

## **Development of a National Canine Cancer Biospecimen Repository: The Canine Comparative Oncology and Genomics Consortium (CCOGC)**

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Dr. Breen said, "In real estate, the maxim is 'location, location, location.' In research, it's 'samples, samples, samples.'"

"The sequencing of the canine genome has revolutionized what we can do," Dr. Breen said. Researchers' greatest need is a centrally based, well-described repository of tissue samples. Many cancer researchers collect their own samples; if those samples are not used, they are not used by anyone else either. In contrast, the consolidation of sample repositories will mean more rapid advances in canine research.

The CCOGC project began three years ago as a multi-disciplinary, multi-institutional community initiative by scientists across the nation, all sharing the goal of studying cancer in companion animals. CCOGC was incorporated in Maryland, and has also registered as a 501(c)(3) not-for-profit organization. Dr. Breen said it took 18 months to develop an operations plan, which included establishing a steering committee, selecting a board of directors, recruiting members, and forming a scientific advisory board.

CCOGC aims to collect 3,000 tissue samples over the next three years. Initially, it will focus on osteosarcoma, lymphoma, and melanoma, all diseases that occur in both dogs and humans. The organization hopes to collect 600 samples of each type of tumor, for a total of 1,800 samples. The specific type of the other 1,200 samples has yet to be determined, but the plan is to select four more types of cancer and collect 300 samples of each. Once the sample bank is established, Dr. Breen said, it will be self-sustaining. Users will pay for access to samples, and the money generated will be used to repopulate the bank.

The cost to establish CCOGC will be \$2.2 million over three years. CHF and the Morris Animal Foundation have each given \$250,000, which helped fund initial operations and establish the first three collection sites. The pharmaceutical firm Pfizer gave \$1.1 million, which moves forward the plan for six more sites.

The sample collection committee will ensure that both veterinary and human pathologists review every sample, and the scientific advisory board will respond to requests for access to samples, evaluating each request for the wise use of samples. Dr. Breen said researchers who want access to samples from CCOGC must have their study's funding already in place.

Currently, the project is "well on target with everything." Three collection sites are already in use and plans are in place to establish between three and six more. The first

three sites are at Ohio State University, Colorado State University, and the University of Wisconsin–Madison.

Sample collection begins when a site identifies an eligible patient, Dr. Breen said. CCOGC then sends a collection kit, and the sample is collected and sent to CCOGC, where it is cataloged and stored.

The storage facility, located at the National Cancer Institute in Frederick, Maryland, is safe, secure, and allows for real time inventory through a computerized barcode system. Dr. Breen said it follows the same standards as repositories for human samples, including the use of backup generators in case of power failure.

In the last six months, CCOGC has collected 68 samples. Dr. Breen said that if collections continue at the same rate, CCOGC might reach its goal of 3,000 samples in two and half years instead of three.

CCOGC is important because it is a shared, open access facility that allows multiple researchers to work on the same population, Dr. Breen said. Fewer individual researchers will need to collect their own samples, and the population of samples “will benefit many people and dogs for many years.”

#### *Discussion*

A participant asked how samples are submitted to CCOGC. Dr. Breen said those wishing to submit samples must be located in the same geographic region as one of the collection sites, because affected dogs must be seen by clinicians trained in specific procedures. While the application process for the next group of sites is under way, he said he could not reveal the contenders or any other details.