



ceocfointerviews.com
© All rights reserved
Issue: October 17, 2022

QSM Diagnostics – Improving Diagnostic Testing for Pets with their Mail-In Test Kit



Ed Goluch, PhD
Founder/CEO

QSM Diagnostics
<https://qsmdiagnostics.com>

Contact:
617-579-2004
sales@qsmdiagnostics.com

Follow us on:



Interview conducted by:
Lynn Fosse, Senior Editor
CEOCFO Magazine

CEOCFO: Mr. Goluch, *what is the idea behind QSM?*

Mr. Goluch: I started QSM Diagnostics to improve diagnostic testing particularly for infectious diseases. That technology has not changed for 150 years. Most testing for bacterial infection still goes through going cultures on plates and that takes several days. We want to change how and when testing gets done so that infections can be diagnosed sooner, and get people onto the appropriate antibiotics faster and have better stewardship of drug use.

CEOCFO: *How are you able to do it more quickly?*

Mr. Goluch: The main technology that we have is an instrument that detects molecules that get produced by bacteria, called quorum sensing molecules. It is a class of molecules, you can think of them as biomarkers, that have never been used in diagnostics before. Part of the research has shown that you can actually identify which bacteria are present by detecting these chemicals in different bodily fluids. That is our main product and concept and we have extended that in the last year beyond just the instrumentation to also offer mail-in testing.

Right now, we are geared towards pet-owners and companion animals. We have mail-in tests where the pet owner can collect a sample whether it is an ear swab or a urine collection and send it into us. We will analyze it and get the results back to the pet owner and veterinarian. This allows diagnostic testing to be done from the comfort of home without having to go into the clinic to start the diagnostic testing processing.

CEOCFO: *Why have you chosen pets first?*

Mr. Goluch: Pets first because it is not regulated by the FDA. That allowed us to get to market and start sales much sooner and with less investment than going after a human product. The regulatory requirements and the amount of capital required to build a lot of products that can meet those requirements is astronomical.

On the companion animal side, that does not exist. The bacteria and biomarkers that we look at are often identical. We are starting in the veterinary market to prove and build out the technology. Eventually we anticipate going into the

human market to offer these products, once we have de-risked the technology completely and demonstrated how it works.

CEOFCO: *Is the veterinarian community onboard and do they understand the science and technology or is it a bit of a challenge there?*

Mr. Goluch: It is a bit of a challenge for everyone, for both veterinarians as well as human doctors, because it is a diagnostic path that has never been done before. We have to educate them about the science behind it and explain to them how it works. We have found that veterinarians are much more receptive to trying these sorts of new technologies, so we actually have better traction in the veterinary community than in the human medicine community which is more risk averse, and they already have more product options.

In addition to culturing on the human side, you are hearing more about molecular testing which is too expensive to do in the veterinary market. Having a low-cost simple solution, even though it is complicated science and new, is fairly attractive to the veterinarian.

CEOFCO: *How are you reaching out? How would a pet owner learn about QSM?*

Mr. Goluch: We are taking a multi-pronged approach. A pet owner can buy our kits today at FetchDx.com. That is the website that is consumer-facing and educates them about how to use the kits and what they test for. However, we have found that because these are laboratory tests that often times require prescription medications from veterinarians, the consumer probably is not going to be purchasing them on their own. While it is an available path, the majority of our sales and revenue comes for selling kits to the veterinarians, and having the veterinarian resell it to the pet owner or make the recommendation to the pet owner to buy the kit. If the veterinarian says this is the test that needs to get run, then people do not question the cost or what it is, they just go along with the veterinarian's recommendation.

**"We want to change how and when testing gets done so that infections can be diagnosed sooner, and get people onto the appropriate antibiotics faster and have better stewardship of drug use."
Ed Goluch, PhD**

CEOFCO: *Is it relatively easy to get a foot in the door to talk with those companies or is it the usual challenges?*

Mr. Goluch: I would say it is the usual challenges. I think maybe even more so right now because it is such a hot industry. These animal health companies are growing very quickly, just even with their own products and expansion makes getting their attention a little bit challenging. We are trying to work our network and get the word out that these are the directions we want to go in.

