Canadian Food Inspection Agency | Agence canadienne d'inspection des aliments

Canadian Food Inspection Agency




Our vision:
To excel as a science-based regulator, trusted and respected by Canadians and the international community.

Our mission:
Dedicated to safeguarding food, animals and plants, which enhances the health and well-being of Canada's people, environment and economy.

Data Sharing: Positive Aspects with Regards to Federal Provincial Movement of Data

CAHLN-RCTLSA 2012

June 4, 2012: Winnipeg, MB

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Canada

Data Sharing: Positive Aspects with Regards to Federal Provincial Movement of Data

1. Context
2. Barriers
3. Benefits
4. Conclusions

Big and Diverse

10 provinces, 3 territories

2 legal systems

2 official languages

5 ½ time zones


5095 km
Dublin to Novosibirsk
Ocean
Greenland
Iceland
Finland
Sweden
Norway
Russ
Canada
Poland
Germany
Ukraine
Kazakhstan
France
Italy
Spain
Turkey
United States
North Atlantic Ocean
Afghanistan
Iraq
Iran
Pakistan
Algeria
Libya
Egypt
Saudi Arabia
India
Mauritania
Mali
Niger
Chad
Sudan
México
Venezuela
Colombia
Ethiopia
Kenya
DR Congo
Tanzania
Brazil
Perú
Angola
Bolivia
Namibia
Botswana
Madagascar
Indian Ocean
South Pacific Ocean
Chile
South Atlantic Ocean
South Africa
Argentina

