



KEY TAKEAWAYS

- ▶ Antech Diagnostics studied the implications of using in-house laboratories versus reference laboratories, including how this choice affects medicine, workflows, and customer service.
- ▶ Based on the results of the study, using reference laboratories for an increased proportion of testing may improve customer service while reducing staff fatigue and burnout.
- ▶ Neither in-house laboratories nor reference laboratories are the right answer in every situation, and there will always be a need for in-house diagnostic testing for time-critical patients. However, increased use of reference laboratories may serve as a potential solution for some challenges facing practices today.

Reference Laboratory Testing: Combating Workplace Stress & Inefficiencies

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THE INVESTIGATION*

"Reference Lab First" Workflows: A Contemporary Approach to Veterinary Diagnostics.

*This investigation has not been published for public viewing. The information presented in this article is raw study data. Study specifics can be found through Antech Diagnostics.

Burnout and labor shortages are widespread issues in veterinary medicine. Even prior to the COVID-19 pandemic, ~50% of veterinarians were classified as having high burnout scores,¹ and in a 2021 survey, 26% of surveyed veterinarians said they would prefer to work fewer hours, despite the associated pay cut, in order to manage their stress and achieve improved work-life balance.² In addition, many clinics are operating with fewer credentialed technicians than they would prefer due to a shortage of those professionals.³

Clearly, there is a need for improved efficiency in practice to allow for serving clients with fewer team members and to lessen stress on existing team members. Laboratory testing is one area where small changes can have big impacts on efficiency and the veterinary team. Using the in-house laboratory for wellness testing, including preanesthetic testing, is commonplace, often based on recouping the capital investment in analyzers to justify their expensive cost, but this has significant time demands on the veterinary team. As analyzers have become more affordable over time, it is important to reevaluate workflows in practice and for veterinarians to make individualized recommendations for each patient based on patient and practice factors. Although there will always be a need to run some tests in-house (eg, emergencies or critical patients), sending a greater propor-

KEY SURVEY FINDINGS

- ▶ 84% of veterinary assistants agreed that sending fecal samples to reference laboratories improved workflows.
- ▶ 86% of veterinary associates felt that sending fecal samples to reference laboratories allowed them to provide better patient care.
- ▶ 92% of veterinarians considered preanesthetic blood work performed prior to the day of the procedure acceptable in clinically normal patients.
- ▶ 50% of in-house results are not shared during the patient visit.
- ▶ 74% of pet owners were willing to receive wellness test results the next day.
- ▶ 71% of veterinary associates experienced reduced stress when fecal tests were sent to reference laboratories.

tion of tests to a reference laboratory could benefit the entire team, as well as the patient and pet owner.

The Study

Antech Diagnostics conducted a study to examine the potential impacts of enhanced reference laboratory use on veterinary practices, team members, and clients. Information was collected in a number of ways, with the study broken down into 5 key parts:

- ▶ Time-motion study
- ▶ Veterinary team survey
- ▶ Pet owner survey
- ▶ Fecal pilot study
- ▶ Economic analysis

Time-Motion Study

Preliminary research on laboratory testing included a medical literature review. Interviews were conducted with veterinarians and key opinion leaders to examine ideas surrounding laboratory testing in practice. Based on this preliminary research, an in-clinic, time-motion study was designed. This portion of the study aimed to quantitatively measure time spent performing in-house diagnostics (ie, hematology, serum chemistry, urinalysis, rapid assays, and fecal parasite examinations). Diagnostic workflows and instrumentation time for in-house and reference laboratory testing were also compared.

This study revealed that it takes ≈30 minutes to receive in-house laboratory results for a typical canine preventive care visit, including a CBC, serum chemistry profile, fecal examination, urinalysis, and rapid assay. Conducting this testing in-house was estimated to increase the length of the typical patient visit by 20 to 30 minutes, impacting both examination room use and client wait times. In particular, it was observed that an average fecal parasite examination takes ≈15 minutes of veterinary technician time (eg, 7

fecal examinations a day equates to 105 minutes of technician time every day).

