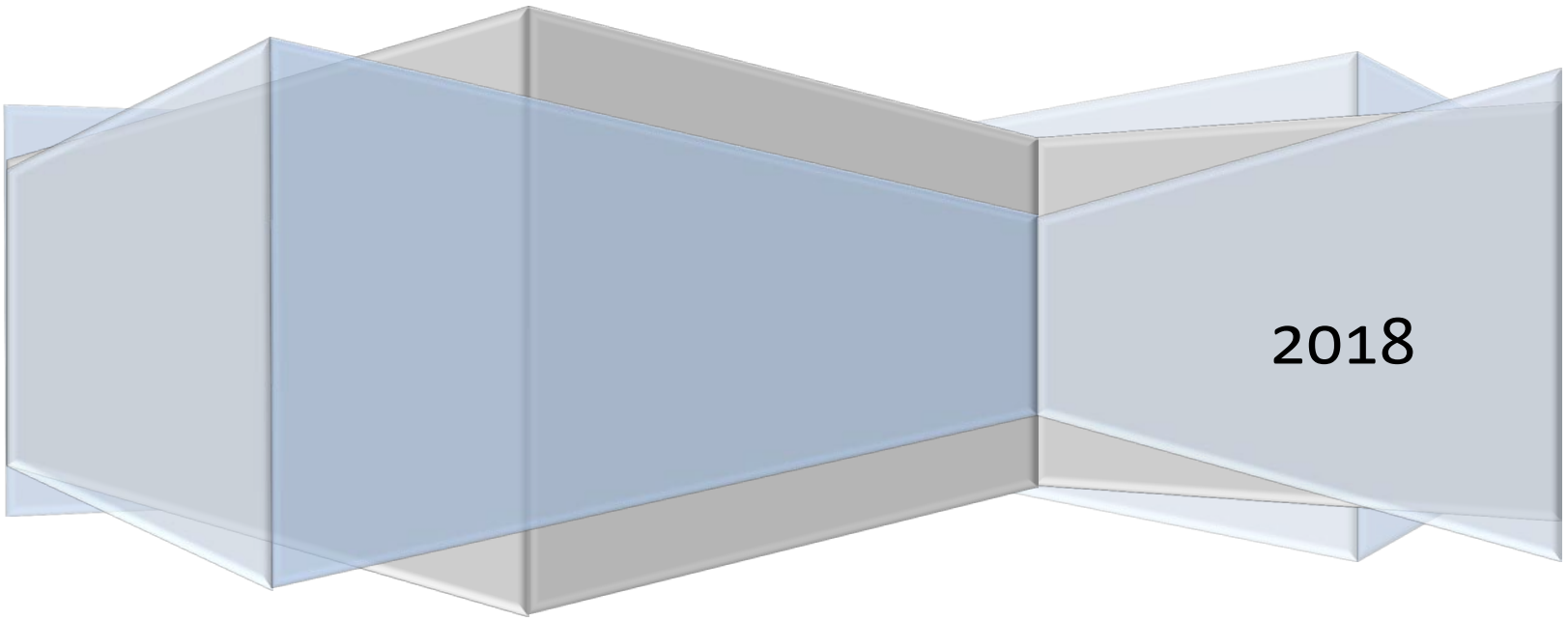
COMMUNITY FOR EMERGING AND ZOONOTIC DISEASES (CEZD)
multidisciplinary perspectives to generate anticipatory intelligence to provide early warning for emerging and zoonotic diseases

Report from the CEZD Face-to-Face Meeting November 6-7 2018

Advancing Intelligence Gathering, Analysis, Reporting and Communications



Contents

1 Executive Summary 2
2 Introduction and Background 2
3 Recent Activity and Enhanced Intelligence Report Pilot 3
3.1 Signal Ratings over Time 3
3.2 Enhanced Intelligence Report Next Steps 3
4 Intelligence, Analysis, Reporting and Communications 4
4.1 International 4
4.1.1 Outcomes from Reporting and Analysis Discussions 4
4.1.2 Outcomes from Engagement and Communications Discussions 5
4.2 Domestic 7
4.2.1 Why do we need Early Warning and What is needed to enable early warning? 7
4.2.2 Outcomes from Reporting and Analysis Discussions 12
4.2.3 Outcomes from Engagement and Communications Discussions 14
5 Define the next steps to develop the domestic network 15
6 Sustainability 16
Appendix 1: Meeting Agenda 0
Appendix 2: Meeting Delegates 0
Appendix 3: Action Items 0

1 Executive Summary

The community for emerging and zoonotic diseases has grown dramatically since its inception as a project in 2013; the community now includes a diverse array of professionals in animal health, public health, and environmental health in industry, academia and governments at all levels.

At this face-to-face meeting of the community, the processes used for international early warning were evaluated, and steps to improve their efficacy and efficiency were identified. Clarification and formalization of the operating procedures is needed. The weekly intelligence report will continue to be produced along with risk profiles when required, and the use of rapid risk assessments and hazard pathway analyses will be explored.

The community members engaged in a discussion on the development of a trusted domestic network for early warning of emerging and zoonotic diseases. The initial focus on why an early warning system was needed, led to a clear understanding of the directions in which we must head.

Early warning is necessary to enable shared accountability of all partners in the prevention of disease and the rapid response to disease when it does occur. When all partners have early warning of disease events, it allows action to be taken such as the implementation of enhanced biosecurity measures, voluntary stoppages of animal movements, and tracing of introductions between provinces. Early warning can lead to better on-farm management decisions, protection of food safety and market access support.

