

VET CANDY

Nov/Dec 2022

**PET
PARENTING**
STYLE
INFLUENCES
DOG BEHAVIOR

**IS QUIET QUITTING
REALLY THE ANSWER?**

**CORNELL VETERINARY MEDICINE
HELPS KEEP NUMBER OF
AVIAN FLU CASES LOW**

**MAPPING
DISEASE
RISK
AT HUMAN
-WILDLIFE
'HOTSPOTS'**

**SUSTAINABLE
THANKSGIVING
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AND COPING
WITH SELF-HARM**

**THE IMPORTANCE OF
FINDING PURPOSE
IN YOUR LIFE**

SCIENTISTS ILLUMINATE
HOW VIRUS ATTACKS
CAT KIDNEY, COULD
JUMP TO HUMANS

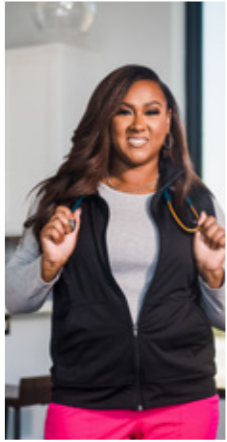
DR. **ADRIA FLOWERS**

is leading the way

+ much more

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Welcome to the world of
VET CANDY

Dr. Jill Lopez



What's the most powerful force in nature? A veterinary professional, of course. Why is that? Because of the power of One Health!

The health of humans, animals, and even the ecosystem are tightly bound. It is no wonder that according to the World Health Organization, 60% of emerging infectious diseases are zoonotic in nature and of the 30 new human pathogens that have been found in the last 3 decades, 75% have originated in animals. Thank goodness we have veterinarians, like our cover model, Dr. Adria Flowers, around the world fighting to keep us safe from harm. Take that monkeypox!

In this issue we also have clinical updates, the latest on zoonotic diseases, plus some tips to make your November happy and healthy.

As always, I would like to thank our amazing team, without who this issue would not be possible. If you have any suggestions for upcoming issues, please tag us @myvetcandy and let us know.

We love you for reading!

VET CANDY

Welcome to the world of

Dr. Adria Flowers is leading the way

by Dr. Jen Boon

Dr. Adria Flowers might be a smalltown girl at heart, but there is nothing tiny about her commitment to helping animals!



In fact, she's on a mission: to make the world a better place for all creatures.

Originally an Entomology graduate from Texas A&M, Dr. Flowers later went on to obtain her master's in public health from the University of Missouri and then get her DVM at Tuskegee University.

Nowadays, Dr. Flowers shows no signs of slowing down.

She is working hard to bring the One Health Initiative into her daily practice, improve the lives of pets through veterinary relief services in her Houston, Texas community, and dismantle diversity barriers in our field, one interaction at a time.

Vet Candy is honored to introduce this PAW-SOME veterinarian to our readers.

Welcome, Dr. Adria Flowers!

If At First You Don't Succeed, Try Again

Do you want to hear a shocking statistic?

In the United States, the acceptance rate for veterinary school hovers around 10-15%. On top of that, pre-veterinary student life is highly competitive. As the American Association of Veterinary Medical Colleges points out, the application process alone is, as they describe it, "intense."

Therefore, many professionals (such as our own wonderful Dr. Flowers) learned early on that quitting should never be a kneejerk reaction in the face of

disappointing news. When asked about the best career advice she ever received, Dr. Flowers shared the following story to illustrate this idea.

"When I first did not get accepted to veterinary school, it was heartbreaking," she remembers. "But I knew this was my passion. I never gave up on my dream."

So, she applied again...and was accepted!

Adria believes that everything happens for a reason. Looking back, she realized that one year off was actually a positive (though unexpected) obstacle. It gave her time to explore and gain more knowledge before jumping into the grueling four years of veterinarian school. The persistence paid off.

Today, she is living her dream life as a veterinarian.



Leading the Pack with One Health Initiative

What's more, Dr. Adria Flowers is a big advocate of the One Health. At her clinic, the team just celebrated World Rabies Day and she plans to do more each year.

Not sure what One Health is all about?

The American Veterinary Medical Association (AVMA) provides the following definition. Their website shares, "One Health refers to two related ideas: First, it is the concept that humans, animals, and the world we live in are inextricably linked. Second, it refers to the collaborative effort of multiple disciplines working locally, nationally, and globally to attain optimal health for people, animals, and the environment."

It's an objective Dr. Adria easily got on board with.

She explains, "We are all in this together, and we depend on each other and every organism to make our world a safer place."

What Can We Do Better? Diversity and Mental Health

Finally, it's pretty clear to see that veterinarians have been struggling in two areas recently: 1) diversity and 2) mental health. Even in 2022, there is still not nearly enough diversity or mental health acceptance and support in veterinary medicine.

Dr. Flowers believes the field has room for improvement.

She says, "I can still go in the room to this day, say my name is Dr. Flowers while wearing my white coat that says, 'Dr. Flowers' and the client will ask for the other doctor or ask the other doctor's opinion."