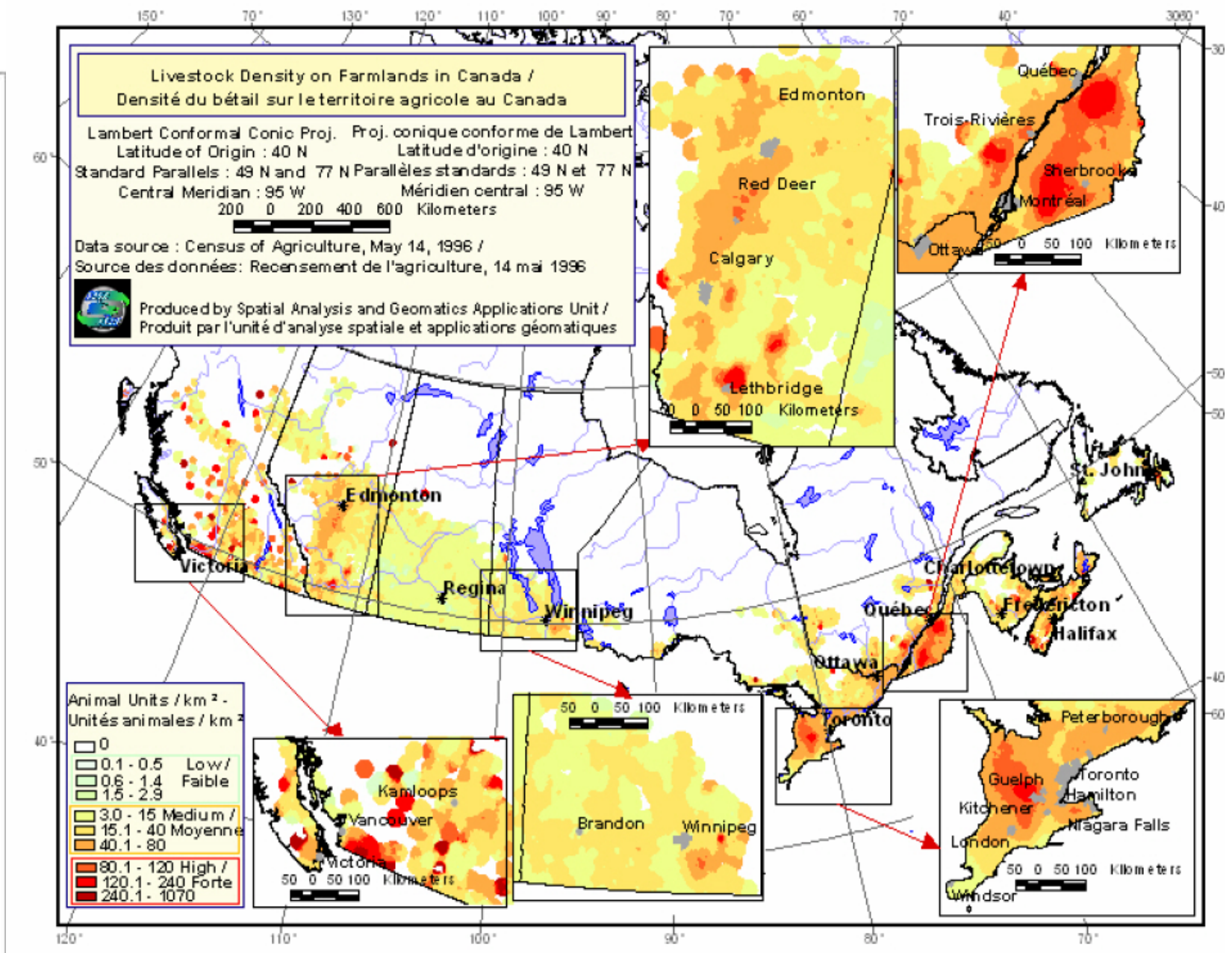
Agricultural Industry

Varied animal husbandry across Canada

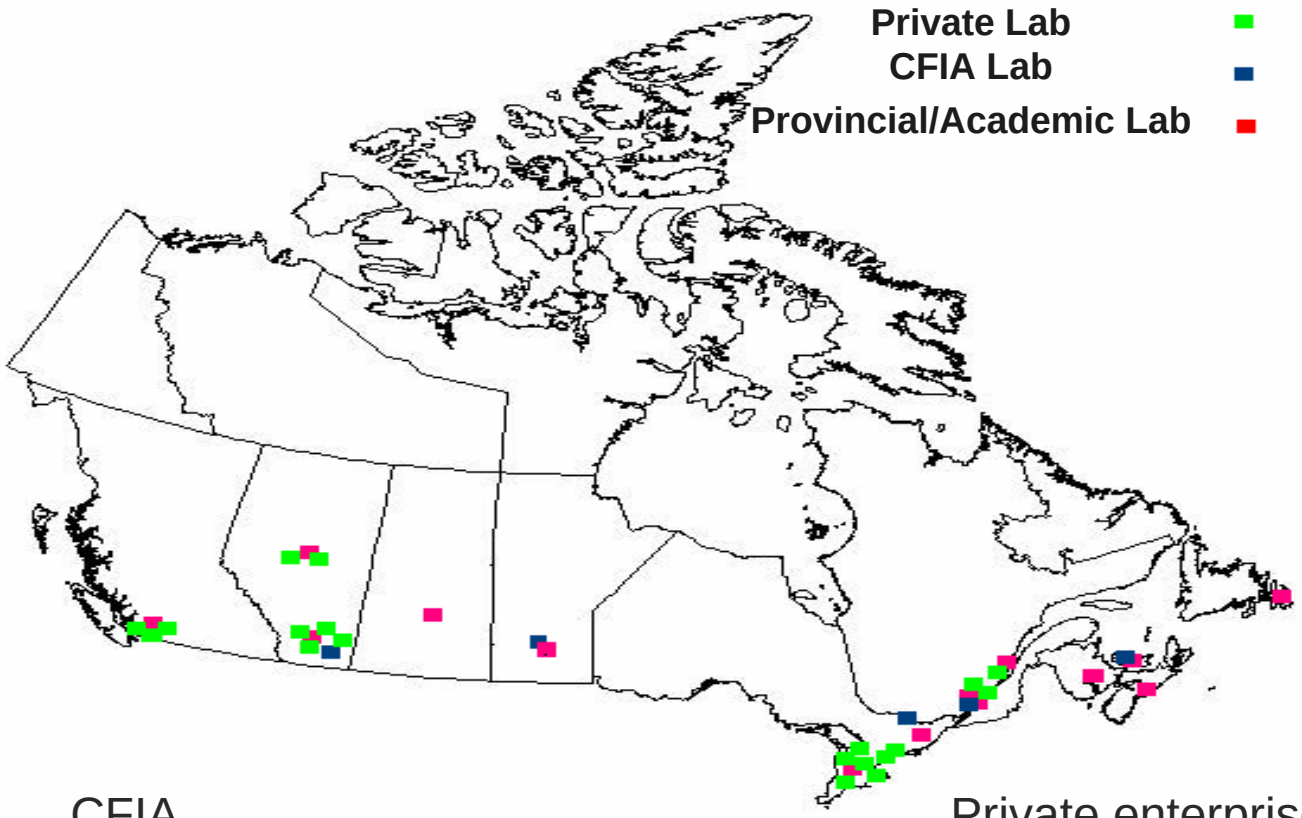
- From very intensive to very extensive (feedlot vs ranches)
- Supply managed commodities to export based commodities
- Ethnic/religious groups – Hutterites and Mennonites
- Stand alone “family farms” and “hobby farms” to integrated production systems

