



Medical data— numbers that add up to better care



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As a multi-hospital practice, Banfield, The Pet Hospital s has more than 450 locations across the United States. One of the benefits of our large client base is a database of more than 8 million Pets' medical records. This database offers Banfield the unique opportunity to share its large volume of medical data with the veterinary community.

To manage and analyze this valuable information, Banfield created DataSavant LLC, a sister company that employs a team

of experts who develop new projects and clinical studies using our medical data. DataSavant mines all the clinical data collected across the practice to address clinicians' most pressing concerns, including comparisons on Pets and diseases by region, season, breed, and age. This comprehensive medical database can also track disease dynamics, adverse events associated with vaccines and other medications, and possible development of new diseases.

On a practice level, our database will allow us to monitor and measure the quality of care we provide, assess medical outcomes, test preventive care strategies, and conduct prospective and retrospective clinical studies.

We evaluate the information collected and develop medical standards based on evidence-based medicine—the gold standard in human health care that is quickly gaining ground in the veterinary profession. We incorporate this standard every time we open new hospitals in the United States and United Kingdom and at the veterinary teaching hospital, Banfield El Hospital De Mascota, at the Universidad Nacional



DataSavant's mission is to:

- Explore the health and well-being of Pet populations
- Evaluate new clinical treatments
- Monitor Pets as sentinels of zoonotic disease in family environments
- Transform Pet medical data into knowledge, *i.e.*, open new windows into Pet health care using the Banfield medical caseload and database.

Autónoma de Mexico in Mexico City. Doing so allows our practice to continue to build on that foundation by:

- Developing standards of care
- Creating educational programming for our doctors, team members, and the profession
- Establishing a system of checks and balances to keep our medical standards in line with the latest information and research
- Instituting a quality assurance mechanism that monitors performance against medical standards.

Mining for data

All Banfield hospitals use the same proprietary software, known as PetWare. PetWare is a comprehensive system with touch-screen data entry, which allows us to collect and retrieve medical data easily. Veterinarians also enter additional data in the medical notes section of the software, providing more detailed information on Pets. The data is downloaded daily into one common data warehouse.

The DataSavant team is currently developing a variety of data-analyzing capabilities and working with scientists at Purdue University and other institutions to develop syndromic surveillance software. The goal is to use the database to identify iatrogenic and naturally occurring disease outbreaks and to issue alerts.

We will share the data collected on different diseases and conditions and how they relate to Pet health care and disease prevention in this journal, because part of its mission is dedicated to the clinical, professional, and personal development of practicing veterinarians. The data, of course, reflect only Banfield's practice

experience, philosophy on our best practice standards, and the limitations of PetWare. We feel this information will help veterinarians make the best medical decisions in daily practice.

DataSavant statistics in action

As a practice, we believe in emphasizing wellness, maximizing the Pet-family bond, and preventing disease whenever possible; we believe in treating Pets as part of the family unit, not isolated from it; we believe that Pets should never serve as a threat to other family members as a consequence of disease or aggressive behavior; and we believe in giving Pets the same high-quality care that we expect for ourselves. We are conscious that veterinarians are the only health professionals who see both people and Pets and thus have an opportunity for top-of-mind awareness of possible zoonotic disease threats and the need for prevention.

Periodontal disease is a good example for offering preventive care. Detecting the condition early and instituting prophylactic treatment is key. Halitosis and the early signs of gingival inflammation indicate developing periodontal disease that may interfere with the family-Pet bond. After all, who wants a Pet with bad breath on your lap or in your bed?

A strong link exists between the strength of the family-Pet bond and the level of care the Pet receives. As veterinarians, we must help strengthen that bond and ensure each Pet receives the care it needs to live a long, happy life.