The One Health early warning system of the future will include animal, human and environment professionals throughout various positions in the system along with a notification process that can reach them (e.g. notification of emergency room physicians of events like influenza A in poultry flocks, to raise awareness of these findings in their communities). The foundation of early warning is the building of community, with relationships built and maintained during 'peacetime', so that we have the trust necessary to support each other during 'wartime'.

Out of these discussions the next steps towards the implementation of the trusted domestic network were identified and a pilot project involving simulations of an alert system was framed.

2 Introduction and Background

The history of our community development was reviewed based upon timelines for the last two years, plus updates on milestones and successes since the start of this fiscal year.

A demonstration of the Knowledge Integration using Web Based Intelligence (KIWI) technology was provided, including a demonstration of the "CNPHI on the go" cell phone application.

Presentations on our Milestones and the current Community Composition can be found in the CEZD Collaboration Centre.

3 Recent Activity and Enhanced Intelligence Report Pilot

3.1 Signal Ratings over Time

During this session, the participants reviewed signal relevance ratings over time for two emerging ongoing events: African swine fever in China and virulent Newcastle disease in California. Examining the ratings over time demonstrated that individuals provide ratings based on specific information provided in each signal/article and not the event as a whole. The issue of rater fatigue did not seem to apply to the examples chosen as no decreasing trend in relevance ratings was observed.

A rating exercise was subsequently conducted where participants were asked to rate two signals on virulent Newcastle disease. The first signal was the first occurrence of Newcastle in California and the second a follow up of additional cases in the same area. The rating exercise highlighted the need for comments to be provided within the system, as participants provided variable relevance ratings based on additional work-related information they possessed.

As a result of the session, it was determined that CEZD must explore different ways in which to facilitate commenting within the KIWI technology. By doing so, we can begin to gather additional contextual information on events and obtain a comprehensive review of relevancy. Finally, the relevancy assessment tool needs to be updated as it uses the term "event" and not "signal".

Action Items: Domestic Reporting and Analysis Discussions
a. Update relevancy assessment tool to use the term "signal" instead of "event"
b. Explore options to facilitate commenting within the KIWI technology

3.2 Enhanced Intelligence Report Next Steps

An updated enhanced intelligence report, which incorporated comments received during the October monthly teleconference, was provided to participants during the session. Three different summary options were created and voted on. While the majority of participants preferred option 2 (which included the top rated events of the week organized into new events and those ongoing, along with their description, link, average rating, and number of raters) others desired a complete event summary along with geographic information. A consensus was not reached and additional summary options need to be created and reviewed.

Two different reporting needs were expressed by the participants, one of CEZD providing a red flag/heads up to members and the other of CEZD conducting a risk assessment of events. A discussion on the best use of descriptive statistics was also carried out. The appropriateness of the mean to determine the final relevance rating was also deliberated. Participants suggested the inclusion of other descriptive statistics, along with the mean, in order to provide a comprehensive interpretation of the event rating. These include: other measures of central tendency (median, mode), measures of variation (range, standard deviation), and graphical representations (histogram distribution charts, scatter plots). The Reporting and Analysis Workgroup will address these suggestions and review ways by which to include them.

Action Items: Domestic Reporting and Analysis Discussions
a. Reporting and Analysis Working group to review feedback on content to include in the reports and make a decision on report production

4 Intelligence, Analysis, Reporting and Communications

4.1 International

The session was introduced with a presentation on International Intelligence, Analysis and Reporting that outlined the current processes and set up the breakout group discussions.

The meeting participants were asked to identify if the processes were working, what can be done better, what should be stopped, and what should be started.

4.1.1 Outcomes from Reporting and Analysis Discussions

Are the processes working and what can be done better?

CEZD international intelligence processes have developed significantly over the last 6 months with the implementation of a pilot project for an enhanced weekly intelligence report, and the development of new reports such as the SADS risk profile and the ASF Intelligence Reports.

While the processes have been working and the products are appreciated by the community, the triggers for implementing actions are not clear. The processes to move from a signal in KIWI, to a ping or report being generated, are in the minds of a few key individuals on the core team and reporting and analysis working group.

The discussion included a basic process subsequent to initiation of a ping question. We will have to define triggers carefully, since if we ask if more information is needed the answer will always be yes and we do not always have the ability to do more.

1. Do nothing
2. Do further analysis
3. Ask community to share the information they may have on the situation
4. If no one has information, hold a webinar and invite experts to share their knowledge
5. Identify thresholds for each action

The group felt that the process needs to be formalized. The objectives of each report/activity need to be clarified, and the triggers for the initiation of each must be defined.

What should be stopped?

Nothing should be stopped; all activities are seen to have value.

What should be started?

Pathway analysis is considered a valuable option be explored by the reporting and analysis working group.

Proposed definition for risk/hazard pathway analysis: A review of the various pathways of entry of a hazard into Canada and exposure of the population of interest. For each pathway, a description is provided, followed by a review of mitigating measures currently in place, and the identification of gaps. This may include an expert ranking of pathways, in terms of: those of highest concern, those most suitable for further research, or some other purpose depending on the requirements of risk managers. This process is best completed by a multi-disciplinary team consisting of subject matter experts, risk analysts and risk managers.

Action Items: Domestic Reporting and Analysis Discussions
a. Continue all current activities and products (e.g. rating KIWI signals, PING questions, Scoping meetings, Risk Profile Document, Rapid Risk Assessment).
b. Document the triggers for each activity/product
c. Consider adding an additional product: Risk/Hazard Pathway Analysis

4.1.2 Outcomes from Engagement and Communications Discussions

Are the processes working and what can be done better?