Economically important

- 35 billion in exports
- 8% of GDP directly and indirectly
- 1 in 8 jobs in Canada
- Food security for Canada


Livestock Density on Farmlands in Canada /
Densité du bétail sur le territoire agricole au Canada
Lambert Conformal Conic Proj.
Latitude of Origin : 40 N
Standard Parallels : 49 N and 77 N
Central Meridian : 95 W
Proj. conique conforme de Lambert
Latitude d'origine : 40 N
Parallèles standards : 49 N et 77 N
Méridien central : 95 W
200 0 200 400 600 Kilometers
Data source : Census of Agriculture, May 14, 1996 /
Source des données: Recensement de l'agriculture, 14 mai 1996
Produced by Spatial Analysis and Geomatics Applications Unit /
Produit par l'unité d'analyse spatiale et applications géomatiques
Animal Units / km² -
Unités animales / km²
0
0.1 - 0.5 Low /
0.6 - 1.4 Faible
1.5 - 2.9
3.0 - 15 Medium /
15.1 - 40 Moyenne
40.1 - 80
80.1 - 120 High /
120.1 - 240 Forte
240.1 - 1070
Edmonton
Red Deer
Calgary
Lethbridge
50 0 50 100 Kilometers
Québec
Trois-Rivières
Sherbrooke
Montréal
Ottawa
50 0 50 100 Kilometers
Edmonton
Victoria
Regina
Winnipeg
Québec
Ottawa
Toronto
St. John's
Charlottetown
Fredericton
Halifax
Kamloops
Vancouver
Victoria
50 0 50 100 Kilometers
Brandon
Winnipeg
50 0 50 100 Kilometers
Peterborough
Guelph
Toronto
Hamilton
Kitchener
Niagara Falls
London
Windsor
50 0 50 100 Kilometers

Types of Laboratories Dealing with Animal Diseases



CFIA

Provincial Veterinary Services

Universities

Partnerships of Government and Universities – private?

Private enterprise

DFO

PHAC

Provincial Public Health

Legal Authority for Animal Diseases

Legislation is not uniform across Canada

Federal Government has clear authority for those diseases that are reportable under the *Health of Animals Act* and its regulations - CFIA