Benefitting from biannual exams

The best way to ensure the quality of life for the Pet and client is to offer preventive

Figure 1

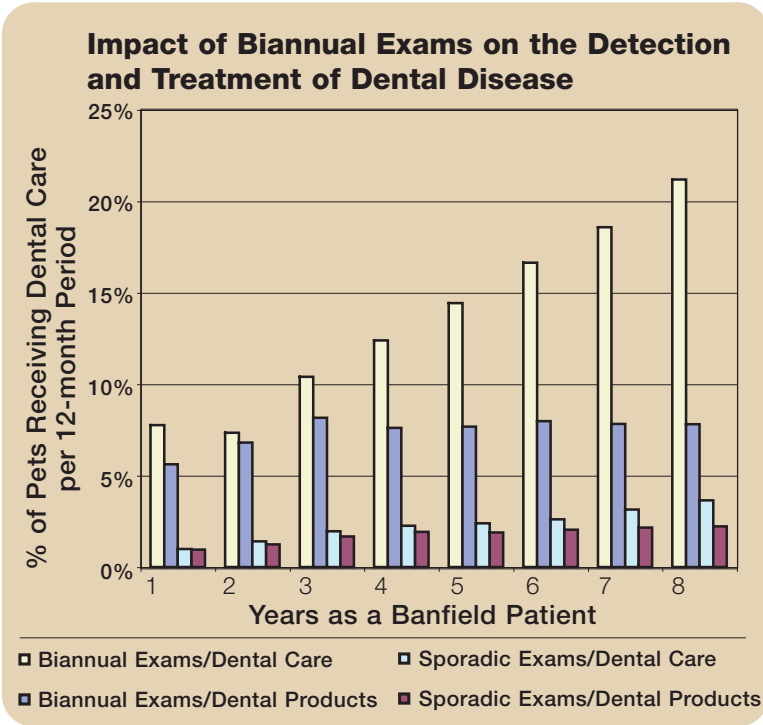
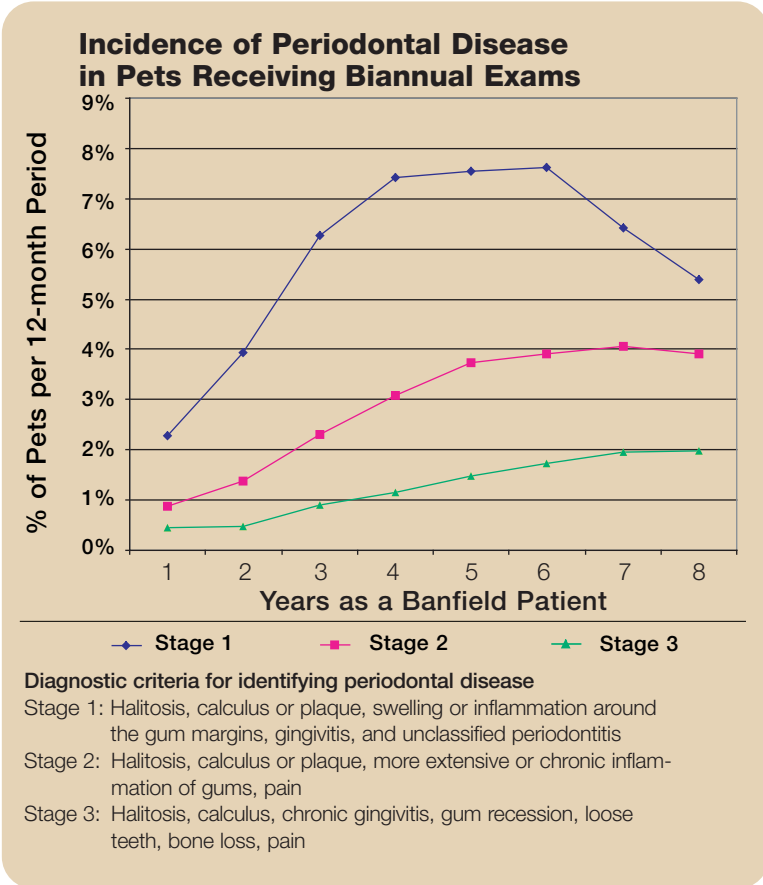


Figure 2



care through biannual examinations. This allows the doctor to focus on the overall wellness of the Pet instead of reacting to an illness. We realize prevention is not always possible but we hope by using evidence-based medicine we can diagnose and treat disease and other conditions earlier.

The Banfield Clinical Database reveals a direct correlation between biannual examinations and the early detection of periodontal disease in dogs. The data show that the disease is identified at a much higher rate in dogs that receive biannual preventive care exams compared with dogs that received reactive care to treat an illness, and therefore only sporadic exams.

Banfield reviewed the case records of 90,000 dogs that had received comprehensive biannual exams (clinical and clinicopathologic evaluations) each year for three or more consecutive years, and a cohort group of dogs matched for gender, age, breed, and geographical location that were seen at a Banfield hospital only once a year for three or more years.