The processes are working, in particular the pings are working well to get community feedback, and we don't want to overuse them. If members want to use pings to get feedback on their work, a request should be made the core team, and the weekly ping question e-mail will have additional ping links added to it.

The monthly calls are working and need to be maintained as a regular calendar invitation but we should consider separating the community management discussions from the emerging disease discussions. Either have ½ of each meeting dedicated to management and ½ to disease, or alternate between the two types of meetings.

The webinars are about getting information out, and with so many people on the line we should not call these multidisciplinary discussions. CEZD should not be providing any expertise, but rather rely on experts from within and outside the community to provide webinar content.

What should be stopped?

Nothing should be stopped, all current activities are necessary.

What should be started?

Need to understand the expertise within the community better, and have a group of people to call on when an issue arises, to get access to the large brain bank and start tapping into the network to find expertise.

We need to understand the community and the interrelationships between the members and their organizations. A network analysis would be welcome but we need more resources to complete it. We need to identify the gaps in the networks within the community and ensure good coverage of all disciplines, commodities, and geography.

Each community member needs to take responsibility to get the message out about what CEZD does to maximize our national connections. In order to do that we need a 1 page document to explain what happens in CEZD now, as the existing one pager is no longer current. Produce a 1 pager that explains what happens in the CEZD community, and as well a one page document of case studies or success stories that displays the value that we provide.

Need senior management support from all organizations to commit to share information and get ahead of curve. e.g. ASF information, next provincial notifiable disease of significance, or significant industry issue for which a national multidisciplinary perspective is needed.

We need to start to think of CEZD as a facilitator of early warning, as it is not coming from us, but rather from the 'boots on the ground'. Sometimes CEZD will need to bring together a focus group of experts – expert feedback provided back to the supporting organization.

Need a mechanism to only have reporting to a single location which is then disseminated (this is much broader than CEZD, and applicable to domestic signals).

ACTION ITEMS:

Action Items: Domestic Reporting and Analysis Discussions
a. Change monthly calls to management focus and disease focus, alternate between months.
b. Change the way that webinars are described to remove 'multidisciplinary discussion' from the information.
c. Ensure members know that they can send ping questions to Zana for inclusion in the weekly ping e-mail.
d. Continue to work towards network analysis of our members to ensure that we have a good picture of who is in the community and what they do. Also raise awareness of the gaps in expertise.
e. Create one page documents: **i.** The value that CEZD brings in the big picture **ii.** What happens in CEZD?
f. Seek Senior Management support from partner organizations to enable CEZD to facilitate early warning across Governments and Industry, much like has been done with ASF and the long-horned tick. Enable those responsible to bring their issues forward and share what is happening and what has been done.

4.2 Domestic

4.2.1 Why do we need Early Warning and What is needed to enable early warning?

The session was introduced with a short presentation on CEZD early warning.

The discussion of why we need early warning contained multiple types of information that have been broken down into several headings:

i) Why do we need early warning?
ii) Why do we need CEZD ?
iii) Why do we need a trusted domestic network ?
iv) What is needed to enable early warning?
v) How do we achieve early warning? And
vi) What are the barriers to early warning?

Why do we need early warning?

Early warning enables prevention and rapid response.

- Industry has been hurt by many diseases and producers need to have a better focus on health to result in better economic outcomes. As an example when PED was found in the US, preparation was initiated in Quebec and Ontario. Strategies were created for both prevention and intervention. Biosecurity was enhanced. When PED did hit, it was managed quickly and well, losses were significantly decreased due to preparation.

Early warning allows provinces more time to pass on information to those that need it.

- This enables preparedness and rapid response. Hopefully to prevent disease from happening.

Early warning enables industry to take action.

- It takes time to raise awareness and profile of emerging threats with producers. We need to have vets aligned with producers, to enable prevention and preparation at a grassroots level and have to have a good communications strategy to explain the consequences if a disease is introduced.
- Early warning to vets allows them to have time to connect and prepare, also to build relationships.

Early warning enables better on-farm management decisions, protection of food safety and supports market access.

- Issues that need to be monitored for change include those issues that impact food safety and market access and for some diseases, early warning about changing prevalence's (even within a herd) is essential for better management.

Early warning allows enhanced biosecurity and enables actions to be taken

- Having the time to understand the potential pathways and routes of introduction, offers a greater ability to bolster biosecurity and other preventive measures.
- Early warning enables prevention and preparedness: the sooner we know about threats the sooner we can act.
- Early warning can be a trigger for different biosecurity levels to be enacted on farm. In BC poultry, 3 biosecurity levels are used and the levels change depending on detections in wild birds or another province or jurisdiction. Government and Industry together decide when the levels change.

Early warning leads to more positive outcomes and mitigation of negative outcomes.

- More information means more well thought out decisions. If we are rushed we cannot properly consider implications.

Early warning is needed for economic sustainability.

- The existing lack of information on even production limiting diseases is problematic and to detect changes in prevalence and incidence of existing diseases.

Early warning about disease in wildlife is needed to protect producers and human health.

- Due to split jurisdiction it's very difficult to take action, and depopulation may take place on farm, but susceptible hosts are still present in the environment and no action is taken to control them; this is a weakness in Canada.

Early warning enables us to be less reactionary and more prepared.

