion to develop WELNET Network work plan 2018-2019	All participants
11:00 - 11:30	Coffee-break	
11:30 - 12:30	Round table discussion to develop WELNET Network work plan 2018-2019	All participants
12:30 - 13:30	Lunch	
13:30 - 13:45	Presentation of WELNET work plan 2018-2019	WELNET Leader
13:45 - 14:30	Presentation of Laboratory Mapping Tool and PVS Laboratory	FAO/OIE
	Session 4 Lab: Experience from the field	Chair Reza Hassanzadeh (IRN)
14:30 - 15:00	Guidance on diagnostic sample shipping	WRL, ARRIAH, Sap, all
15:30 - 16:00	Coffee-Break	
16:30 - 17:30	Offered talks from participants (voluntary)	
17:30	Closure of day 2	

Day 3 - 20 September 2017
Plenary session: Epi and Lab Networks

Schedule	Topic	
	Session 5: Surveillance and outbreak investigation	Chair Abdulah Safi (AFG)
9:00 - 10:30	Training on a design of serosurveillance plan	Carsten Pöttsch (EuFMD)
10:30 - 11:00	Coffee-break	
11:00 - 11:30	Outbreak investigation: what skills are needed in PCP Stage 3	Naci Bulut (TUR), Carsten Pöttsch (EuFMD)
11:30 - 12:00	Feedback from the needs assessment, EuFMD range of Epi-training courses	Dinara Imanbayeva (EuFMD)
12:00 -13:00	Epi and Lab network work plan and priorities for 2018-2019 - EPINET - WELNET Discussions	EPINET leader WELNET leader All participants
13:00	Closure of the meeting	FAO/OIE/EuFMD
13:00 -14:00	Lunch	

Annex 2 - Lists of participants

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Annex 3 - Summary of country reports

Armenia



PCP-FMD Stage

2016

2

**OIE PVS
evaluation**

2007

FMD outbreaks & surveillance:

- Last outbreak in 2016 in Armavir: A/GVII
- Suspicions since then, in Lori, but denied by VS after investigations
- FMD NSP and SP sero-surveys conducted in 2017 in low and risk areas. Between 4,5 and 26% NSP positive – between 82 and 96% SP.
- Plan to have systematic sero- and clinical monitoring

FMD Control Measures:

- Vaccine efficiency $\geq 6PD_{50}$, trivalent A Iran 05, A/G-VII O PanAsia2, Asia1 Sindh 08 (ARRIAH)
- Guidelines developed for field vets and lab staff (survey design, sampling...)
- Continuous monitoring of animal movements. Increased control in markets and borders
- Introduction of Electronic Information Systems EIDSS and PACS for disease report, exchange of data, supervision over the movement of samples and pathogens and ensuring the traceability of work

Other notes and priorities for the future:

- Webinars EuFMD.
- Newly built lab (Armenia/USA) for confirmation tests. Compliant with OIE standards

National gaps:

- Financial resources
- Implementation of electronic system, identification of animals
- Insufficient diagnostic tests, insufficient vaccine

Gaps at regional level

- Timely provision of information regular meetings
- Standardised protocols for FMD surveillance and definition of FMD cases
- Risk assessment of FMD spread at regional level.

Azerbaijan



PCP-FMD Stage

2016

2

**OIE PVS
evaluation**

2015

FMD outbreaks & surveillance:

- 2016-2017: no outbreaks.
- Situation stable
- Regular surveys, including in live animal markets
- 2, 63% of NSP positive in cattle in 2016-2017 (Mainly from villages bordering Iran + market in the central area – Maybe low circulation without clinical signs thanks to vaccination)
- >80% of SP
- Clinical examination before vaccination
- Dedicated forms for clinical examination, outbreaks, SOPS
- 5 lab specialists trained in SAP institute + EuFMD webinars

FMD Control Measures:

- Strict movement control of animals and products, including for slaughter
- Update of FMD contingency plan + strategic plan
- Vaccination all cattle twice a year. SR once a year.
- Monitoring of the vaccination campaign, evaluation of cold chain
 - Risk hotspots: Village borders & big live animals markets
- Very good coordination with customs, strengthened quarantine on borders
- Before religious holidays, awareness and increased control
- Public awareness policy. Training of farmers, of vets, booklets, hot lines. Meeting between Minister and farmers.
- Comprehensive electronic agricultural system implemented (animal disease registration, land registration, notification on line)

Other notes and priorities for the future:

- Planning to move to Stage 3 → targeting peninsula Absheron for zoning.
- European twinning project for VS for surveillance.
- Regional coordination
- Dec 2016 PVS Lab mission
- Twinning project with Teramo, Italy

Georgia



PCP-FMD Stage

2016

2

**OIE PVS
evaluation**

2009

FMD outbreaks & surveillance:

- No FMD confirmed case detected since 2002
- Active surveillance countrywide
- Annual risk-based sero-survey designed by VS and endorsed by EuFMD.
- For NSP and SP, large and small ruminants.
- From 4 to 19% of NSP positive depending on zones. Higher seroprevalence in migratory population of SR in eastern southern part → refocus the 2017 survey on migration animals

FMD Control Measures:

- All FMD control measures are standardised and documented.
- Electronic integrated disease surveillance system EIDSS (DETRA)
- Animal Identification and registration (NAITS (FAO))
- Veterinary inspection points (biosafety points), on migratory roads with vet surveillance, animal dipping and public awareness.
- Vaccines as recommended by EuFMD, polyvalent, >6PD50
- From 2012, mass vaccination SR and LR twice a year
- Risk-based vaccination since 2017 and booster vaccination from 2017

Other notes and priorities for the future:

- Member of EuFMD, and observer member of EuFMD Ex Com
- 30% budget dedicated to FMD + rabies, anthrax, bru, TB, AI, SGP, LSD, ASF, PPR, CCHF
- Implementation of RBSP since 2015 – structure used for other diseases. Risk-based approach

Islamic Republic of Iran



PCP-FMD Stage

2016

2

**OIE PVS
evaluation**

2010

FMD outbreaks & surveillance:

-

FMD Control Measures:

Other notes and priorities for the future:

- Network of a NRL and 5 sub-national FMD laboratories (sNL)
- Participation of IRAN FMD NRL in annual PTS organized by WRL
- Establishment and organization of PTs for Ag & Ab ELISA to all sub-NRLs
- NRL supervise FMDV detection by ELISA and PCR5 in sub-national centres
- 2 workshops for FMD diagnosis methods and on Quality assurance in FMD Diagnostics Laboratories (internal and external quality controls (IQC), -Establishment of quality control for antigen detection ELISA, Ab ELISA and RT-PCR.
- Establishment and organization of PTs for SP, NSP, Ag detection ELISA and PCR to all sub-National laboratories
- Improvement of the molecular biology section to avoid of cross contamination risks and writing work and clear manner procedure
- Improvement of bio-security rules

Kazakhstan



PCP-FMD Stage

2016

Not
assessed

**OIE PVS
evaluation**

2011

FMD outbreaks & surveillance:

-

FMD Control Measures:

- Sampling, including young animals from 3 months to 1 year

Other notes and priorities for the future:

- Country has entered the OIE pathway.
- Kazakhstan has two zones recognised FMD-free, northern part of the country (9 regions) since 2015, southern part of the country (5 regions) since 2017
- The national official control programme for FMD has been endorsed by OIE in 2016.
- Therefore the country is no more assessed at the Roadmap meeting
- Simulation exercise on FMD organized in 2016

Kyrgyzstan



PCP-FMD Stage

2016

2*

**OIE PVS
evaluation**

2016

FMD outbreaks & surveillance:

-

FMD Control Measures:

- Cattle is vaccinated with trivalent vaccine of A, O, Asia-1 strains manufactured by Russia twice a year (4.5 million. doses)