CEOFCO: *How easy or difficult might it be to do the test?*

Mr. Goluch: It depends on the sample type. For things like fecal samples for cats and dogs, for years the veterinarian just asked the pet owner to bring one in, so there is no change, except instead of bringing it into the clinic they put it in a box and send it off with FEDEX or UPS to us. It is similar to a Cologuard® for humans. With things like ear swabs, that is something different. Vet techs in the past have collected those samples. It is going to depend on the pet owner and the pet and how well they get along and how comfortable they are with collecting samples and letting those samples be collected. We find most pet owners so far have not had any issues doing it, it is fairly straightforward. We have a video showing how to do it on our website.

One of the new features we just added to the website is actually support from licensed veterinarians, so if someone is having a challenge or they are not sure that they are doing it correctly, they can register for free on the website and at any time day or night, 24/7 they can jump on a video call with a licensed veterinarian and have them help go through the process of collecting the sample. That is how we are getting pet owners comfortable with as well this, as well as the veterinarians. The question on the veterinarian side is whether or not the sample is collected correctly because that can affect the result. We have done a lot of testing and showcasing that it is going to give them the same result but every extra step to offer that piece of mind is always helpful.

CEOFCO: *Would you tell us about winning Purina Pet Care Innovation Prize earlier this year?*

Mr. Goluch: Yes, that has been really transformative for us, because it has opened up so many new partnerships and doors for conversations. It is such a well-known brand and company that having that affiliation has allowed us to meet with a lot of veterinarians, as well as companies that own multiple practices, and start-up new collaborations. We are always looking for additional ones.

One of the things we are looking at going forward is partnering with more companies that do wearable technology for animals. Whether it is a smart collar or a smart food bowl or a smart litter box, to tie-in to make recommendations for when our tests should be used, and these wearables know when there is a problem with an animal.

CEOCFO: *What if any affect has COVID and the general overall economy, had on what you are trying to do, and how are pet owners responding?*

Mr. Goluch: COVID has been an interesting benefit. We were able to raise our first round of funding in part because of COVID. We were developing new diagnostic technologies and when COVID first came along in 2020, investors realized that there was a need for more of these kinds of technologies. At the same time pet owners were increasingly spending more time with their pets and realizing issues, so we became a very lucrative or nice company for them to invest in. The other aspects of where COVID played a roll is all of a sudden people had gotten used to testing themselves at home, and so mail-in testing has really become much more common place and understood by the general public which includes pet owners.

The third way that this industry was affected by COVID was that the veterinarian community was hit particularly hard. It is a female-dominated industry, and unfortunately women were disproportionately affected by COVID, having to take care of their kids and families. A lot of the veterinary technicians and staff ended up leaving their jobs, and that has led to really significant shortages of staffing within veterinary clinics, which has led to longer wait times. That was the main impetus for us to create these mail-in tests. We see this as a way to relieve some of the pressure that is being put on the veterinary industry by allowing pet owners to collect the samples themselves. So if they have to wait for a visit or a follow-up, they can do it remotely and get the testing started and potentially shift some of these in-person visits to telehealth visits that can be done in a shorter amount of time with more flexibility, which helps both the pet owner and the veterinary clinic.

CEOCFO: *What surprised you throughout the process of getting to where you are today with QSM?*

Mr. Goluch: Our biggest surprise has been learning how to sell to veterinarians and how that industry still operates in terms of adding new technology. One of the challenges we faced getting the instruments placed was that it is still very much an in-person sales process with a lot of relationship-building.

Offering the mail-in test kits is a way to reach the veterinary clinics more efficiently and it is a product structure that they are familiar with because they already send a lot of samples to external reference laboratories for analysis. Having a test kit that comes from the pet owner direct to the laboratory is an easier explanation of the sales process than selling instrumentations.