- We need to force this further upstream because with a diagnosis it is often too late. The conversations need to be kept going in the community so that we can have assurances that we have a system that works and we all know who to contact when things are changing.

Early warning of emerging animal diseases (e.g. HPAI) is needed for emergency room and critical care doctors to be able to make informed decisions.

- There are existing alerts but they don't get to front line doctors.
- Identify which zoonotic conditions are relevant/important and should be included in alerts

WHAT is needed to enable Early Warning?

Existing surveillance systems

- Domestic early warning is not possible without the establishment of basic surveillance systems first, that can detect changes in prevalence and incidence of the existing diseases. If not forewarned that something is coming that we don't already have, the domestic system will not pick it up until it is too late. In some sectors, the lack of information on even production limiting diseases is problematic and the basic information is necessary for economic sustainability.
- In some sectors, we still need basic surveillance and domestic notifications are already too late. If not forewarned that something is coming that we don't already have, the domestic system will not pick it up until it is too late.

Triggers other than diagnoses

- We need to stop focusing on pathogens and start focusing on the system itself and the strength in our connections. We need to have triggers for actions other than disease diagnoses, e.g. in wildlife, reports of dead animals are sufficient.

Connected networks of people

- To have a domestic system that really works we have to have a community that can talk to each other and has trust in each other. e.g. in BC Poultry pre-written protocols for AI and other diseases are in place and the community knows what will happen if there is a diagnosis and what actions will be taken. The community aspect allays the fears and people can talk openly to each other.
- We need to be connected with laboratories and private vets. There are a lot of early warning signals coming in on the post mortem table and in private vet clinics.
- We need better connection with public health, and the silos within public health need to be broken down also e.g. acute flaccid paralysis needs better understanding across sectors. Community allows us to have candid meetings so that we can discuss what is not being done on specific issues.
- There is always a turnaround time when hearing about pertinent issues. Connection raises awareness and we need to be able to connect to the ground level to be effective.

An awareness of gaps

- We need to know where the holes are in the community. Who may have information and be willing to share it.

<u>WHY do we need a trusted domestic network?</u>

To benefit from each other's experience

- The networks support decision making, and can provide mutual support across the country. e.g. How to dispose of a carcass with a certain disease that occurs for the first time in a new province.

To enable evidence based decision making

- We are often asked questions for which answers are not readily available. Having the ability to get answers across the community informs the epidemiology, the risks, and thus impacts the decisions that get made.
- In many cases, we don't know which questions even need to be asked. Initially, we can provide a platform by which people can get together and identify the questions that need to be asked. This will help direct us to determine the best people to answer the questions.

To use the synergies and skills across the country to fill in the gaps and provide answers

- We are routinely asked what we know about specific disease situations and can only answer ½ of the time. With increased information flow we could connect to the people on the ground that have the necessary pieces of information to fill in the gaps. We need a trusted domestic network to fill in the gaps and unanswered questions.

<u>WHY do we need CEZD?</u>

There is a gap in cross commodity and multidisciplinary networking and information sharing, CEZD is filling that gap.

- We have narrow mandates and need the venue for broader conversations. It is rare to be able to speak with colleagues in wildlife, public health and animal health at the same time. CEZD gives us a tool to help disseminate information and can facilitate collaboration. We still have silos to pull together.

To enable preparedness through the maintenance of strong peacetime networks

- CEZD is the first stage to create a platform for sharing information that is important in an outbreak situation – for real early warning/preparedness.
- Community itself is separate from the early warning and it is more difficult to maintain in peacetime than wartime.

To support veterinarians in private practice, industry and governments to raise awareness of the consequences of emerging issues

- CEZD can be helpful when looking at products. Sometimes the producer image of government veterinarians is not positive and this positive/approachable role is missing in government; CEZD can start to fill in this gap of a non-threatening information source. When disease is on the far horizon, there is room for someone to step in early and share what is likely to happen.

To facilitate information sharing on emerging issues

- CEZD is tool to help disseminate information from provincial level, facilitate collaboration. Still have silos to pull together but our multidisciplinary aspect is a big strength.

<u>WHAT are the barriers to early warning?</u>

- Not sharing early warning information due to fear of liability and consequences (not acceptable).
- In some industries, data is present, but pulling it together for early warning is challenging.
- The challenge with automated public information is that nothing is early if already public and it will never get us to point where can respond in timely fashion.
- CEZD provides more value for industry, but it's not same as what provinces are looking for. Never be as fast as truly needed/wanted.
- No matter how prepared you are, will still end up being surprised sometimes. e.g. influenza in swine – not notifiable/reportable and no clear jurisdiction.
- In an effort to provide early warning, the system may put out a number of false positive signals, which over time may become irrelevant as it may be seen as crying "wolf"

<u>HOW do we achieve early warning?</u>

Create an alert system for emerging issues

- Quicker alerts are needed of emerging issues. The current reports are 1-8 days old and a better system is needed, outside of KIWI, to report to.

We cannot without support from senior managers in industry and governments

- Powers that be decide what is important and we need early warning information to get the resources to do the development necessary to enable the system. Materials necessary to enable the system are best in different hands (industry/academia/municipal/prov/fed). A communications strategy is necessary to "get the message into the minds of the people that matter the most".

- Provinces talking to industry/producers but also want to co-ordinate with other Provinces and Feds. Need to do proactive work but never have the time. Need support from higher ups to take action – use it to get the support needed to do our jobs.