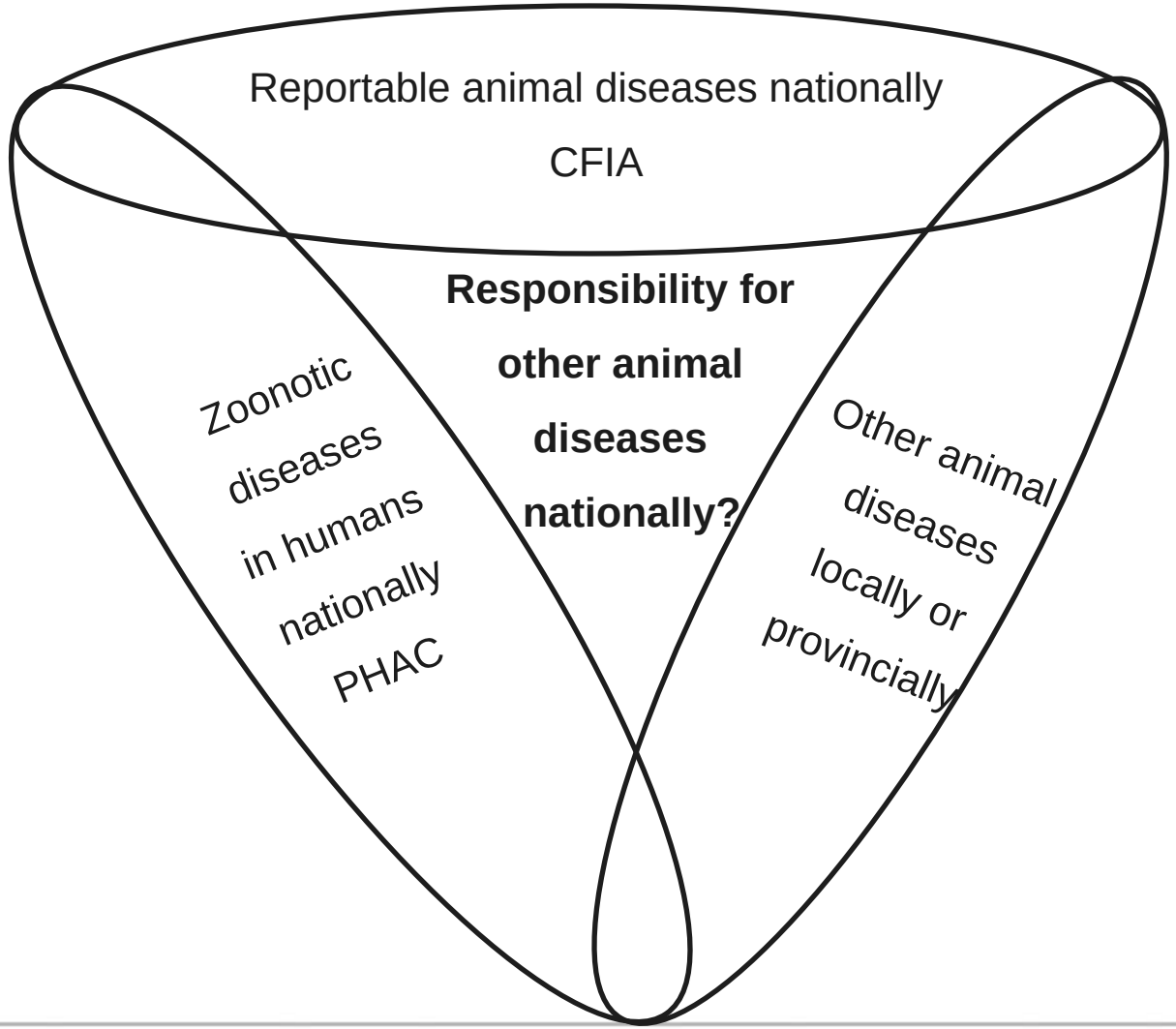
CFIA is also the body that acts as the “Responsible Veterinary Authority” internationally

Provincial ministries of agriculture tend to have much more interaction with producers and interest in production limiting diseases – now have Animal Health Legislation as well

Zoonotic diseases bring in public health

Many control programs are built “ad hoc” with universities or industry as the leads and these are most often regionally based

Legal Authority for Animal Diseases



Other Potential Legal Issues

Veterinary licensing bodies are provincial and while the principles are the same the actual bylaws and codes of conduct are not necessarily identical.

Much of the information that we seek to share originates within the Veterinarian-Client-Patient relationship. Most licensing bodies consider the veterinarian the legal owner of this information.

Privacy law in Canada is very strict - governed by the federal *Privacy Act* and provincial legislation.