Thankfully, there are a few television shows and vet med publications (like the folks here at Vet Candy!) who are committed to bringing the image of diversity and mental health to the forefront.

With phenomenal vets like Dr. Adria Flowers, positive shifts are already happening!



Scientists illuminate how virus attacks cat kidney, could jump to humans

In a study published in the Proceedings of the National Academy of Sciences, virologists from the University of Pittsburgh Center for Vaccine Research reverse-engineered an elusive virus linked to chronic kidney disease in cats and described its mechanism of infection, outlining its potential to infect people.

The research suggested that the feline morbillivirus, or FeMV, uses the same mechanism of cell entry and infection as other viruses in the morbillivirus family, such as measles. However, unlike measles, FeMV appears to spread from host to host through urine in a similar way to the zoonotic Nipah virus harbored in bats, which causes annual deadly outbreaks in humans across Southeast Asia.

The study provides the first clear insight into this understudied virus and its potential trajectory from infecting animals to jumping into humans.

“Feline morbillivirus stayed under the radar for many years,” said senior author Paul Duprex, Ph.D., director of the Center for Vaccine Research at Pitt’s School of Medicine. “By understanding the genetics of a virus that was challenging to grow in the laboratory, we are now able to shine light on its connection to chronic kidney disease and better understand how we can stop transmission and potential spillover into human populations.”

First discovered in stray cats in Hong Kong a decade ago, FeMV has since been found in domestic cats across Asia and Europe and identified and fully sequenced in the U.S. in 2016 by Duprex’s research team when they worked in Boston. While previous studies have linked FeMV infections to chronic kidney disease in cats—one of the leading causes of death in older animals—the new study shows in unprecedented detail how the virus gets to the kidneys.

Similar to other members of the same viral family, FeMV enters cells by binding to a surface protein receptor called CD150. Related viruses, including measles, use CD150 as their primary entry receptor,



and people who are vaccinated against measles are protected from getting infected with FeMV. The eradication of measles, however, might present an evolutionary opportunity for other morbilliviruses, such as FeMV, to seek new hosts and jump into unvaccinated people.

“That’s why illuminating animal diseases proactively matters,” said Duprex. “Preparedness is vital in heading off an epidemic.”

By creating a genetically modified version of FeMV containing a fluorescent probe, researchers were able to track its spread throughout cells and organs, discovering that its transmission can be halted by inhibiting a class of protein-cleaving enzymes called cathepsins. Interestingly, cathepsins are mostly used by Nipah viruses but not the morbilliviruses, suggesting that FeMV is an evolutionary intermediate between the two viral families.

“It’s important to understand the pathogens of animals because those can become the pathogens of people,” said Duprex. “Learning about the viruses that infect cats is not only important for reducing the rates of kidney failure in our beloved pets, but also helps us understand something new about emerging infectious diseases and how they can spread across different animal species. There are about 85 million cats in the U.S. and over half a billion in the world. We live with them in close proximity, and their health matters.”



Sustainable Thanksgiving Tips

It's the time of year when we all gather together to give thanks for our family, friends, and life. Thanksgiving is a wonderful holiday. We have a lot to be thankful for in our lives and having a beautiful planet to live on is one of those things.

If you'd like to honor the planet while you are sharing this holiday with friends, here are a few tips for making your Thanksgiving a sustainable one.

ASK YOUR GUESTS TO BRING TUPPERWARE

The biggest aspect of Thanksgiving that can cause a burden on the planet is food waste. Approximately 200 million pounds of turkey get thrown out over this holiday, uneaten. That's about 6 million whole turkeys, for this one weekend alone. That's a huge amount of waste! You can help reduce this unnecessary waste by sending leftover turkey and other foods home with guests.



IF IT'S GROSS DON'T SERVE IT

Let's face it, there's always that one dish that is served every year that everyone hates. Maybe it's the macaroni salad, or maybe your deviled eggs leave something to be desired. If no one ever touches that dish year in and year out, leave it off the menu.



USE REUSABLE

It may be tempting to spread out the paper plates and plastic forks so there are fewer dishes to wash, but this can end up with a lot of unnecessary garbage. If you want to cut down on that waste, use reusable dishes including plates, napkins, and forks whenever possible.

If you have a lot of guests, consider setting up a washing station with soap water ready to go. Your guests may well wash their own plate for you, even if all you do is ask them to rinse it and put it in the water.

Another option for larger parties is to rent the dishes needed. This not only provides enough dishes for 30 people, but also the final washing. All you have to do is rinse the debris off the plates and send them back.

PARDON TO TURKEY

For some people, Thanksgiving Day turkey is an absolute must. That's okay. If your family doesn't eat much turkey though, consider skipping it all together. It takes a lot more resources to create a turkey than it does to grow a potato or a carrot.

That's because not only is energy put into housing and caring for the turkey, but also the food that they ate required a field, water, and fertilizer as well.

There's no reason to have a turkey just because it is Thanksgiving, so feel free to try an alternative if it isn't your family's thing. There's also a huge number of turkey alternatives out there these days, so if you're feeling adventurous you may give these a try and see if they measure up.