Provide value in what we do, and build the CEZD brand further

- The provincial level is closer to producers than federal. We need to further raise CEZD's profile, the organization is far away from the ground/vets/producers but can help to build brand by producing tangible information.

Be open and transparent to enable all partners to be proactive, engage in knowledge dissemination instead of exchange

- CEZD needs to move towards the new approach like open government. An open government portal will bring in more formal sources of information for true early warning. CEZD can also look at open source information as made available by governments to include in analyses.
- To empower all partners we need to enable knowledge dissemination, each must know the whole story. e.g. wildlife is food, TB in wildlife is a food safety issue and can be transmitted to domestic livestock, who has jurisdiction?

Find the gaps and fill them in

- Gaps in northern representation exist in the community. There are wildlife specialists up north but they have limited resources and logistical difficulties getting samples south. We need representation from wildlife regulators and to link to the National Wildlife Health Strategy.

4.2.2 Outcomes from Reporting and Analysis Discussions

A few short slides introduced the discussions on the break-out sessions.

What are the barriers to sharing information: FEAR

- Lack of trust
- Political sensitivity
- Fears of negative impact/perception can block early warning information sharing. We need to educate our bosses!
- Trade consequences (real or perceived)
- Instructions from hierarchy, prepared and controlled messages only
- Culture/people, the way we've always done it
- Media leaks
- Time and priorities and constraints (sometimes just isn't time to do it)
- Arrogance and self-centered, therefore others needs not considered
- Not just government, industry can be reluctant to share especially with the Federal government
- There may not be information to share in sectors without functional surveillance systems
- Can be related to power of owning information
- Silos prevent information sharing from happening

What are some solutions to enable information sharing?

- Take some of the responsibility outside of government
- "Animal Health Canada" may be one solution
- Ensure that industry is at the table for emergency operation centres (like happening in ASF currently)
- Share information (e.g. risk assessments, case definitions) and responsibility for their preparation, when not shared trust is eroded.

What is a domestic signal and how do we manage the different perceptions of threat due to geographic location? How is the signal different from an international signal?

- Source will be different
- Need for timeliness is greater (usually)
- Need for trust is higher
- Need to re-evaluate the definition of emerging
- Informing CEZD members when 'suspect' cases are detected and include public health, wildlife health, industry and also networks to whom our members are connected, VSEN, CCVOs

Discussion:

Timeliness is a challenge as rating signals takes time and we need a faster, easier mechanism that is outside of KIWI for domestic signals. We need to have a rapid alert system as it would currently take CEZD 1-8 days to get the information into the weekly report.

e.g. Suspect HPAI in BC. The confirmation has to go to NCFAD in Winnipeg, yet actions (quarantine, depopulation) are taken on positive findings before confirmation due to confidence in the results from the BC Animal Health Centre. A few days makes a very big difference for the other provinces to know when a 'suspect case' is present. Allows traceability on things like hatching eggs from BC to other provinces and implementation of enhanced biosecurity protocols.

If cases are confirmed it's too late, but there is a lack of willingness to share information until confirmation is complete. We need the trusted network so that those 'suspect' 'unconfirmed' cases can be shared safely.

CEZD could play a role in compiling official information; rumors of the disease will travel faster than the disease itself and it's important to try and get ahead of the rumors if possible. Industry knows about suspect cases in other provinces before the CCVOs, or CVOs know information but are not allowed to share anything, then no actions can be taken to prevent consequences.

If an unknown disease is occurring, just share description of what is happening.

National OneHealth/Wildlife group doesn't exist and CEZD could step into that role. We need integration of multiple sectors, but when doing notifications only include those sectors relevant for a specific event.

Action Items: Domestic Reporting and Analysis Discussions	
a.	Review definition of what is "emerging" for domestic
b.	Identify what constitutes a 'red flag' for domestic intelligence
c.	Conduct a pilot project to define steps needed for domestic early warning (see detailed action items below). (See if there is an opportunity to engage with existing exercises)
d.	Consider use of EpiCore as a "requestor" to obtain information from those on the ground anonymously (examine risks and benefits of EpiCore use)

4.2.3 Outcomes from Engagement and Communications Discussions

We need to identify all available tools for sharing information and consider consequences of doing (positive and negative). Barriers to sharing can be overcome where we have shared interests and collaboration. Some of the barriers are coming down now with open government portals being developed (e.g. Alberta developing an open portal to share surveillance information in real time).

Relationships need to be built and maintained (connections, conversation and consistency maintain relationships). We cannot just rely on issues for this, peacetime relationship maintenance builds the foundation for effective issues management. Must consider the "whole", it's not just about data sharing but rather the whole person/organization's needs. Peacetime relationship maintenance is more difficult than wartime.

To be proactive we need to call each other early, and know who to call. Preparation and prevention must be a transparent process with open dialogue. Aggregate data is safe and should be shared, open dialogue allows a controlled message that protects all collaborators and builds relationships and ultimately increases sharing, increases knowledge and builds trust that leads to even more open sharing.

Information (vs data) from personal networks shared with CEZD can then be shared with professional networks across disciplines. We need to identify what is for limited distribution within the CEZD professional community vs what can be shared for public distribution. The professional networks can indicate if they have information to share, need to meet, or if the core team can host a webinar to share information more broadly from specific expert networks. The community can link to existing networks or 'Animal Health Canada', where there are fact sheets provided, or link to information already available e.g. CWHC and other organizations already have disease fact sheets.

