HEREDITARY DISEASE COMMITTEE
CHAIR HDC
Dr Jerold Bell

MEMBERS

Dr Helle Friis Proschowsky
Dr Åke Hedhammar
Dr Susan Little
Dr Leslie Lyons
Dr Monique Megens
Dr Cathryn Mellersh
Dr Claire Wade

The HDC is generously supported by:

PURINA Institute
Advancing Science for Pet Health
Overview of activities in 2020

The HDC committee did not have a face-to-face meeting due to the cancellation of the Warsaw Congress. The committee held a Skype meeting in July and have corresponded through numerous e-mail discussions.

While some HDC activities had to be put on hold because of the pandemic, activities have continued in a number of areas, principally in educating veterinarians about hereditary disease:

HDC Committee is presenting a ½ day tract on hereditary diseases at the Virtual 2020 WSAVA Congress (now scheduled for March, 2021).

Dr Bell gave a lecture at the virtual AVMA 2020 Virtual Convention on “Understanding Purebred and Mixed-Breed Populations and How it Relates to Genetic Disease in our Patients.” This lecture has since been promoted in the WSAVA Bulletin.

Dr Bell presented a free 4-hour VIN/WSAVA webinar course on "It's All in The Genes: Using Genetics, Genetic Testing, and Genetic Counseling to Improve Patient Health." The course session recordings have been placed in the WSAVA Academy Knowledgebase.

Dr Bell has also published chapters on Genetic Testing and Genetic Counselling in Ackerman’s ‘Pet Specific Care’ (Wiley & Sons) to be published Jan 2021.

Dr Lyons presented a series of virtual webinars to cat breeding groups in Russia.

Dr Lyons published two papers in Vet Clinics of North America-SmAn: "Precision/Genomic Medicine for Domestic Cats" & "Direct-to-Consumer Genetic Testing for Domestic Cats.”.

Most of the HDC members have also published their research findings in 2020 in peer-reviewed journals.

The HDC has been working closely with the International Partnership for Dogs (IPFD) on issues concerning hereditary diseases, genetic testing and genetic counselling. Dr Megens is the WSAVA/HDC liaison to the IPFD. Examples of collaboration include:

- Drs Bell, Mellersh and Wade have been working with the IPFD Harmonization of Genetic Testing initiative in updating their genetic test database including evidence of test validation and breed relevancy ratings (BRR).
- Drs Bell, Mellersh and Wade are participating in the IPFD Expert Panel on Test Validation.
- Drs Megens and Hedhammar are participating in the IPFD Expert Panel on Extreme Conformation in Dogs.
- Dr Friis-Proschowsky wrote a review article about disc calcification and herniation in chondrodystrophic breeds. A successful Danish program for pre-breeding monitoring of intervertebral calcifications in Dachshunds has now been adopted in many countries. The article has been translated to Norwegian, Swedish, Finnish, English, German and Italian.

In other collaborations, Drs Bell, Little and Lyons have been contacting feline foundations and associations to raise the level of awareness and engagement regarding feline hereditary disease. Drs Lyons and Bell have also been working on a manuscript on standardization of feline genetic testing nomenclature and reporting.
Drs Bell, Hedhammar and Lyons have been working with industry representatives on a project to standardize and harmonize breed names and varieties internationally. This will allow compilation and comparison of data to enhance standards of care, research, and development within veterinary research and practice including; practice management programs, clinical laboratories, genetic testing centers, academia, research laboratories, food companies, pharma companies, insurance industry, and one health. This project is still at an early stage.

Dr Bell engaged with international genetic test providers regarding the validation of genetic tests offered to the public and genetic counseling recommendations.

Several HDC members are actively addressing international BOAS issues including governmental restrictions on breeding brachycephalic breeds, and the international implementation of respiratory function grading schemes for breeders. They are also working on issues concerning improper testing and utilization of genetic test results from direct-to-consumer commercial genetic testing companies.

All HDC members continue to work on the improvement of hereditary disease in dogs and cats with veterinarians, breeders, breed organizations and companion animal health foundations in their respective professional positions.

The PennGen/WSAVA Genetic Disease/Testing Database continues to be maintained by past HDC Chair Dr Urs Giger

### Plans and priorities for 2021

Continue to formalize a long-term strategic plan for the HDC.

Continue and enhance veterinary practitioner education on hereditary diseases, genetic testing and genetic counseling in pet and breeding cats and dogs.

Enhance veterinary student education on hereditary diseases, genetic testing and genetic counseling.

Enhance engagement with specialty colleges on hereditary diseases, genetic testing and genetic counseling.

Utilize social media to broaden the reach and scope of HDC activities with veterinary practitioners and veterinary associations worldwide.

Work on specific issues with validation of genetic testing and genetic counseling practices involving; publication, commercialization of genetic tests, recommendations for genetic testing, and genetic counseling in pet and breeding dogs and cats.

Continue to support a WSAVA sponsored genetic disease/genetic testing database for both dogs and cats.

Work with the International Partnership for Dogs on issues concerning hereditary diseases, genetic testing and genetic counseling.

Foster feline veterinary, breeder and animal health foundation engagement on hereditary diseases, genetic testing and genetic counseling, including engagement with International Cat Care (iCat).

The HDC has proposed an outreach on Dog & Cat breeding and genetics for breeders and veterinarians at the 2021 WSAVA Congress in Hyderabad.

Plan 2 Skype meetings and one face-to-face meeting – either at the 2021 WSAVA Congress or 2021 Dog/Cat Genomics Conference.