These latter dogs thus received clinical evaluations sporadically and their care was focused on addressing the nature of clients' concerns about the Pet and not specifically on wellness care.

Providing the best care

The dogs receiving biannual exams and consistent wellness care were five times more likely to receive dental care, and their owners were more than three times as likely as the cohort control group to have purchased home dental care products. As the dogs aged, the difference in the care provided grew substantially. *Figure 1* illustrates these results and the extensive benefit of

biannual exams to Pets.

The increased level of care associated with biannual examinations is also evident from *Figures 2 & 3*. In *Figure 2*, more periodontal disease was found (particularly stage 1) at an earlier age in dogs receiving regular wellness care than the control dogs, as would be expected. However, the incidence of all stage 1, 2, and 3 disease plateaued or decreased in later years, presumably reflecting the preventive care received.

In contrast, the matched control dogs receiving sporadic examinations and little to no wellness care had a progressive increase in all stages of periodontal disease as they aged.

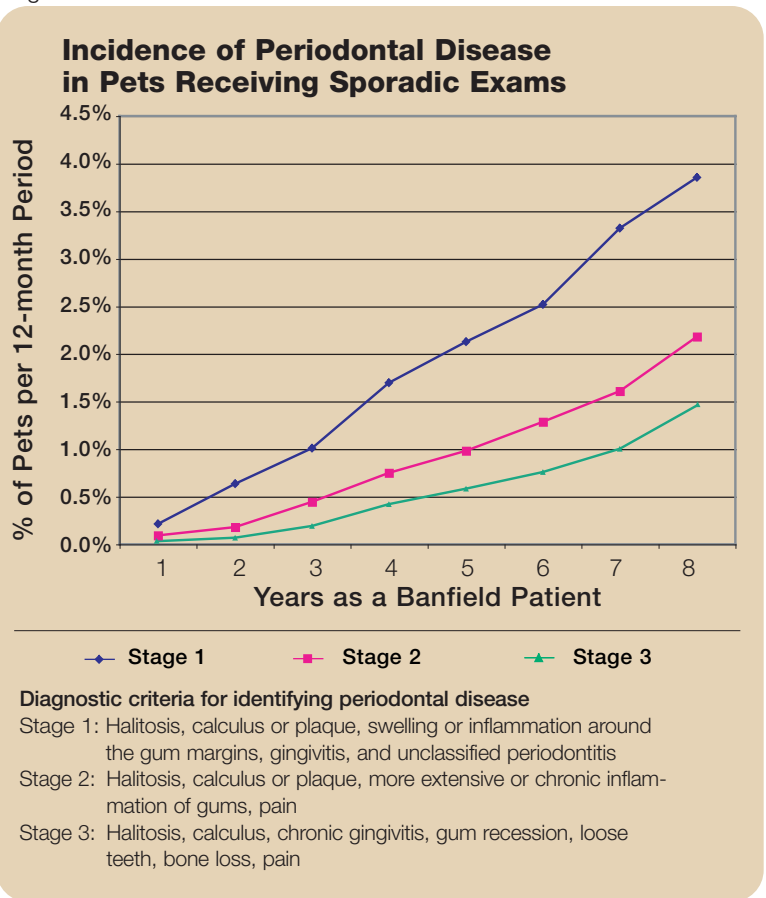
Regular, careful examinations and wellness care lead to the identification of a significant amount of covert periodontal disease in the early years, and stop its progression to more advanced disease as the dogs age. The data also suggest that much disease goes undetected or is not diagnosed in dogs seen sporadically or only when a specific problem precipitates a hospital visit.

Mission in progress

Biannual exams serve as the core of Banfield's overall preventive care protocol and wellness program. These data show that a focus on preventive care and biannual exams, coupled with good client education, lead to better Pet care and better Pet health. It is not just good medicine; it is good business as well. Clients are now expecting such care for their Pets.

To practice this level of quality preventive medicine, we need a strong understanding of disease conditions; their geographical distribution, incidence, and clin-

Figure 3



ical determinants; and successful prevention and intervention strategies.

Our clients demand high standards, and we hope that by sharing our data with our colleagues we can help our profession meet these demands and accomplish our practice's vision of making life better for families. 🐾

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