Other notes and priorities for the future:

- Determination of the intensity of immunity (antibody) of vaccinated cattle after 21 days, carried out by RCVD&E (Bishkek) and Osh Zonal CVD&E (Osh).
- Immunity in vaccinated animals varies from 85 to 90%.
- A memorandum was made with KNIIV for monitoring FMD
- 0.7% of cattle over 4 months tested for NSP are positive in 2017

Laboratories:

- Optimization of the laboratory network of Kyrgyzstan
- Reduction of the number of laboratories (from 27 laboratories to 19, all equipped)
- Laboratory renovation
- 4 new laboratories under construction
- Two virology departments of two laboratories (North in Bishkek and South in Osh) were internationally accredited ISO 17025 (staff of the laboratory was trained at ARRIAH)
- Equipment is supplied by the Russia and Kazakhstan, within the framework of the EEC Roadmap

Tajikistan



PCP-FMD Stage

2016 1

OIE PVS evaluation 2009

FMD outbreaks & surveillance:

- Last cases in 2003 and in November 2011
- Development of the "National FMD Control Program for 2016-2025" : monitoring and control system, research and scientific works on newest diagnosis and typisation methods of FMD virus, development and implement a notification system, serological and virological monitoring of farm animals, participation in scientific programs to study FMDV circulation, to improve diagnostic tools and methods
- Development of a National Plan for step-by-step FMD control in accordance with international standards

FMD Control Measures:

- FMD vaccination in all categories of farms and population
- Control of imported vaccines for compliance certificate and supervision of contraband vaccine
- 350-500 thousand doses of FMD vaccine annually purchased at the expense of the State budget, insufficient to cover the need
- Serological monitoring of FMD immunity

Other notes and priorities for the future:

- Annually transhumance of more than 2 million of sheep and goats (along on the borders with neighboring countries, between winter and summer pastures)
- Training of state veterinary officials on "FMD control and prevention"
- Population information on prevention of FMD through (mass media, booklets, brochures, instructions, posters)
- Implementation of joint exercises (trainings) of specialists to react to any FMD outbreak (2017, 2020, 2025)

Turkey (Anatolia)



PCP-FMD Stage

2016

2

**OIE PVS
evaluation**

2017

FMD outbreaks & surveillance:

- Thrace free from FMD with vaccination since May 2010
- FMD endemic in Anatolia
- Current Circulating virus strains (O (O PanAsiaII), A (Asia/GVII))
- Asia1 has not been recorded since July 2015

FMD Control Measures:

- New strategy to eliminate the virus in the entire Anatolia (elimination of the risk linked to animal movements and reduction of risk at market level, improvement of outbreaks managements, elimination of virus circulation, improvement of monitoring and evaluation system), stop virus incursion)
- A RB control program has been developed and applied since 2014, updated with more aggressive activities

Other notes and priorities for the future:

- Risk factors (common grazing, local movements, long distance movements, Kurban period animal movements, inadequate biosecurity system applied)

National gaps:

- Lack of booster vaccination
- Market and movement controls
- Poor notification and lack of disease awareness
- Inadequate early detection and outbreak management
- Border inspection

Uzbekistan



PCP-FMD Stage

2015

1

**OIE PVS
evaluation**

2017

FMD outbreaks & surveillance:

- No outbreak of FMD

FMD Control Measures:

- Preventive vaccination (vaccine of sorbed, mono and polyvalent liquid (types A, O, Asia-1) in buffer zones
- Educational work for the public (prevention of dangerous diseases)
- Notification scheme including all interested ministries, in accordance with the emergency plan
- ELISA
- Anti-epizootic plan (serological monitoring of livestock animals in buffer zones immunized against FMD, serological control by ELISA)
- Supervision carried out : for 8 months of 2017, 80% of all the animals in the buffer zones were examined.

Other notes and priorities for the future:

- Six new Regional Diagnostic Laboratories (FDPs) on the basis of international cooperation