Thanksgiving is a time about being thankful for what we have. Our planet provides everything that we love and care about. If we can make a few small changes during our holiday to help create a better world to be in, these are great steps to take.

PET PARENTING STYLE INFLUENCES

dog behavior



Dogs with owners who have high expectations and are highly responsive to their dog's behavior and needs are more social, more secure when away from their owners and more persistent problem solvers, an Oregon State University study found.

"We found that pet parenting style does predict patterns of dog behavior and cognition," said Monique Udell, an associate professor at Oregon State and an expert on dog behavior. "This an important finding because it suggests that dog owners who take the time to understand and meet their dog's needs are more likely to end up with secure, resilient dogs."

The behavior and cognition of dogs have drawn increasing scientific interest during the past several decades, with a lot of research focused on how dog behavior is influenced by the home environment and prior experiences of the dog.

Now researchers are beginning to study the bond owners have with their dogs and how this influences dog behavior. Many pet care companies have picked up on this bond and are now marketing their products to "pet parents" instead of pet owners.

In many ways, research on human-dog relationships parallels human psychology research, said Lauren Brubaker, a co-author of the paper who earned her doctorate in 2019 while working in Udell's lab.

Parenting behavior is considered an important factor in a child's development and has been found to influence many things, including mental health, intellectual success, social cognition, attachment and job performance, said Brubaker, who now works as a behavioral scientist.

The researchers' study, recently published in the journal *Animal Cognition*, is one of the first to look at how the quality of a human-dog relationship may influence a dog's performance on behavioral and cognitive tests.

For the study, Udell and Brubaker recruited 48 dog owners and gave them a pet parenting style survey. Using the survey data, dog owners were divided into three categories, which are similar to those used in human parenting research: authoritative (high expectations, high responsiveness), authoritarian (high expectations, low responsiveness) and permissive (low expectations, low responsiveness.)

The dogs were then brought to Udell's Human-Animal Interaction Lab, where they participated in three behavioral tests.

The first test evaluated the dogs' attachment to their owner. First, the owner and the dog were situated in the same room, with the owner interacting with the dog when it came close. Then the owner left the room and finally returned, reuniting with the dog.

The second tested sociability by having the owner and an unfamiliar person in the room with the dog and studying the interactions.

The third test involved the dog attempting to get a treat from a puzzle with different levels of help from the owner.

The researchers' findings included:

- Dogs with authoritative owners were the most likely to have secure attachment styles, were highly responsive to social cues, showed a proximity-seeking preference towards their owner compared to an

unfamiliar person and were more independently persistent in the puzzle task. Finally, only dogs in this group successfully solved the puzzle task.

- Dogs with authoritarian owners were more likely to be insecurely attached to their primary caretaker when compared to dogs in the authoritative group. These dogs also spent more time seeking the proximity of their owner compared to the unfamiliar person in the sociability test.

- Dogs with permissive owners followed the social cues of the unfamiliar person but not their owner. The dogs spent comparable time in proximity with their owner regardless of whether their owner was attentive or not. These dogs were also less persistent at the solvable task in the human-neutral condition.

"This research shows that the pet dog-human caretaker bond may be functionally and emotionally similar to the bond between a human parent and their child," Brubaker said.



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- ◆ Mental health support from a professional psychiatrist
- ◆ Opportunity to tap into telehealth and virtual care.



Do you know about these new health and wellness trends?

After COVID-19 pushed us into a world of seclusion, many new health and wellness habits began trending. The thing about health and wellness is that the habits we create greatly shape our quality of life. The better our habits, the better our lifestyles become. So what current trends might help us pay better attention to our physical, emotional, spiritual, intellectual, and occupational wellbeing?

Caring For Your Immune System

The pandemic has raised a lot of awareness on immune health. People are now more aware of the benefits of maintaining a healthy immune system. Since our immune system is directly related to our ability to fight off viruses like COVID-19, immune boosters are trending like never before. It's best to create sustainable habits that promote health in the long run, rather than waiting until you are sick to begin working towards a healthy immune system.

Mindful Food Habits

Being at home more frequently has left many people contemplating their eating habits. After the pandemic, people have been eating at home more frequently, cooking more, and making it more of a ritual. People have also begun to utilize their food more intently. Scraps once seen as waste worthy are now finding their purpose in the kitchen. This is a way to combat some of the food insecurities that have come as a result of the pandemic and other issues in the U.S. With many people out of work, these new habits are helping people and families sustain themselves. Even some brands have offered subscriptions that give you lower prices for food that is perfectly fine, but not seen as marketable.

Breathwork, Meditation, and Mental Fitness

Whether it's a meditation app, deep breathing yoga, or acknowledging your mental needs, self-care for your mind is important. It helps you challenge yourself in safe spaces and heal past trauma that might be standing in your way. It also allows you to better confront issues of overwhelming depression and anxiety. Practicing mental fitness could be going to therapy or reading a book. No matter what you choose, its role should be to help you stay sharp daily. Taking care of your health and wellness is one of the most important things you will ever do. You only get one body and one mind to work with. Forming healthy habits is a way to ensure you are promoting a healthy mind, body, and environment.