Veterinarians, laboratories and governments are pulled in two directions – to ensure confidentiality of their client(s) and to act to enhance the “greater good”.

Barriers to Information Sharing

"We can't share data because –

1. Privacy laws
2. No clear direction or authority to do so

   "Someone should dictate that certain information be shared"
3. No agreements
4. Veterinary Client Patient Relationship
5. No budget"

Positive Aspects Of **NO** Information Sharing

1. Make decisions without interference
2. Bad news is not inadvertently communicated to outside parties – trade implications
3. Do not breach rules on privacy, everyone's anonymity is protected
4. Less work in the short term – no need to devise methods to protect, share and analyse data
5. Control information to enable publications
6. Easier to maintain the status quo than to change and there are no risks since there is no change

Some Motivations to Share Information

1. **“We thought someone was doing this”**

   - Industry comment at CAHSN Next Generation Workshop, Winnipeg 2008

2. **“As a member of the veterinary medical profession, I solemnly swear that I will use my scientific knowledge and skills for the benefit of society.**

   I will strive to promote animal health and welfare….”

   - Canadian Veterinary Oath

3. **“Public servants shall use resources responsibly by:**

   Acquiring, preserving and sharing knowledge and information as appropriate”

   - Values and Ethics code for the Public Sector (Canada)

Information Sharing

In academic/professional/governmental environment(s) we do share information

- Journal Articles
- Newsletters
- Personal Communication Networks
- Conferences
- Ad hoc meetings – topic specific

- Emails
- Blogs
- Twitter
- Professional networks – electronic discussion groups on sites such as Linked In

Why have we shared information

1. To gain knowledge – information exchange
2. To gain recognition – publish or perish
3. To educate others – sharing for benefit of the profession, the industry
4. To facilitate disease control – ARC&E, collaboration
5. To solve diagnostic problems – collaboration

Ontario

Hepatic lipodystrophy in 2 Galloway calves

A 5-week-old, Galloway calf was examined because of weakness, ataxia, and lethargy. The animal was found to have a large, firm liver and profound icterus. A 2nd herdmate of similar age and signs was also examined. The owner reported having lost occasional calves over the past several years with a similar clinical picture. Tissues submitted for histological examination from both calves revealed extensive dissecting fibrosis with some cholangiolar hyperplasia and isolation of hepatocytes into islands of 1 to 40 cells. Most hepatocytes contained in a large lipid vacuole occupying 50% to 90% of the cytoplasm. Liver copper and molybdenum levels were within normal limits.

The history and lesions seen in these 2 calves are similar to those reported in hepatic lipodystrophy of Galloway calves, where calves born alive usually died between 2 and 4 mo of age (1). Initially, affected calves were normal, but became lethargic and stuporous, and sucking attempts became weak. The small numbers of calves involved did not allow the investigators to determine if the disease was genetic; they could not rule out a storage disease.

This syndrome has been recognized in pedigree Galloway calves since 1965; however, it has not, to our knowledge, been identified in North America.

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Microscopic examination at all levels of the brain revealed generalized spongiosis of grey and white matter, which was related to extensive astrocytic swelling in the grey matter. In the white matter, similar astrocytic swelling was present, along with significant hypomyelination. Virus isolation and immunoperoxidase testing for bovine viral diarrhea virus were negative.

Numerous neurologic conditions are described in Hereford calves. These conditions can occur in grade cattle as well as purebred, particularly if there is inbreeding within the herd. The syndromes of hereditary neurologic disease described in Hereford cattle include: hereditary neuraxial edema (1), inherited congenital myoclonus of polled Hereford calves (2), and shaker calf syndrome (3). In 1974, Jolly (4) described congenital brain edema of Hereford calves as an autosomal recessive disorder; the lesions described in that paper best fit the clinical signs and lesions seen in animals from this farm.

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Can Vet J. **2000**

November; 41(11): 882.

