AAVLD Committee Report
(Note: Please attach any additional pages necessary for the following subtopics and your minutes / narrative)

Epidemiology
Committee

October 23, 2015
Date

Ashley Hill
Committee Chair

Marilyn Simunich
Co-chair if applicable

Nominees for upcoming chair / co-chair

Laura Goodman
Nominees for upcoming chair / co-chair

Committee Statement of Purpose:

To communicate epidemiologic concepts, techniques and methodologies to enhance the efficacy and efficiency of veterinary diagnostics and utilization of veterinary diagnostic laboratory information for the maintenance of animal and public health.

Strategy(ies) for Committee Activity Supporting AAVLD Strategic Plan (Please List):

Long-term strategy: Work towards development of a national disease surveillance map, available online, using current information on disease diagnoses provided by VDLs.

Items for Review by the Executive Board (Please List):

None

Action Items for the Committee (Please List):

The committee will put together a working group to develop a standard nomenclature list of syndromes that would be useful to practitioners, for use in a disease surveillance map.

AAVLD Epidemiology Committee 2015 Meeting Report

Chair: Ashley Hill
Co-Chair: Marilyn Simunich

Meeting location and attendance:

The 2015 Meeting was held from 10:00 a.m. to 12:00 p.m. on Friday, October 23, 2015, in meeting room 555-B at the Providence Convention Center in Providence, Rhode Island. Attendees: Bruce Akey, Julie Bidulka, Craig Carter, Wayne Chittick, Beate Crossley, Dave Dargatz, Francois Elvinger, Joe Garvin, Kathleen Gibson, Laura Goodman, Michael Greenlee, Jake Guag, Stephane Guillossou, Ashley Hill, Quoc Hoang, Rekha Holtry, Noah Hull, Jennifer Jones, Michael Martin, Brian McCluskey, Barb Porter-Spaulding, Anette Rink, Brant Schumaker, Avanti Sinha, Susan Stehman, Sydney Stein, Aissa Sylla, Danielle Tack, Josie Traub-Dargatz, Ron White, Jin Xie, Michael Zhang.

Meeting minutes:

Craig Carter presented "Nationalizing an Animal Health Laboratory Diagnosis Map: What would it take?"

The University of Kentucky VDL web site includes an Animal Disease Distribution Map. This map shows a 30-day moving window of disease diagnoses by county for the state of Kentucky. Disease diagnoses include necropsy as well as non-necropsy cases. This allows clients/practitioners to easily see recent diagnoses in their area. The map incorporates information from two diagnostic labs within Kentucky; both use USALims, but are under oversight of different universities. Dr. Carter reported that the map was simple to set up and inexpensive.

Other items provided by the UKVDL web site include Veterinary Health Bulletins (summary of a relevant disease along with available diagnostic tests for the disease and their cost), and a 3-year moving window of necropsy diagnoses shown as an epi curve. The necropsy diagnoses can be filtered by diagnosis, species, etiology, etc.

Expanding this to a national level would require enlistment of diagnostic laboratories, selection of a host laboratory, funding support, a nomenclature standard for reporting, individual laboratories mapping their nomenclature to the standard, selection of ways to view the data, and ultimately testing and implementation. A small-scale pilot project with two laboratories might be useful as proof of concept; if that is successful, the Epi Committee might put forward a resolution to AAVLD in support of a national system.

Ashley Hill presented "Effect of diagnostic test properties on sampling and surveillance".

The presentation focused on the effects of prevalence, imperfect sensitivity, imperfect specificity, and level of confidence on the sample size needed to classify a herd as infected vs. uninfected. Classification was based on the number of reactors in the herd compared to a threshold number of reactors. In most cases, a decrease in specificity had a much larger effect on sample size than a decrease in sensitivity. The lowest sample size was needed when disease had high within-herd

prevalence, and the diagnostic method had perfect specificity. On line tools (FreeCalc, available at Aus Vet) will do the calculations for you.

The Epidemiology Committee as a whole discussed the idea of a national disease surveillance map. Points raised included:

- The diagnosis list needs to be standardized, and needs to be useful to practitioners
- Privacy concerns – did Kentucky experience any pushback from clients by releasing their data? (No, according to Dr. Carter)
- Delays in putting the information on the map would remove the value of the map. In KY, data goes into the map as soon as the case is closed/finalized. Time from carcass submission to case closure differs across laboratories.
- Which county is associated with the case: the county where the owner resides, or the county where the animal(s) reside? This could be an issue in Western states where the animals are often not located at the owner's address.
- A state-level National Animal Reportable Disease list is in development. There is potential for synergy between that list and a standard disease list for a national surveillance map.
- Practitioners would probably like to have an up-to-date map showing disease diagnoses in their region – as long as the diseases were reported/summarized in ways that were practical/useful to them. Reporting at the level of detail typically used in a pathology report would not be useful.
- Who assigns the diagnosis for a case? In most laboratories, it is the case coordinator. Will this make adhering to a standardized list difficult? Ideally, no, because the mapping of the pathologist's diagnosis (BVDV abortion) to the standardized nomenclature diagnosis (Abortion, viral) will be done by the computer, not by the pathologist.
- Can we adapt existing human disease surveillance techniques? At CDC, ICLN (Integrated Consortium of Laboratory Networks) does text scraping of free-text fields. Maybe they would be willing to share with us.
- If the data needed to populate the map exists in individual LIMS systems, can it be extracted for use?

As an Action Item for next year, the committee recommended putting together a working group to develop a standard nomenclature list that would be useful to practitioners, for use in a disease surveillance map. Dr. Hill will send an email to the membership asking for interested participants to join the group.

2014 AAVLD Epidemiology Committee meeting minutes were approved.

Laura Goodman was nominated to serve as co-chair for the Epidemiology Committee. All present approved the nomination, and Laura indicated she was willing to serve.

The meeting was adjourned.

Suggested topics for next year (from previous lists as well as suggestions made at the 2015 meeting):

- What does USDA need from VDLs for disease surveillance? (Brian McCluskey)
- USDA Centers for Epidemiology and Animal Health modeling and disease surveillance
- Review of AAVLD abstracts – do they meet recommended reporting guidelines? (Stephane Guillossou & Susan Stehman)
    - Recommendation: 1 month prior to next year's meeting, send out relevant reporting guidelines to Epi Committee membership.