“Guilty Pleasures” May be good for your health

by AM KUSKA

Are you guilty of spending a little too much time playing Minecraft? Do you like watching reality TV shows, or reading trashy novels? No matter what kind of person you are, you probably have a guilty pleasure or two that you indulge in. Things you enjoy doing that others may look down on, or don't see as quality entertainment.

Although you're probably not going to get any cultural enlightenment from watching *Real Housewives*, indulging in habits that make you happy but aren't productive have a real purpose. They allow our brains to truly rest, instead of filling up downtime with “problem solving” skills.

While problem solving during downtime is a survival trait that helped humans survive for millenia, when taken too far it can be detrimental to our health. We don't need to be scanning the bush for predators at all times, and if reading a trashy novel helps us take our mind off of problems for a while, it can actually help us be more rested and be better able to handle the real problems that do come up.



On the flip side, too much problem solving can be bad for our health. When we focus on all the negatives in life, or only on self improvement, we exhaust our brains decision making skills on fantasies that may never come to light, and may even lose sleep over it.

Guilty pleasures are, by their own definition, harmless. Watching reality TV shows isn't going to harm anyone. Playing video games won't effect anyone else but you. There's no reason to be embarrassed about them, but instead, look at them as useful and productive tools in their own right.

So the next time you want to indulge in a selfie fest, or just eat an absolutely huge chocolate bar, go ahead. It may help your brain get the legitimate downtime its been craving. It may feel like a guilty pleasure, but according to science—there's no such thing.

Mapping disease risk at human-wildlife 'hotspots'

New research has mapped how infectious diseases spread among wildlife populations in areas where humans and wildlife live in close proximity. The study has identified the animals, specifically wild monkeys that live in large groups alongside human settlements, that may act as "superspreaders".

It found that monkeys with the most human interactions are responsible for the largest outbreaks. This is because these locations where monkeys and humans come into close contact, typically around sources of food, can attract monkeys from different groups and sub-groups. It is at these human-wildlife hotspots that monkeys closely interact with monkeys they wouldn't regularly mix with, leading to larger outbreaks.

With a rising global population meaning that human settlements increasingly encroach on the natural ranges of wild animals, there is a growing risk from both zoonotic diseases that "spillover" from wildlife to humans and zoonothonotic diseases that "spillback" from humans and cause outbreaks among wildlife.

Published in the journal *Scientific Reports* and led by Dr Krishna Balasubramaniam of Anglia Ruskin University (ARU), the research used epidemiological computer models to simulate how infectious diseases may spread among monkeys living in urban and peri-urban areas of South and South-East Asia. It is the first study to use simulations to compare disease spread through animals' social behaviour, to disease spread through animals' tendencies to congregate around and interact with humans.

The team of researchers, including academics from University of California, Davis, monitored the behaviour of rhesus macaques, long-tailed macaques, and bonnet macaques in northern India, Malaysia, and southern India respectively. In these locations, wild macaques frequently share space with humans, and their interactions with people often focus around accessing food.

The researchers gathered detailed behavioural data on interactions between humans and individual monkeys as well as interactions between monkeys within the same group, within which individuals have strong social connections. This information was collected from 10 separate groups of macaques across the three Indian and Malaysian locations.

This behavioural data was fed into mathematical Susceptible-Infected-Recovered (SIR) epidemiological models to simulate the impact of outbreaks of human diseases of varying transmissibility such as the influenza virus, Coronaviruses, and the measles virus. Computer simulations were run 100,000 times in total across the 10 groups and across the different human diseases, and the vulnerability of these macaque populations to human-induced disease outbreaks was evaluated.

The study found that the size of the outbreak was positively predicted by the centrality within the group of the first-infected macaque – if that individual is better connected within its social network, it would lead to a larger outbreak.

The second key finding is that the centrality of the first-infected individual, based on both its congregations with other monkeys around humans and its interactions with humans, plays a greater role in predicting the scale of outbreak than how central it is within its own group.

This is because macaques may congregate around human-provisioned food alongside other macaques with whom they would otherwise not interact that often. The study revealed that these situations seem to create additional pathways for disease transmission and therefore lead to larger outbreaks.

The researchers believe this work could be vital for helping to identify individual monkeys that are the most sociable, and tend to congregate around and interact with humans the most. Targeting these with vaccinations or other forms of medical treatment could potentially protect both macaque populations and humans in areas where they live in close proximity.

Dr Krishna Balasubramaniam, Lecturer in Conservation & Animal Behaviour at Anglia Ruskin University (ARU), said: “COVID-19 has highlighted the



importance of understanding infectious disease transmission among wildlife populations in urban and peri-urban areas. Population expansion has increased the contact between humans and wildlife, and these human-wildlife interfaces are widely recognised as ‘hotspots’ for the transmission of diseases across a variety of species.

“Our research focused on the potential impact of a human-borne disease spreading through wild macaque populations. Being so closely related to humans, macaques are highly vulnerable to the same diseases that infect people. Indeed, previous work by other researchers established that macaques may be infected by human gastrointestinal and respiratory pathogens. Here we showed how respiratory pathogens in particular might spread through macaque populations, and specifically how their behaviour might influence such spreading.