Data Sharing Benefits - Disease Response

Surveillance system in "peace time" = response system in "war time"

Both collect results from laboratories, produce reports, connect partners

No one agency, industry group or government has the financial or human resources to effectively respond to a serious animal disease outbreak in isolation

It is impossible to develop a system during an outbreak

Data Sharing Benefits

Allows solution of technical issues with data transmission, data structure

“Empty pipes”

This is analogous to the development and implementation of a new laboratory information management system – some technical issues and data structure issues are not evident until “Beta testing”

Easily scalable – there are experienced people in the system who have solved the technical issues

Data Sharing Benefits

Allows the development of reporting, of analysis, information ownership resolution

Once again it can be very difficult to determine rules, guidelines, best practices, or to produce useful products without concrete examples

Formal inter-jurisdictional data sharing is a new concept so the production of reports, papers, the type and detail of reports and the distribution is an intellectual rather than concrete concept

Data Sharing Benefits

Allows the drafting of an improved data sharing agreement

An agreement needs to be drafted such that the restrictions and permissions match the intent of the partners.

- Purpose of the data sharing
- Type of data to be shared
- Permitted uses of the data
- Non-permitted uses of the data
- Access to the data
- Safeguards

Benefits of Information Sharing

Develop **Trust**

Develop **Confidence**

Information Sharing leads to Information Sharing

One aspect of the study named below was to determine the differences in respondents on the basis of risk ranking related to information sharing

Those who were evaluated as seeing lower risk in information sharing were compared to those who were evaluated as seeing higher risk with the two significant differences

The low risk group had more education and had more recent experiences with interagency information sharing.

Interagency Information Sharing: Expected Benefits, Manageable Risks
Dawes, Sharon S. Journal of Policy Analysis and Management, Jun 01, 1996; Vol. 15, No. 3, p. 377-394

Benefits of Information Sharing - CAHSN

Informed Discussion and Quality Assurance

Data was collected from across Canada beginning on May 2, 2009 for all influenza test results for swine origin samples from all laboratories in Canada. Test results were collected from Jan 1, 2009 to Dec 31, 2010. Over the two year period

- Nine laboratories tested for influenza in swine
- There were 35 unique test methodologies used
- There were 2993 submissions
- There were 15,937 samples

Issues were noted with non-standardized methods of naming tests and reporting of results making direct comparisons difficult

Benefits of Information Sharing - CAHSN

Informed Discussion and Rapid Situation Assessments

The SENSS database collects BSE test results from eight laboratories in real or near real time. This gives the ability to determine the number of samples at any time rather than being delayed through monthly reporting

Any user can access the data and do the report – no time lag

Benefits of Information Sharing - CAHSN

Allows an evaluation platform for legal and security issues

In order to truly understand risks, pitfalls, necessary safeguards, legal implications, analysis products…… you need to have an example

Very difficult for subject matter experts to understand all the potential issues when envisioning a system, while planning is important it is necessary to have something to evaluate, for example for Privacy Impact Assessments, Threat Risk Assessments.

Benefits of Information Sharing - CAHSN - Privacy

There is a difference between “personal information” and “business information”

"Personal Information"

Privacy legislation in Canada defines "personal information" broadly as any information about an identifiable individual. In general, personal information does not include business contact information, including your name, title or position, business, telephone or facsimile number.

Osler, Hoskin & Harcourt LLP Website

Benefits of Information Sharing - CAHSN - Privacy

CFIA's PIA is not being submitted to the Office of the Privacy Commissioner of Canada since "the personal information will not be used in a decision-making process that will directly affect the individual nor are there substantial modifications to the program or activities."

