

Jaguar Health Announces Launch of the First U.S. Canine Cancer Registry and Canine Cancer Care Index

May 23, 2022

"Canine Cancer: Take C.H.A.R.G.E." (Canine Health And ReGistry Exchange) Based on Nationwide Gallup Poll of Pet Owners and Initial Assessment of More Than 35,000 Canine Medical Records

Initial Data from Gallup Poll of More Than 3,500 Dog Owners Suggest Nearly Five-Fold Greater Incidence of Canine Cancer Than Human Cancer; More Than 80 Percent of Respondents Believe a Registry is Needed to Help Dogs with Cancer

Take C.H.A.R.G.E. Scientific Advisory Board of Veterinary Oncologists and Experts Support Adoption of New Comparative Oncology Diagnostic Codes to Strengthen Registry Impact

Join us TODAY for Special NYC Media Event and Performance to Celebrate the Launch of Take C.H.A.R.G.E. on National Canine Cancer Awareness Day

SAN FRANCISCO, CA / ACCESSWIRE / May 23, 2022 / Jaguar Health, Inc. (NASDAQ:JAGX) today announced the launch of Canine Cancer: *Take C.H.A.R.G.E.* (Canine Health And ReGistry Exchange), a first-of-its-kind national Canine Cancer Registry and Canine Cancer Care Index to provide the veterinary community and dog owners with important incidence and prevalence data to help guide canine cancer diagnosis and treatment decisions. Launched on the first National Canine Cancer Awareness Day and co-sponsored by Jaguar Animal Health, TogoRun, and Ivee, the initiative will initially access information about canine cancer from two key sources: a nationally representative multi-year Gallup survey of U.S. dog owners, and a retrospective review of more than 35,000 anonymous canine patient records uploaded into a secure customized database with more than 830 confirmed cancer diagnoses.

The Gallup survey, conducted in March 2022, estimated the prevalence - the percent of U.S. dogs with cancer in 2021 - was 3.4 percent, less than the approximately 5 percent prevalence in humans that year. The survey also found that the incidence - the percent of U.S. dogs newly diagnosed with cancer in 2021 - was 2.8 percent, which is approximately five times the 0.57 percent incidence of newly diagnosed cancer in humans that year. This finding is startling since researchers have assumed that canine cancer rates mirror human cancer rates.

"We established *Take C.H.A.R.G.E.* to fill a major research gap among the veterinary community and dog owners in the United States because, until now, there has been no nationally based dog owner survey or registry focused on canine cancer," said Jaguar Health founder, president and CEO Lisa Conte. "The information from *Take C.H.A.R.G.E.* will provide the first ever national representation of the incidence and prevalence of canine cancer and will help inform decisions that advance the quality of life of both dogs with cancer and their owners. The data may also provide insights to help better understand cancer in humans."

Other key findings from the Gallup survey include:

- More than 8 in 10 dog owners favored the creation of a canine cancer registry to better understand the disease and advance treatments
- After mixed-breed dogs, the 10 most represented breeds in the survey were: 1) Labrador, 2) Chihuahua, 3) Pitbull, 4) Golden Retriever, 5) German Shepherd, 6) Yorkshire, 7) Dachshund, 8) Boxer, 9) Beagle, and 10) Shih Tzu
- 68 percent decided not to treat their dog for cancer due to the age of their dog (54 percent), treatment cost (39 percent), treatment side effects (38 percent), or other reasons
- Across all dog owners, the vast majority (92 percent) said they did not have pet insurance at the time of diagnosis
- Nearly 3 in 4 dog parents who experienced canine cancer in the past 10 years were satisfied or very satisfied with their overall experience during treatment, even though only 39 percent reported that their dog was actually cured or went into remission
- While a high proportion of dog owners (46 percent) 'strongly agreed' that their dog received high quality cancer care, only 30 percent strongly agreed that they knew what to expect during their dog's cancer treatment
- When asked to imagine how difficult it would be for members of their household to manage various chemotherapy-related side effects, the percent of all dog owners rating them as difficult or very difficult were: pain (60 percent), urinary incontinence (43 percent), diarrhea (41 percent), vomiting/nausea (39 percent), decreased appetite (20 percent), and fatigue/lethargy/lack of energy (19 percent)

- Dealing with canine cancer has a major impact on dog owners' well-being, including depression, anxiety, lack of sleep, and missing work or other obligations; for example, 63 percent of respondents reported feeling a lot of stress and 58 percent reported feeling down and depressed a lot during their dog's cancer
- Dog owners' ability to manage their dog's side effects from cancer treatment, such as pain, urinary incontinence, and diarrhea, is the best predictor of key well-being outcomes of the pet owner
- However, many dog parents find managing treatment side effects especially challenging:
 - 92 percent of dog owners with no canine cancer experience and 65 percent of those with canine cancer experience said they knew little or nothing about side effects
 - Only 22 percent 'strongly agreed' that they have been able to manage their dog's cancer treatment side effects well, and only 29 percent have a clear understanding of potential side effects of treatment
- Having a veterinarian who cares about a dog's comfort, high quality of care, and thorough explanation of treatment options were most critical to overall treatment satisfaction, whereas management of side effects was the most important factor in determining the negative impact canine cancer has on dog parents' well-being

The complete results of the Take C.H.A.R.G.E. Gallup survey of pet owners can be found here.