CEOCFO: *Are you seeking additional funding as you continue to grow?*

Mr. Goluch: Yes we are currently raising a second seed round. We are about half-way through the raise. We are raising with convertible notes, and for this round we are looking to bring another \$1 to \$1.5 million for the company.

CEOCFO: *Are there other tests you see having available in the future, and how did you know which tests might work with the method you have?*

Mr. Goluch: We started with bacterial tests. I have a PhD in bioengineering, and I spent almost a decade at Northeastern University here in Boston, developing the instruments and technology behind testing for these different bacteria. Just looking at the healthcare system we know that these are common pathogens that affect animals and humans. We started there and looked at where these particular pathogens are the most prevalent.

Our first product detects a bacteria called, Pseudomonas and that is actually one of the biggest issues for dog ear infections. That was the natural start, so our first mail-in kit was an ear swab that the pet owner can collect and send in. We check for all the bacteria, but we also check specifically for Pseudomonas using our technology and then are extending that menu of tests to other bacteria in the future. From there, we were looking at other common tests. The

most common reasons to bring your cat or dog to the veterinarian are ear and skin allergies and then urinary tract issues, and that is why our second kit was a urine analysis kit for cats and dogs. They are two separate kits because you collect the samples differently for cats and dogs. We then added fecal most recently as these also are very common. Tens of millions of these tests are done every year by veterinarians or are requested or prescribed by veterinarians. They also are very common tests that are run for humans because you get a lot of infections in kids' ears and urinary tracts, gastrointestinal issues, and so that is how we started in that.

Going forward for the new tests we are looking at other markers outside of infections that can test for health and wellness initially in animals. We are keeping an eye on which of these biomarkers translates to human use, so we are looking at things like cortisol and creatinine, and other biomarkers that might be indicative of other diseases or can be used to demonstrate level of stress or other wellness in both animals and humans.

CEO CFO: *What type of facilities do you have, do you have your own testing facilities?*

Mr. Goluch: We do have our own facilities, and we had that from the beginning. For the technology to get developed and validated we had to have our own microbiology lab. The company started with a team of PhDs and just worked on getting the technology proven-out. We have that lab already in place here in Boston. We have the capacity to run an entire suite of tests and we have to have that for validating any new technology that we develop anyway. We did not have to add any infrastructure when we added in mail-in testing, it was already in place.

That being said, for where we are as a startup, it is still more economical to partner with other testing labs for companion animal testing. We actually work with other reference labs and have either couriers or overnight shipping for certain samples, and have them run by a third party and just report the results back to the pet owners and the veterinarians.

CEO CFO: *Why is QSM diagnostics important?*

Mr. Goluch: QSM is important because antibiotics are becoming less and less effective as there is more resistance, due to being over-prescribed and overused. With our tests are able to give more important information to veterinarians but eventually human doctors as well, about when an antibiotic is needed, and which specific antibiotic will be helpful. That, we think, is a very transformative advancement in itself. The underlying technology that we are developing for this kind of a rapid test using a low-cost affordable instrument will really change diagnostic testing completely in the future.

I envision five or six years from now that people will not have to use the mail-in kits, but they will actually have our instruments in their homes and be able to run the tests themselves, because they very easy to use and give an electronic read-out. The doctor will see the test results instantly, and be able to mail a prescription to somebody's home. We are building out the fundamentals for that and our team has the right background for that, an interdisciplinary background that addresses not just the science of the test but also the form-factor, the instruments, and the manufacturing processes that are involved to accomplish such a lofty undertaking.

CEO CFO: *Exciting times for QSM!*

Mr. Goluch: Yes it has been very exciting, that is why I left my faculty position at the university and decided to do this full-time. I really want to make sure that this is a technology that gets out into the world because I think it has enormous implications for healthcare in the future.