As part of the PIA a Threat Risk Assessment on the physical and IT environment was also completed

West Nile virus encephalomyelitis in horses in Ontario: 28 cases

J. Scott Weese, John D. Baird, Josepha DeLay, Daniel G. Kenney, Henry R. Staempfli, Laurent Viel, Joane Parent, Laura Smith-Maxie, Roberto Poma

Abstract — West Nile virus encephalomyelitis was diagnosed in 28 horses presented to the Ontario Veterinary College Veterinary Teaching Hospital between August 20 and October 15, 2002. The age range of affected horses was 5 months to 20 years (mean 6.9 years, median 6 years). Clinical signs were highly variable. Duration of hospitalization ranged from < 1 to 12 days (mean 5 days, median 5.4 days). Overall, 16 of the 28 (57%) horses were discharged and, of the 14 from which follow-up information was available, 13 (93%) were reported to be clinically normal 4 to 6 weeks following discharge, while the other horse had markedly improved. This pathogen is emerging as an important cause of neurological disease in Canada.

Résumé — **L'encéphalomyélite équine causée par le virus du Nil occidental en Ontario.** L'encéphalomyélite causée par le virus du Nil occidental a été diagnostiquée chez 28 chevaux présentés au Ontario Veterinary College entre le 20 août et le 15 octobre 2002. L'âge des chevaux atteints allait de 5 mois à 20 ans (moyenne de 6,9 ans, médiane de 6 ans). Les signes cliniques étaient très variés. La durée d'hospitalisation s'est située entre moins d'une journée à 12 jours. (moyenne de 5 jours, médiane de 5,4 jours). Seize des 28 chevaux (57 %) ont obtenu leur congé. Quatorze suivis ont été faits : 13 chevaux (93 %) s'étaient complètement rétablis de 4 à 6 semaines après leur congé, alors qu'une très bonne amélioration a été observée chez le dernier cheval. Cet agent pathogène est de plus en plus isolé comme cause de maladies neurologiques au Canada.

(Traduit par Dr André Lavoie)