“Through fieldwork and modelling, our research identified which individuals are most likely to act as ‘superspreaders’ of disease, leading to larger outbreaks. How central the individual was within its own group had an effect on the size of outbreak, but interestingly the stronger predictor of whether a macaque would go on to cause a large outbreak was its tendency to congregate around humans with macaques from other sub-groups.

“Sources of human-provided food can act as a ‘honeypot’ and lead to macaques coming into very close contact with individuals with whom they may otherwise have less contact, for instance monkeys from other families or sub-groups.

“As well as being ‘superspreaders’ within their species, these individuals with the most human contact also pose the highest risk for interspecies disease transmission events, either from humans into wildlife, or vice-versa. These would be the most effective targets for disease control strategies such as vaccination or antimicrobial treatment.”





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Building Bridges to *Wellness and Stability*

On September 24, One Health Clinic, Doney Coe Pet Clinic, Seattle Animal Shelter, and Seattle Humane hosted two wellness clinics in Seattle.

During these special clinics, clients' companion animals received veterinary care which, in turn, enhances the entire family's health and well-being. As in previous years, this year's clinics were held in honor of World Rabies Day, which was September 28.

"We recognize the bonds between the people and pets we serve. One Health Clinic asks how we can keep you and your pet healthy and help you find a more peaceful level of stability," said Christie Cottrell, WSU College of Veterinary Medicine's Director of Development and Alumni Relations and One Health Clinic administrator.

Launched in 2018, One Health Clinic is a partnership between the University of Washington Center for One Health Research and Washington State University's College of Veterinary Medicine. The clinic was established to provide integrated human and veterinary health care for people with pets who are unsheltered or have low income.

"A key part of the care we provide is rabies preventive vaccination," said Dr. Peter Rabinowitz, University of Washington human health care director. "In this way, the One Health Clinic is pioneering innovative ways to prevent rabies among the most disadvantaged populations in the U.S. and globally."

Offered twice a month, the recurring One Health Clinics are an extension of human health care services offered through the Neighborcare Health Youth Clinic at New Horizons Shelter. University of Washington health science students volunteer their services through University District Street Medicine.

Veterinary care is provided by WSU's DVM students under the supervision of Dr. Katie Kuehl, One Health Clinic veterinary director and assistant professor in shelter medicine at WSU.

The clinic has been amazing. We've struggled so hard to maintain our financial situation and continue to have our dog be seen and healthy. I've gone without food to be able to take him to the vet before, you know?



By AnneMarie Hunter

A One Health Clinic client

In addition to vaccinations, One Health Clinic veterinary care includes wellness check-ups and other primary care services. Spay, neuter, and other surgeries are not performed at the clinic. However, referrals are available through a well-established collaboration with animal welfare groups across the county that provide these services at free or reduced costs. Human medical care includes treatment for illness, injury, or ongoing conditions, along with vaccinations, STI/HIV care, and birth control. Referrals for care not provided at the clinic are also available.

“A unique aspect of our care is our ability to work and communicate interprofessionally to identify and address concerns of people and animals in families,” Kuehl said. “Sometimes people don’t want to talk about their own health but will share important information about their well-being with the veterinary team.”

One Health Clinic professionals recognize that when people and their pets receive medical and veterinary care in a side-by-side setting, the health of the whole family benefits. These reduced barriers to care are key.

“At one clinic, a woman came in to get care for her young adult female cat. In addition to providing vaccines and preventative care, we diagnosed her cat as pregnant,” Kuehl said. “Our client was overjoyed about the idea of becoming a ‘cat grandma’ and we discussed the needs of her cat – and the kittens once they were born.

“She let us know she wanted to focus on her cat and soon-to-be-larger kitten family. So, she visited our nurse practitioner’s office to get a long-acting contraceptive, so she wouldn’t become a mother while

caring for her feline companion. A month later, the cat gave birth to six healthy, adorable kittens and our client found great homes for them. In most clinics, you can’t provide this type of comprehensive care that considers the needs of the entire family and delivers that care in one location.”

During the past two years, One Health Clinic professionals developed a program to share their vision of comprehensive care. Their online toolkit is a guide for similar One Health efforts on a national level.

This initiative provides resources for health care professionals across the country to design integrated clinics, so they can also offer health care access to underserved groups. The free toolkit assists organizations at all stages of clinic development – from initial meetings to logistics. The One Health Clinic team also offers support to fellow health care professionals, as they pilot their clinics using the toolkit as a model.

One Health Clinic’s continued growth and outreach initiatives are the positive outcomes of partnerships cultivated across industries and organizations.

“Only together can we be successful, and we’re successful because of collaboration,” Cotterill said. “We came together with a shared vision that evolves to meet needs as they’re discovered, while we work together toward a broader national impact.”

During the past three years, the Banfield Foundation, Merck Animal Health, and PetSmart Charities have been partners in that evolution.

In 2019, the Banfield Foundation provided initial funding for the One Health Clinic. This year, the organization contributed support toward rabies and flea medications for the clinics, including the September event.