Veterinary Team Survey

In late 2021 and early 2022, 488 veterinary team members, including veterinarians, veterinary technicians and assistants, and practice managers, were surveyed to understand the reasoning behind where wellness testing is performed, determine preferred methods of communicating results, and identify sources of stress in the clinic. Veterinary team members were also asked about their perceptions of in-house testing as compared with reference laboratory testing in various scenarios. Regarding preanesthetic laboratory testing, 92% of veterinarians surveyed considered blood work performed prior to the day of the procedure acceptable in clinically normal patients, regardless of age.

When asked about stresses in the veterinary clinic, 78% of respondents reported staffing shortages in at least 1 role (veterinarians or veterinary technicians). In addition, stress levels were reported to be higher during the pandemic and postpandemic as compared with prepandemic. Team members reported an average stress level of 7 out of 10 as compared with a prepandemic level of 5 out of 10.

Pet Owner Survey

In 2022, 1624 pet owners (>800 dog owners, >800 cat owners) were surveyed, with the goal of understanding preferences regarding diagnostic testing. Participants must have sought care for a dog or cat in the last 2 years, have been a primary or shared decisionmaker for their pet's care, and have been between 18 and 85 years of age.

Of those surveyed, most pet owners were satisfied with their veterinarian and practice. Ninety percent of respondents reported being satisfied with their veterinarian, and

88% were satisfied with their practice overall. On the topic of laboratory testing, 74% said they do not mind waiting until the next day to receive wellness results.

Fecal Pilot Study

In the veterinary team survey, team members noted that ≈50% of all laboratory results obtained in-house are not shared during the client's visit; instead, for those surveyed, clients are called after their visit with results. The team survey showed that, of the tests performed during a visit, veterinarians felt like clients place the least value on receiving fecal results during the visit. Even when a staff member is available to process an in-house diagnostic sample, these tests, particularly fecal centrifugation and flotation, take considerable time, making real-time results difficult to achieve.

Inspired by these survey results, a detailed pilot study was conducted to examine the effects of transitioning from routine in-house fecal examination to sending fecal samples to a reference laboratory. Impacts of this change on clinic workflow and team member satisfaction were studied; 86% of veterinary associates felt that sending samples to a reference laboratory allowed them to provide better patient care. More than 60% of the practices included in this study were performing passive flotation instead of fecal examination by centrifugation for in-house fecal testing. In contrast, reference laboratories routinely perform centrifugation, contributing to higher accuracy.⁴

Sending routine fecal examinations to a reference laboratory increased veterinarian job satisfaction by 25% and veterinary assistant job satisfaction by 17%. In addition, 71% of associates reported reduced stress when sending routine fecal examinations to a reference laboratory.

Ninety-seven percent of veterinary technicians and 84% of veterinary assistants agreed that sending out fecal examinations improved their practice's workflows. Sending routine fecal examinations to a reference laboratory is estimated to result in a time savings of 270 to 440 hours per year per clinic.

Economic Analysis

Finally, based on information from earlier portions of the study, an economic analysis looking at the costs of in-house testing versus reference laboratory testing was performed. This analysis was intended to highlight the financial consequences of a transition from routine in-house testing to increased reference laboratory use.

It was found that reference laboratory testing through Antech Diagnostics is typically ≈20% lower in cost than in-house testing. This can result in a higher profit margin for the practice. When the lower test costs are combined with savings in associate time, changing the practice workflow to focus on reference laboratory use could increase practice profitability by \$120k per veterinarian.

EXPERT COMMENTARY

Designation of veterinary medicine as an essential service during the pandemic kept veterinarians and other team members employed and allowed pets to get needed care, but it came at a cost. Many practices were overwhelmed with client demands, client wait times were longer, and demands on the veterinary team resulted in increased work stress. Staff shortages and hiring difficulties have made solving these problems harder, making a focus on practice efficiency essential.

The results of this study revealed many opportunities for improving diagnostic workflows. One area worth exploring is timing of preanesthetic blood work; 92% of veterinarians consider preanesthetic blood work performed prior to the day of the procedure acceptable in clinically normal patients. Shifting away from day-of, in-house testing may improve efficiency. Of course, each practice will need to decide how far out the testing can be done and how to integrate earlier testing with client convenience.