Canine Cancer Care Index

In addition to assessing canine cancer incidence and prevalence, and dog owners' perceptions, emotions and experiences related to canine cancer, Gallup used data from the survey to calculate a Canine Cancer Care Index that reflects three dimensions related to canine cancer care: knowledge, quality of care, and canine comfort. Ranging from 0 (the worst possible score) to 100 (the best possible score), the Index will help assess whether canine cancer care experiences are improving, worsening, or staying the same for dog owners and their dogs over time. Gallup determined that the baseline for the Canine Cancer Care Index is 80.5 or a B-, indicating a clear need for improvement.

"Protecting dogs from cancer begins with knowing its impact by breed, type, age, gender, and location," said *Take C.H.A.R.G.E.* Scientific Advisory Board co-chair Dr. Terry Fossum, DVM, MS, PhD, Diplomate ACVS. "The U.S. has lagged behind other countries where there are multiple canine health registries and there have been several attempts by other groups to establish a U.S. registry without success. We have to do better for our dogs and we believe *Take C.H.A.R.G.E.* finally will give us the tools we need to advance canine cancer care."

Take C.H.A.R.G.E. Scientific Advisory Board

The *Take C.H.A.R.G.E.* Scientific Advisory Board (SAB) includes eight leading U.S. veterinarians specializing in canine oncology and surgery. One of the SAB's first and most important activities is driving adoption of a consistent canine cancer diagnostic coding system and supporting the goals of the National Institutes of Health/National Cancer Institute Comparative Oncology Program.¹ Comparative oncology is the study of naturally developing cancers in pet dogs and other animals as models for human cancers. It provides a novel approach to generate new information about cancer, for example environmental risk factors, genetic determinants, and evaluation of new treatment approaches. In support of comparative oncology, the SAB is encouraging veterinary clinics to adopt coding practices that align with the recently published Veterinary International Classification of Diseases for Oncology Canine Tumors First Edition, or Vet-ICD-O-canine-1,² which is based largely on the most recent version of the human cancer coding system, ICD-O-3.2.³

"The heart of any cancer registry is its cancer coding system," said SAB co-chair Dr. Craig Clifford, DVM, MS, DACVIM (Oncology). "As we continue to enhance the *Take C.H.A.R.G.E.* registry, we will incorporate Vet-ICD-O-canine-1, as it is a user-friendly, easily accessible, comprehensive resource for veterinary doctors, researchers, and specialists. This will allow us to make more 'apples to apples' comparisons of canine cancers in the United States and other countries and regions, which in turn will help us better understand and treat canine cancer."

The Take C.H.A.R.G.E. SAB members include:

- Dr. Craig Clifford, DVM, MS, DACVIM (Oncology), SAB Co-chair. Director of Blue Pearl Science and Medical Oncologist at BluePearl Pet Hospital in Malvern, PA.
- Dr. Theresa (Terry) W. Fossum, DVM, MS, PhD, Diplomate ACVS, **SAB Co-chair.** CEO and Co-founder of Dr. Fossum's Pet Care and CEO of Epic Veterinary Specialists.
- Dr. Susan Ettinger, DVM, DACVIM (Oncology), also known as Dr Sue Cancer Vet®. Practicing veterinary cancer specialist, co-founder and Chief Medical Officer of Fidu, a teleconsulting company for veterinarians.
- Dr. Trina Hazzah, DVM, DACVIM (Oncology), CVCH. President and co-founder of the Veterinary Cannabis Society, the first US-based non-profit, 501(c)(3) organization building awareness of cannabis as medicine for pets.
- Dr. Chad M. Johannes, DVM, DACVIM (SAIM, Oncology). Associate Professor, Colorado State University, ACVIM Oncology Specialty President Elect.
- Dr. Doug Thamm, V.M.D., Diplomate ACVIM (Oncology). Barbara Cox Anthony Professor of Oncology at Colorado State University and Director of Clinical Research for the Flint Animal Cancer Center.
- Dr. David Vail, DVM, MS, DACVIM (Oncology). Professor of Oncology, Barbara A. Suran Chair in Comparative Oncology, Director of the Barbara A. Suran Comparative Oncology Research Institute, University of Wisconsin.
- Dr. Rachel Venable, DVM, MS, DACVIM (Oncology). Owner, Pet Cancer Care Consulting, Arizona.

Take C.H.A.R.G.E. Website

Data from the Registry will be accessible to the public via an interactive, easy-to-use dashboard on the *Take C.H.A.R.G.E.* website, with open access for clinical practitioners and academia to all canine cancer medical record data for research purposes. The Registry will continue to grow as veterinary clinics and pet owners upload medical records of dogs with cancer at no cost to the clinic or pet owner. The data is de-identified, anonymized, and

protected following General Data Protection Regulation (GDPR) guidelines to ensure participant information privacy.