Merck Animal Health has also been a supporter since the launch of the One Health Clinic by providing vaccines and medications. PetSmart Charities has provided funding for the veterinary team, research projects, and development of the online toolkit.

“Approaching healthcare through a One Health lens is defined by partnerships,” Kuehl said. “By leveraging each other’s strengths, we provide the best possible care to our patients whether they have two legs or four.

“In this same way, we need industry partners, such as the Banfield Foundation, Merck, and PetSmart Charities, because they work with a wide range of organizations and approach access to veterinary care with a different lens than ours. We learn from their successes and institutional expertise to further benefit the community we serve.” To support the One Health Clinic, visit us online.



UNDERSTANDING AND COPING WITH SELF-HARM

Shauna Simmons



Self-harm is typically a way people respond to severe anxiety or depression. When left untreated, this can become life-threatening as it indicates mental instability. Self-harm often refers to a person's actions toward intentionally harming themselves. Many people who engage in self-harm are not initially trying to end their lives. It is more like a last-ditch attempt to gain a sense of control when they feel they have lost it.

TYPES OF SELF-HARM:

- Cutting
- Burning
- Scratching
- Hitting Oneself for any reason
- Pulling out hair (from the head, face, or other body parts)
- Piercing the skin with sharp objects
- e-opening past wounds

SYMPTOMS/WARNING SIGNS:

- Frequent open wounds
- Scars
- Frequently wearing long sleeves or pants, even in hot weather
- Poor social skills
- Fractured self-image
- Low self-esteem
- Emotional Instability
- Feelings of hopelessness, helplessness, or worthlessness
- PTSD

DEALING/COPING WITH SELF-HARM

If you are ever feeling urges to harm yourself, please seek the help of a trusted friend or professional. If you feel overwhelmed and don't know where to turn, you can call or text this Self-harm Crisis Hotline for access to a crisis counselor anytime.

Other healthy ways to cope with self-harm include journaling when you feel overwhelmed. This can help you process your feelings and may even provide some clarity. You can try to channel your energy into something creative like art or music. Anything that can help you work through what you are feeling will be helpful to redirect your thoughts and energy.

Seek a calm space where you can breathe deeply and return to yourself. Sometimes when we feel overwhelmed, it isn't necessarily coming from within us. It can help to change your environment if you feel it is playing any role in your discomfort.

Remember that your mental health is detrimental to living a healthy lifestyle. If you, or someone you love, is battling depression or anxiety, the best thing you can do is seek help. Whether that help comes from within, a support group, or a professional. Nobody is ever alone in their struggle.

Another monkey virus *could be poised for* spillover to humans

An obscure family of viruses, already endemic in wild African primates and known to cause fatal Ebola-like symptoms in some monkeys, is “poised for spillover” to humans, according to new University of Colorado Boulder research.

While such arteriviruses are already considered a critical threat to macaque monkeys, no human infections have been reported to date. And it is uncertain what impact the virus would have on people should it jump species.

But the authors, evoking parallels to HIV (the precursor of which originated in African monkeys), are calling for vigilance nonetheless: By watching for arteriviruses now, in both animals and humans, the global health community could potentially avoid another pandemic, they said.

“This animal virus has figured out how to gain access to human cells, multiply itself, and escape some of the important immune mechanisms we would expect to protect us from an animal virus. That’s pretty rare,” said senior author Sara Sawyer, a professor of molecular, cellular and developmental biology at CU Boulder. “We should be paying attention to it.”



There are thousands of unique viruses circulating among animals around the globe, most of them causing no symptoms. In recent decades, increasing numbers have jumped to humans, wreaking havoc on naïve immune systems with no experience fighting them off: That includes Middle Eastern Respiratory Syndrome (MERS) in 2012, Severe Acute Respiratory Syndrome coronavirus (SARS-CoV) in 2003, and SARS-CoV-2 (the virus that causes COVID-19) in 2020.

For 15 years, Sawyer's lab has used laboratory techniques and tissue samples from wildlife from around the globe to explore which animal viruses may be prone to jump to humans.

For the latest study, she and first author Cody Warren, then a postdoctoral fellow at the BioFrontiers Institute at CU, zeroed in on arteriviruses, which are common among pigs and horses but understudied among nonhuman primates. They looked specifically at simian hemorrhagic fever virus (SHFV), which causes a lethal disease similar to Ebola virus disease and has caused deadly outbreaks in captive macaque colonies dating back to the 1960s.

The study demonstrates that a molecule, or receptor, called CD163, plays a key role in the biology of simian arteriviruses, enabling the virus to invade and cause infection of target cells. Through a series of laboratory experiments, the researchers discovered, to their surprise, that the virus was also remarkably adept at latching on to the human version of CD163, getting inside human cells and swiftly making copies of itself.

Like human immunodeficiency virus (HIV) and its precursor simian immunodeficiency virus (SIV), simian arteriviruses also appear to attack immune cells, disabling key defense mechanisms and taking hold in the body long-term.

"The similarities are profound between this virus and the simian viruses that gave rise to the HIV pandemic," said Warren, now an assistant professor in the College of Veterinary Medicine at The Ohio State University.