Of the surveyed pet owners, 74% were willing to receive wellness results the next day; this means test result communications can be grouped together and sent via email or text and done at a time most convenient for the practice, which can free up staff time for other tasks.

Making it easier for team members to do their jobs obviously increases team job satisfaction and reduces work stress, both of which can lead to better employee retention. These results particularly demonstrated that fecal testing is a great example of a diagnostic test that requires a high investment of staff time and training and has low enjoyment scores.

Neither in-house nor reference laboratory testing is the right answer in every situation, but the challenges facing practices these days make it more important than ever to evaluate which should be used with what kind of testing and what kind of case.

—Karen E. Felsted, CPA, MS, CVPM

Discussion

This study aimed to examine factors that may influence veterinarian selection of in-house versus reference laboratory testing. In many cases, veterinarians have choices regarding when and how to run laboratory tests; these choices can have significant impacts on practice efficiency and veterinary team satisfaction. In some cases, the decision of when and where to run a particular test is clear. A panel of experts estimated that ~20% of veterinary cases are emergent and require in-house diagnostics, whereas ~25% can only be run by a reference laboratory. However, this leaves ~55% of diagnostic testing that can either be run in-house or sent out to a reference laboratory. Addressing this 55% of laboratory tests provides opportunities for veterinarians and practice managers to critically evaluate which approach is best for their practice efficiency, team member and pet owner satisfaction, and profitability. Given the increasing pressure on many veterinary practices, it is important to develop rational protocols regarding laboratory testing.

Veterinary team members may feel some degree of pressure to provide same-day results; however, most clients would prefer a shorter in-clinic visit, followed by a call the next day with laboratory results, as represented by the 74% of pet owners in this study who do not mind waiting until the following day for results on healthy pets and 62% of surveyed owners who do not mind waiting until the next day for results on sick patient visits.

Even in practices that routinely perform in-house laboratory testing, a large portion of in-house testing is not completed by the time the client leaves the clinic. Sending tests to a reference laboratory can take some of the immediate time pressure off veterinarians, giving them a greater opportunity to thoughtfully consider their cases while improving client satisfaction by decreasing appointment time and wait times.

Submitting routine tests to a reference laboratory can free up significant staff time and clinic resources, which is critical, considering 78% of clinics are experiencing staffing shortages. Simply sending routine fecal samples to a reference laboratory for parasite examinations can free

up nearly 2 hours of technician time per day, which can be used to perform other tasks, allow for a more relaxed work pace that decreases stress levels and reduces staff burnout risks, and potentially increase practice profitability.

Finally, reference laboratory tests can result in a 20% savings as compared with in-house testing. This cost savings, in addition to the time savings offered, can further contribute to practice profitability. This may be in contrast to the perceived reality for some clinics, as cost profiles have changed over time.

Implications for Practice

Sending samples from wellness visits and nonemergent sick patient visits to a reference laboratory can streamline workflows while also improving client satisfaction, staff satisfaction, and practice profitability.

Most clients are happy to wait until the next day for laboratory results for annual wellness testing, preanesthetic blood testing, and some mild illnesses. Although in-house testing may seem more convenient for the client, it increases the length of the client's visit, and clients still may not receive results until the following day. Utilizing a reference laboratory when indicated can enhance client satisfaction (by reducing the time they must spend waiting in an examination room for results) without negatively impacting patient care.

Fecal parasite testing is an example of a diagnostic test that requires a high investment of staff time and training and has low staff enjoyment scores. Using a reference laboratory for routine fecal examinations frees up staff to handle other tasks, which can help reduce the risk for burnout and alleviate some staffing shortages. In most cases, submitting tests to a reference laboratory is also significantly less expensive to the practice than running tests in-house, especially when savings on veterinary technician time are factored in.

If sending routine tests to a reference laboratory can lead to improvements in both staffing and profitability while reducing stress and improving client experience, this is an easy step to take towards efficiency in the typical veterinary practice.

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