Recognizing our value and advocating for CEZD:
We need to keep the importance of early warning front and centre in people's minds by celebrating and publicizing our successes and highlighting our diversity. Keep a running commentary on our timeline and evolution. We must have CCVO support, and CAHC was originally a partner and was very helpful.

Selling our value to key decision makers and being clear about what works, doesn't work and what we need to succeed. We also need to define the CEZD 'space' and how it fits into the Animal Health Strategy and One Health approaches.

Action Items: Domestic Engagement and Communications
a. Enhance engagement with PHAC to leverage the human health interface.
b. Engagement with CCVOs, Regulatory ADMS and the Council.
c. Presentations to industry association leaders by their own members that are part of CEZD.
d. Presentations to CPHAZ, AMMI
e. Revise communications materials to better express how CEZD relates to other networks. In one sentence be able to explain why CEZD is different to CAHSS, CAHSN, CSHIN, VSEN etc…
f. Review if we are leveraging relationships with other networks sufficiently or if there are still gaps that need to be filled.

5 Define the next steps to develop the domestic network

Pilot Project:

Purpose of the pilot project is to determine what information can be shared to enable early warning. The pilot steps were pulled together as a result of the domestic discussions on reporting and analysis and engagement and communications. The pilot is to be conducted outside of KIWI as signals will not yet be in the public sphere.

Steps to Pilot the Domestic Network
a. Define emerging diseases from a domestic perspective
a. Identify signals for sending out a specific disease alert
b. Start with guiding principles or statements to identify when CEZD can be used domestically
b. Choose some examples to test the system (Fed/Prov/Non-regulated/Zoonotic)
c. Choose a mechanism to disseminate the information – PING or alternate system. Surveys within the collaboration centre that can be private to a specific working group
d. Identify groups to be contacted (Probably need to develop a ToR for this due to sensitivity of information, needs to be clear what is expected)
e. E-mail the alert to specified network members, ask if require more information or take the next steps
f. Determine how to answer the questions coming back and who can answer them. Ensure it is a two way communication option
Foundational information required to carry out the pilot project:
a. Who is in the community and what are their roles
b. Inform CCVOs of the pilot and seek their support (CEZD may be a means by which the CVOs can engage with different stakeholders)
c. Triggers for International Signals to be adapted for domestic
d. Understanding of widespread ramifications for international partners (will influence the scope of the information sharing)

WHO will carry out the pilot:

CEZD Core team to co-ordinate and do the foundational work with the community and important affected parties to enable the pilot to occur.

Reporting and Analysis working group to work on the definition of emerging diseases in a domestic sense and work through the triggers for action.

6 Sustainability

A short slide presentation with questions about sustainability was shared.

Is your time commitment to CEZD vulnerable? What are the weaknesses in our sustainability?

Time commitment to CEZD is vulnerable for some partners but not all. Time for travel may be limited even if costs are covered. Currently we are having good success and value is seen in the initiative but we need to keep our value front and centre for funders and decision makers if we hope to be sustainable. Awareness of our successes at high levels is a weakness.

Who requires more information (presentation) on CEZD? Who's engagement do we need?

We have on our priorities for the year to reach out to CCVOs and ADMs to seek support. We need to reach out to industry leaders as well for support, but the message is best coming from trusted members of their own networks.

Action Items:

Action Items: Sustainability
a. We need to keep raising CEZD profile across the commodity groups. Have members that are trusted by industry sectors to engagement presentations with their industries
b. Engagement with CCVOs, Regulatory ADMS and the Council to seek ongoing support and describe CEZD added value
c. Regular updates on CEZD to CFIA as we are currently on the list of Strategic Priorities
d. Determine how CEZD can fit with Animal Health Canada
e. Identify if CEZD can collaborate with the Emerging Issues group exercise, it is being funded by CAHC
f. Have CEZD relationship with Council discussed at their next face to face meeting on November 29th

COMMUNITY FOR EMERGING AND ZOONOTIC DISEASES (CEZD)
multidisciplinary perspectives to generate anticipatory intelligence to provide early warning for emerging and zoonotic diseases

Appendix 1: Meeting Agenda

November 6	
9:00 am – 9:30 am	Welcome, Introductions and Agenda Review
9:30 am – 10:15 am	CEZD Timeline to Date History of CEZD Milestones, successes and future direction
	Who is in our community now?
10:15 am – 10:30 am	Health Break
10:30 am – 11:15 am	Presentation on CNPHI on the go
	Advancements in KIWI
11:15 am – 12:30 pm	Signal Rating using the relevancy assessment tool
	Early warning vs. ongoing events and signal rating trends over time
	Enhanced Intelligence Report Pilot Results and feedback Decision on reporting going forward
12:30 pm – 1:30 pm	LUNCH
1:30 pm – 2:30 pm	International Intelligence, Analysis, Reporting and Communications
	Break out groups
	1. Evaluation of approaches to date: • International processes • Risk profile (SADS-CoV) • Criteria for Rapid Risk Assessment (Newcastle Disease) Additional analysis options (e.g. variables available for analysis, use of group of experts for Rapid Risk Assessments)
	2. How can the community be engaged further on international intelligence? • Available tools • Specific expert groups vs. multidisciplinary discussions • How to engage community experts in collaborative analysis • How to enable two way communications • Communication options, pings, meetings, webinars (e.g. ASF)