The authors stress that another pandemic is not imminent, and the public need not be alarmed.

But they do suggest that the global health community prioritize further study of simian arteriviruses,

develop blood antibody tests for them, and consider surveillance of human populations with close contact to animal carriers.

A broad range of African monkeys already carries high viral loads of diverse arteriviruses, often without symptoms, and some species interact frequently with humans and are known to bite and scratch people.

"Just because we haven't diagnosed a human arterivirus infection yet doesn't mean that no human has been exposed. We haven't been looking," said Warren.

Warren and Sawyer note that in the 1970s, no one had heard of HIV either.

Researchers now know that HIV likely originated from SIVs infecting nonhuman primates in Africa, likely jumping to humans sometime in the early 1900s.

When it began killing young men in the 1980s in the United States, no serology test existed, and no treatments were in the works.

Sawyer said there is no guarantee that these simian arteriviruses will jump to humans. But one thing is for sure: More viruses will jump to humans, and they will cause disease.

"COVID is just the latest in a long string of spillover events from animals to humans, some of which have erupted into global catastrophes," Sawyer said. "Our hope is that by raising awareness of the viruses that we should be looking out for, we can get ahead of this so that if human infections begin to occur, we're on it quickly."



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The importance of finding purpose in your life

BY AM KUSKA



Why are you here?

At some point in your life, this question will probably pop into your brain. Most of us want to believe that there is more to life than just existing, and that we came to this Earth for a purpose. Even if you believe you came to be alive by pure chance, giving your life meaning and purpose can help improve your life in a variety of ways.

So how do you know what your life purpose is? Especially if life hasn't gone the way you planned, and maybe even robbed you of the identity you thought you had? Here's a couple of questions that can help you narrow down what life goals you should aim for.

What do you hate the least?

There is a downside to everything in life. A baby might be the most precious gift on earth, but it comes with its share of dirty diapers. You may be passionate about becoming a doctor, but that also comes with drawing blood or even watching patients fall ill and die.

Everything has a downside, so if you want to choose a life purpose, you can narrow down your choices by picking something with the downsides you mind the least.

What puts you in 'the zone'?

Have you ever worked on a project and gotten so enthralled, you glanced up at the time and was shocked to see how much time has flown by? Moments like this can help you home in on what your purpose is. Whether you can easily hum your way through an hour in the garden, or you want to dive back in for another lap in the pool, things you love to do are a sign you are passionate.

What embarrasses you?

Okay, let's face it. We all have something tucked away in the closet of our mind that we want to try, or maybe dream about doing, but won't because it's too embarrassing. Maybe you secretly think you could write rom-coms or romance novels, but the idea is just too undignified. Maybe you want to run, or dance, or put yourself out there in some other way, but are afraid you'll be mocked for it.

If you avoid these things, chances are you're also avoiding something that could be your big passion. While this on its own won't stop you from finding your true calling, it does narrow your options. If something embarrasses you but you still want to try it, try it anyway. You never know.

Finding a purpose in life doesn't have to be world changing. You could be the very best person in the world at building with legos, or that mom who packs spectacular bento boxes for your kid's lunch. It doesn't have to please the world to be perfect. It just has to be perfect for you.

Sometimes when we announce that we want to find the cure for cancer or the vaccine for aids, we're not saying these things because we genuinely want to do these things—we're just seeking affirmation. It's okay for your life purpose to mean something only to you. After all, you're the one who has to live it.

Cornell Veterinary Medicine helps keep number of avian flu cases low

In mid-February, the owners of a backyard flock in Suffolk County, NY, noticed two guinea hens and three of their chickens were sick; three days later, the birds were dead. Within five hours of getting a swab of the birds' airways, the New York State Veterinary Diagnostic Laboratory determined it was New York state's first case of a deadly strain of avian influenza.

Cornell researchers knew highly pathogenic avian influenza, or bird flu, was coming. They had been tracking the disease's spread for months. "We knew how to implement strategies to prepare, and prevent potential losses," says anatomic pathologist Gavin Hitchener, director of Cornell's Duck Research Laboratory, located 15 miles from the backyard flock.

Hitchener and others at the Animal Health Diagnostic Center (AHDC), part of the Cornell University College of Veterinary Medicine (CVM), have been helping to keep New York's avian flu incidents remarkably low through education, outreach and testing measures. As of April 6, the state has had only one outbreak in a small commercial flock and seven in backyard flocks. So far, all of the state's large commercial operations have remained unscathed.

What is bird flu and why can it be so devastating?

"Because backyard flocks are usually outside, free-range, they're mixing and mingling with migratory birds. They may pick the virus up from the feces of wild birds in their environment," says veterinarian Dr Jarra Jagne, head of the Animal Health Diagnostic Center's Avian Health Program and associate professor of practice in the Department of Public and Ecosystem Health at CVM.



There are 144 types of avian influenza. Some cause just mild respiratory infection. But the current strain, H5N1, is highly pathogenic and causes extreme mortality, says Jagne. When the virus takes hold, it replicates rapidly in the respiratory, neurologic, digestive and reproductive organs. "It is systemic – throughout the whole body. This virus just enters and destroys the tissues," Jagne says. "Within 24 to 48 hours after seeing the first sick or dead birds, you will see very high mortality."