Take C.H.A.R.G.E. will also focus on raising awareness of canine cancer by promoting the first annual National Canine Cancer Awareness Day on May 23rd so dog owners will have access to the latest information on types of cancers by breed, symptoms, and treatment options.

Take C.H.A.R.G.E. SAB member Dr. Sue Ettinger said, "Recent advances in chemotherapy, as well as advances in managing chemotherapy side effects such as vomiting, poor appetite, or diarrhea, should be discussed with veterinarians and canine oncologists to ensure dogs are benefiting from the latest canine cancer science."

Take C.H.A.R.G.E. Launch Event

Dog owners and members of the veterinary community are encouraged to visit <u>TakeChargeRegistry.com</u> for more information, including how to upload canine cancer medical records and how clinics can participate in the Registry. The public and media also are invited to a special event and performance by multiple Broadway stars, including Academy-award nominated actor Chazz Palminteri and Grammy-award winning actress Jenn Colella, at Madison Square Park in New York City on Monday, May 23rd, 2022, from 12:30 - 2:30 p.m. EDT to celebrate the launch of *Take C.H.A.R.G.E.* Those who cannot attend the event can still watch virtually <u>here.</u>

About Jaguar Health, Inc., Jaguar Animal Health, Napo Pharmaceuticals, Inc. & Napo Therapeutics S.p.A.

Jaguar Health, Inc. is a commercial stage pharmaceuticals company focused on developing novel, plant-based, non-opioid, and sustainably derived prescription medicines for people and animals with GI distress, specifically chronic, debilitating diarrhea. Jaguar Animal Health is a tradename of Jaguar Health. Jaguar Health's wholly owned subsidiary, Napo Pharmaceuticals, Inc., focuses on developing and commercializing proprietary plant-based human gastrointestinal pharmaceuticals from plants harvested responsibly from rainforest areas. Jaguar Health is the majority shareholder of Napo Therapeutics S.p.A., an Italian corporation established by Jaguar Health in Milan, Italy in 2021 that focuses on expanding crofelemer access in Europe.

For more information about Jaguar, please visit https://jaguar.health. For more information about Napo Pharmaceuticals, visit www.napopharma.com.

About TogoRun

TogoRun is an award-winning, full-service strategic communications agency specializing in global health and well-being. Woman-owned, independent, and named after Togo, the hero sled dog from the 1925 Race for Mercy, TogoRun works in partnership with clients committed to advancing innovative solutions that support a healthier planet, close health disparity gaps, and embrace a vision of equitable abundance. TogoRun is part of the GMJ Global network of companies and a proud signatory of CEO Action of Diversity & Inclusion. The TogoRun Team has collectively been responsible for more than 220 industry awards. Visit Togo here: www.TogoRun.com.

About Ivee

Ivee (Intelligent Veterinary Enhanced Experience), is an animal health data-focused software company and is a product of Snowcap Innovations Inc. For more information about Ivee, visit www.lveesoftware.com.

Forward-Looking Statements

Certain statements in this press release constitute "forward-looking statements." These include statements regarding Jaguar Health's expectation that it will host a launch event May 23, 2022 for the Take C.H.A.R.G.E. initiative, the belief that *Take C.H.A.R.G.E.* data may provide insights to help better understand cancer in humans, and the expectation that the Registry will continue to grow. In some cases, you can identify forward-looking statements by terms such as "may," "will," "should," "expect," "plan," "aim," "anticipate," "could," "intend," "target," "project," "contemplate," "believe," "estimate," "predict," "potential" or "continue" or the negative of these terms or other similar expressions. The forward-looking statements in this release are only predictions. Jaguar has based these forward-looking statements largely on its current expectations and projections about future events. These forward-looking statements speak only as of the date of this release and are subject to a number of risks, uncertainties and assumptions, some of which cannot be predicted or quantified and some of which are beyond Jaguar's control. Some of the factors that could affect our actual results are included in the periodic reports on Form 10-K and Form 10-Q that we file with the Securities and Exchange Commission. Except as required by applicable law, Jaguar does not plan to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances or otherwise.

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References

¹National Institutes of Health, National Cancer Institute, Center for Cancer Research. What is comparative oncology? Available: <u>https://ccr.cancer.gov</u> /<u>Comparative-Oncology-Program/pet-owners/what-is-comp-onc</u>. Accessed May 20, 2022.

²Pinello K, Baldassarre V, Steiger K, et al. Vet-ICD-O-Canine-1, a System for Coding Canine Neoplasms Based on the Human ICD-O-3.2. Cancers (Basel). 2022;14(6):1529. Published 2022 Mar 16. doi:10.3390/cancers14061529. Available: <u>https://pubmed.ncbi.nlm.nih.gov/35326681/</u>. Accessed May 15, 2022.

³North American Association of Central Cancer Registries. ICD-O-3 Coding updates. Available: <u>https://www.naaccr.org/icdo3/</u>. Accessed May 15, 2022.

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