2:30 pm – 2:45 pm	Reporting back from breakout groups
2:45 pm – 3:00 pm	Health Break (coffee and snacks provided)
3:00 pm to 3:15 pm	Recap: Define next steps for International Intelligence, analysis, reporting and communications
3:15 pm to 4:30 pm	Domestic Signals, Analysis, Reporting and Communications Signals sources • Publically available signals • Information not yet public • Signals from other surveillance networks Discussion: Needs of partners – Industry, Academia, Municipal, Provincial, Federal walk through examples
November 7	
9:00 am – 9:15 am	Recap of Day 1
	Domestic Intelligence, Analysis, Reporting and Communications
9:15 am – 10:15 am	Break out Groups **1.** Domestic analysis needs • How to define and gather domestic signals • Can international triage be used for domestic signals? **2.** Engagement with existing networks • What is the process to engage with existing networks • Communications options, enabling signal/information sharing • Is there a difference in 'peacetime' and 'wartime'
10:15 am -10:45 am	Report back from breakout groups
10:45 am – 11:00 am	Health Break
11:00 am – 11:45 am	Define the next steps to develop the domestic network Groundwork necessary Pilot project
11:45 am – 12:45 pm	Sustainability Maintaining relationships Garnering ongoing support
12:45 pm – 1:30 pm	Recap and Action Items going forward

COMMUNITY FOR EMERGING AND ZOONOTIC DISEASES (CEZD)
multidisciplinary perspectives to generate anticipatory intelligence to provide early warning for emerging and zoonotic diseases

Appendix 2: Meeting Delegates

Attendees: In person	Job Title and Organizational Affiliation
Andrea Osborn	Senior Veterinary Science Specialist, Animal Health Science Directorate, Science Branch, Canadian Food Inspection Agency
Carina Bee	Epidemiologist, Policy Integration and Zoonosis Division, Centre for Food Borne, Environmental and Zoonotic Infectious Disease, Public Health Agency of Canada
Cheryl James	Senior Advisor, Animal Health Science Directorate, Science Branch, Canadian Food Inspection Agency
Claude Turcotte	National Manager Risk Assessment, Animal Health Science Directorate, Science Branch, Canadian Food Inspection Agency
Clarice Lulai-Angi	National Manager Risk Assessment, Animal Health Science Directorate, Science Branch, Canadian Food Inspection Agency
Dale Douma	Veterinary Public Health Epidemiologist, Animal Health Welfare and Disease Management, Stewardship and Assurance Division, Manitoba Agriculture
Harry Gardiner	Manager Counter-terrorism and Emergency Mitigation, Animal Health Science Directorate, Science Branch, Canadian Food Inspection Agency
Hernan Ortegon	Unit Head, Pathology Unit, Animal Health Section, Animal Health and Assurance Branch, Alberta Agriculture and Forestry
Ian Alexander	Executive Director, Animal Health Science Directorate, Science Branch, Canadian Food Inspection Agency
James Knox	Computer Scientist, Centre for Emergency Preparedness and Response, Situational Awareness Section, Global Public Health Intelligence Network, Public Health Agency of Canada
Jane Macdonald	Veterinary Program Specialist, Foreign Animal Disease Control Section, Animal Health Directorate, Policy and Programs Branch, Canadian Food Inspection Agency
Jane Parmley	Veterinary Epidemiologist, National Office, Canadian Wildlife Health Cooperative
Jasmine Dhillon	Senior Advisor/Veterinary Epidemiologist, Terrestrial Animal Health Epidemiology and Surveillance Section, Animal Health Science Directorate, Science Branch, Canadian Food Inspection Agency
Joanne Riendeau	Director, Animal Health Science Division, Animal Health Science Directorate, Science Branch, Canadian Food Inspection Agency
Kate Todd	Network Coordinator, Ontario Animal Health Network
Kuldeep Chatta	Veterinary Program Officer, Animal Welfare, Biosecurity and Assurance Programs Section, Animal Health Directorate, Policy and Programs Branch, Canadian Food Inspection Agency
Martin Pelletier	Consultant en agroalimentaire, Coordinator of Équipe Québécoise de santé porcine (EQSP) and the Équipe Québécoise de contrôle des

	maladies avicoles (EQCMA)
Megan Bergman	Executive Director, National Farmed Animal Health and Welfare Council
Melissa Mclaws	Veterinary Science Advisor, Animal Health Risk Assessment, Animal Health Science Directorate, Science Branch, Canadian Food Inspection Agency
Nancy Dewith	Veterinary Epidemiologist, Livestock Health Management and Regulatory Unit, Province of BC
Rob McNabb	Co-chair, National Farmed Animal Health and Welfare Council
Samira Mubareka	Clinician-Scientist, Medical Microbiologist and Infectious Disease consultant, Sunnybrook Health Sciences Centre. Assistant Professor in Laboratory Medicine and Pathobiology at the University of Toronto
Sharon Calvin	Senior Veterinary Science Specialist, Animal Health Risk Assessment, Animal Health Science Directorate, Science Branch, Canadian Food Inspection Agency
Shamir Mukhi	Director/Chief Engineer, Canadian Network for Public Health Intelligence, Public Health Agency of Canada
Zana Dukadzinac	CEZD Program Analyst, Animal Health Science Directorate, Science Branch, Canadian Food Inspection Agency
Attendees by telephone	
Logan Flockhart	Veterinary Epidemiologist, Zoonotics Division, Centre for Food Borne, Environmental and Zoonotic Infectious Disease, Public Health Agency of Canada
Oliver Lung	Research Scientist, Head Genomics Unit, National Centre for Foreign Animal Disease, Science Branch, Canadian Food Inspection Agency
Dallas New	Veterinary Epidemiologist, Zoonotics Division, Centre for Food Borne, Environmental and Zoonotic Infectious Disease, Public Health Agency of Canada
Tim Pasma	Lead Veterinarian, Animal Health and Welfare, Veterinary Science, Ontario Ministry of Agriculture Food and Rural Affairs