Can Vet J 2003;44:469-473

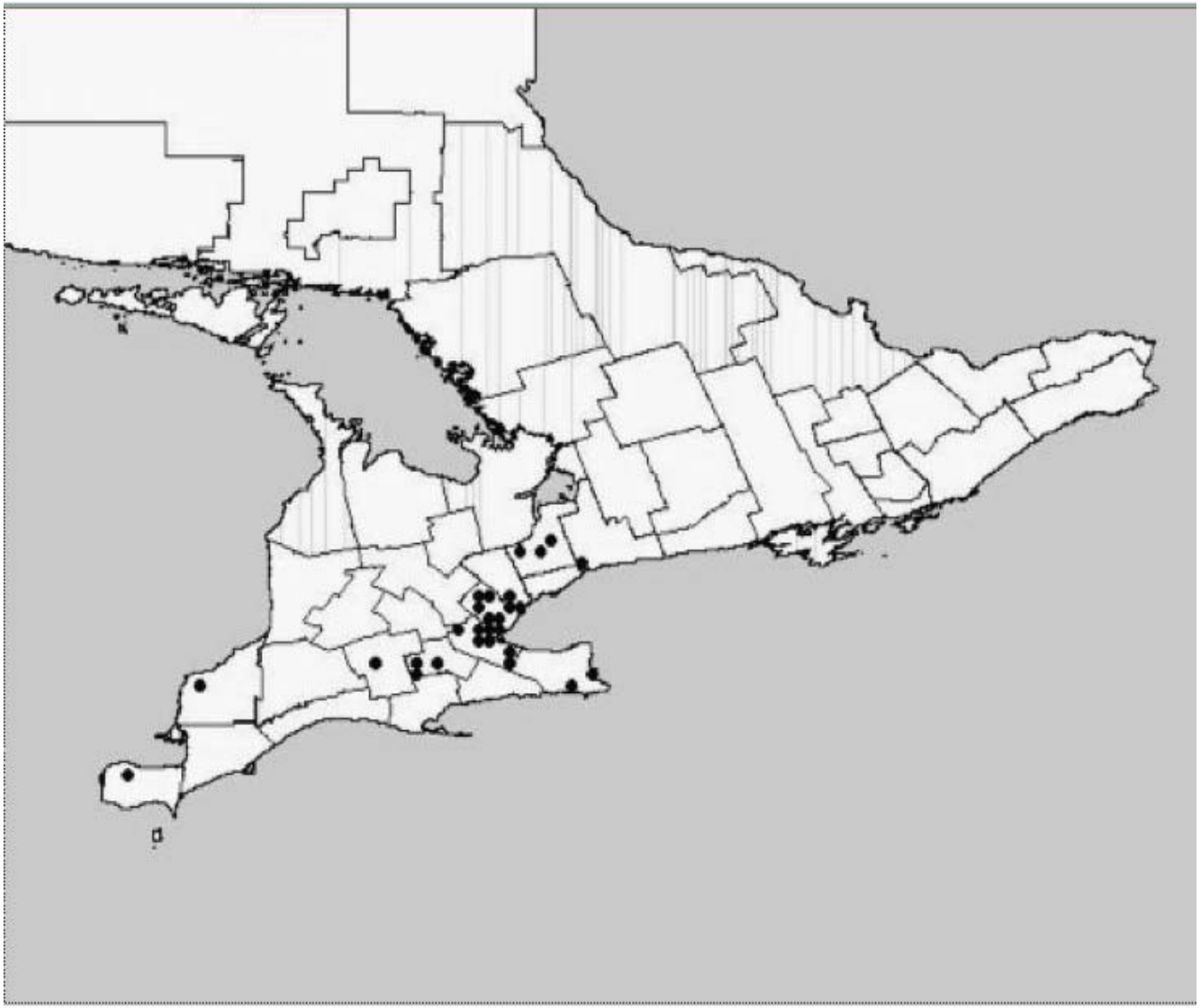

Figure 2. Geographic distribution of horses presented to the Ontario Veterinary College with West Nile virus-ass
28).

CROSS-CANADA DISEASE REPORT

RAPPORT DES MALADIES DIAGNOSTIQUÉES AU CANADA

Ontario

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About 60 Ontario producers in the Canadian Galloway Association

9 have 705 area codes

1 lives in neighbouring town to the veterinarian

4 others live within 60 km

Can Vet J. **2000 November; 41(11): 882.**

Benefits of Information Sharing - Future

Share information amongst different communities for collaboration and discussion

Experts from different geographic areas

Experts from different disciplines

"Lumpers and splitters"

Emerging disease detection, recognition of a re-emerging issue

More information = faster recognition

Real time information = faster diagnosis of emerging disease

Pattern recognition

Benefits of Information Sharing - Future

Research, Historical Analysis ….

Compiled data is a valuable resource for researchers and comparative analysis

“Build it and they will come”

Will allow the development of new and novel approaches to disease detection, characterization and geographic analysis

Positive Aspects Of **NO** Information Sharing

1. Make decisions without interference
2. Bad news is not inadvertently communicated to outside parties – trade implications
3. Do not breach rules on privacy, everyone's anonymity is protected
4. Less work in the short term – no need to devise methods to protect, share and analyse data
5. Control information to enable publications
6. Easier to maintain the status quo than to change and there are no risks since there is no change

Positive Aspects Of Information Sharing

1. Make informed decisions
2. Disease information is freely available and communicated so that Canada is perceived to have a robust detection system – part of quality assurance with positive trade implications
3. Do not breach rules on privacy through understanding of the rules and the implementation of necessary safeguards
4. Less work in the long term – no need to scramble to respond every time an issue arises
5. Increased and more rapid dissemination of knowledge through publications and reporting
6. Continuous improvement is necessary to mitigate risks in a changing world

Barriers to Information Sharing

"We can't share data because –

1. Privacy laws
2. No clear direction or authority to do so

   "Someone should dictate that certain information be shared"
3. No agreements
4. Veterinary Client Patient Relationship
5. No budget"

Conclusions

There is a difference between business and personal information

There is no specific legislative authority for animal disease information sharing but neither is there a legislative proscription

Agreements are being drafted, much progress has been made to understand privacy issues, technical solutions

Budget and the VCPR will always be issues

Conclusions

We can share data and have been doing so effectively for the duration of the CAHSN project

This sharing is currently voluntary with the authority being the group

Issues with data sharing are being solved

Trust is being developed


Canada