Appendix 3: Action Items

Item	Tasks	Who is responsible	Deadline
Signal Rating	**a.** Update relevancy assessment tool to use the term "signal" instead of "event"	Andrea	
	b. Explore options to facilitate commenting within the KIWI technology	Zana and Harry	
Enhanced Intelligence Report	**a.** Review feedback on enhanced report content from the ftf meeting. **b.** Identify information to include in the intelligence report **c.** Make a decision on report production	Reporting and Analysis Working Group	
International Intelligence Gathering, Analysis and Reporting	**a.** Continue all current activities and products (e.g. rating KIWI signals, PING questions, Scoping meeting, Risk Profile Document, Rapid Risk Assessment)	Core team Reporting and Analysis Working Group	
	b. Document the triggers for each activity/product	Reporting and Analysis Working Group	
	c. Consider adding an additional product: Hazard Pathway Analysis	Reporting and Analysis Working Group	
International Intelligence Engagement and Communications	**a.** Change monthly calls to management focus and disease focus, alternate between months.	Andrea	
	b. Change the way that webinars are described to remove 'multidisciplinary discussion' from the information.	Andrea	
	c. Ensure members know that they can send ping questions to Zana for inclusion in the weekly ping e-mail.	Core team	
	d. Continue to work towards network analysis of our members to ensure that we have a good picture of who is in the community and what they do. Also raise awareness of the gaps in expertise.	Engagement working group	

	e. Consider publication in a journal to share what we do more broadly with a scientific audience	Jasmine Samira Andrea	
	f. Create one page documents for communications purposes: • The value that CEZD brings in the big picture • What happens in CEZD? For new members	Core team with Derek Ellis	
	g. Seek Senior Management support from partner organizations to enable CEZD to facilitate early warning across Governments and Industry, (much like has been done with ASF and the Long Horned tick). • Enable those responsible to bring their issues forward and share what is happening and what has been done. CEZD to function as a facilitator for information sharing. Disseminate information rather than create it.	Core team Partners to take to their own organizations	
	h. Values summary to be taken to the Regulatory ADMs	Megan	
Domestic Intelligence Gathering, Analysis, Reporting	**a.** Review definition of what is "emerging" for domestic **b.** Identify what constitutes a 'red flag' for domestic intelligence	Reporting and Analysis Working Group	
	c. Conduct a pilot project to define steps needed for domestic early warning (see detailed action items below). (See if there is an opportunity to engage with existing exercises)	Core team RAW group Specific Partners after consultation	
	d. Consider use of EpiCore as a "requestor" to obtain information from those on the ground anonymously	James Andrea	
Domestic Engagement and Communications	**a.** Enhance engagement with PHAC to leverage the human health interface	Carina, Logan, Dallas	
	b. Engagement with CCVOs, Regulatory ADMS and the Council.	Core team and Megan	
	c. Presentations to industry association leaders.	CEZD member involved in that industry and trusted by them, or core team	
	d. Presentations to CPHAZ, AMMI	Samira and core team to explore	
	e. Revise communications materials to better express how CEZD relates to other networks. In one sentence be able to explain why CEZD is different to CAHSS, CSHIN, CAHSN	Core team and any interested members	

	f. Review if we are leveraging relationships with other networks sufficiently		
Domestic Pilot Project	**Foundational information required to carry out the pilot project:** **a.** Who is in the community and what are their roles **b.** Identify the gaps in the networks **c.** Inform CCVOs of the pilot and seek their support (CEZD may be a means by which the CVOs can engage with different stakeholders) **d.** Identify triggers for International Signals to be adapted for domestic. Identify the "red flag" criteria (define emerging from domestic perspective) **e.** Understanding of widespread ramifications for international partners (will influence the scope of the information sharing) **<u>Pilot Project:</u>** Purpose of the pilot project is to determine what information is can be shared to enable early warning. To be done outside of KIWI **a.** Start with guiding principles or statements to identify when CEZD can be used domestically **b.** Choose some examples (simulations) to test the system (Fed/Prov/Non-regulated/Zoonotic) to send out a disease alert **c.** Choose a mechanism to disseminate the information – PING or alternate system. Surveys within the collaboration centre that can be private to a specific working group **d.** Identify groups to be contacted a. Probably need to develop a ToR for this due to sensitivity of information, needs to be clear what is expected **e.** E-mail the alert to specified network members, ask if require more information to take the next steps **f.** Determine how to answer the questions coming back and who can answer them. Ensure it is a two way communication option	Core team RAW group Core team RAW group Identified partners	

Sustainability	**a.** We need to keep raising CEZD profile across the commodity groups. Have members that are trusted by industry sectors to engagement presentations with their industries	Need to identify who is able to raise profile in their sector	
	b. Engagement with CCVOs, Regulatory ADMS and the Council to seek ongoing support	Core team, Megan	
	c. Regular updates on CEZD to CFIA as we are currently on the list of Strategic Priorities	Harry	
	d. Determine how CEZD can fit with Animal Health Canada	Core team and NFAHWC	
	e. Identify if CEZD can collaborate with the Emerging Issues group exercise, it is being funded by CAHC	Core team with CCVOs	
	f. Have CEZD relationship with Council discussed at their next face to face meeting on November 29th	Megan	