Waterfowl, like geese and gulls, are the natural reservoirs of all avian influenza. Other wild birds can be infected, such as bald eagles, owls, and other birds of prey, says Krysten Schuler, director of the Cornell Wildlife Health Laboratory. "A lot of birds of prey – eagles and vultures – were affected, because they scavenge dead birds," she says. "And we have seen the virus too in some mammals."

Because it is so devastating, "high path avian influenza is at the top of the list" of diseases the center tracks, says AHDC's executive director François Elvinger, professor of population medicine and diagnostic sciences and associate dean for diagnostic operations and government relations at CVM.

The Cornell team will continue their efforts to keep the number of cases low as the fall migration ramps up, Jagne says. "We've been spreading the word: If you see any mortality, or unusual mortality, in your flock, give us a call."



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HOW TO COPE WITH COMPASSION FATIGUE

The Unseen Culprit Behind Your Mental Exhaustion

Compassion Fatigue plays a large role in your ability to sympathize and empathize with the people around you. It often comes as a result of taking on the responsibility for another person's physical, emotional, or psychological needs. This means that people working in helping professions, like veterinary medicine, are more likely to feel the effects of compassion fatigue.

Over time, this responsibility can become overwhelming for an individual, and compassion fatigue creeps. It's your body's way of saying, "I don't have room for any more compassion. This is too much for me right now." If you feel like you or someone you love is struggling through compassion fatigue, there are a few things that you can do to recharge and take back your energy.

What Can You Do?

Compassion fatigue results from chronic stress, often from helping others through suffering or trauma, like caring for severely injured pets or even humane euthanasias. This means that to find some relief, you need to focus on reducing your stress as much as possible. You must be very intentional about who you interact with and how you interact with them. It's time to take a step away from other people's needs for a bit and focus on your own. Set healthy boundaries with your workspace, and make sure you have time for yourself every single day. This will allow you space to be compassionate with yourself and address anything you might need to address in your life.

Creating a work-life balance is difficult, but it is so important for your mental health and well-being. One huge step to coping with compassion fatigue could be seeking professional help. Often professionals are better at pinpointing our source of stress as they are trained to do so. Seeing a professional also offers an outside perspective on the daily issues we are immersed in.

It's Not Your Fault

The best thing you can do for yourself amid compassion fatigue is to remember that you aren't doing anything wrong. You did not wake up and choose not to empathize or connect with others today. You are just mentally drained. This is a call to action for you to spend time with yourself, do some deep self-care, and get down to the root of the issue.

by Shauna Simmons





ONE HEALTH CARE ACCESS HELPS

HOMELESS YOUTH AND THEIR PETS

A multidisciplinary team in Seattle created a combined clinical space to care for homeless youth and their pets. The One Health Clinic, based at New Horizons, a shelter for homeless youth in Seattle, provides concurrent primary health care and veterinary care to young people and their pets after a community needs assessment revealed pet ownership as a barrier to accessing health care services.

The OHC is currently offered as a 4-hour session twice monthly, with both human and animal health addressed at each visit.

According to the program director, "Many people experiencing homelessness own animals that provide emotional support and other health benefits... This integrated model leverages the power of the human-animal bond to increase primary care access for individuals experiencing homelessness, many of whom prioritize care for their animals over care for themselves."

The OHC also provides opportunities for interdisciplinary learning between medical students, veterinary students, and other health professionals. The OHC offers a free toolkit of protocols and best practices for other groups interested in starting a One Health Clinic in the U.S. or Canada. Find it at www.onehealthclinic.org

IS QUIET QUITTING REALLY THE ANSWER?

by Shauna Simmons



The name quiet quitting is a bit misleading relative to what it actually means. It has nothing to do with leaving your job, nor doing so quietly. Quiet quitting is more accurately described as a simple choice to work your job description. Nothing more, and nothing less. While jobs might refer to this as employees working the bare minimum, it depends on the perspective.

SETTING BOUNDARIES WITH YOUR JOB

If you think about it, your job is just another relationship that you have in your life. To maintain a healthy relationship with work, you need to be able to set boundaries. Setting boundaries allows you to know how and when to stick up for yourself when necessary. This helps to maintain a healthy work-life balance.

So while choosing to simply work your job description may upset your boss, that doesn't actually mean you did anything wrong. They hired you to do a job and agreed to pay you a certain amount to get that job done. It is not within their right to expect you to do more work just because they demand that of you. Will there be compensation for your extra work?

WORK IS IMPORTANT, BUT SO IS LIFE

It's easy for a job to request you do something simply from the goodness of your heart. But if Covid-19 has taught us anything, it's sadly that many jobs will drop you at a moment's notice. Have you ever wondered why workers are expected to put in a 2-week notice when leaving a job but that most jobs will not give workers they lay off the same courtesy?

Your career is an important aspect of your life but not your entire purpose. Many of us have families, friends, children, marriages, relationships, social lives, hobbies, and even other jobs outside of our primary career choice.

Quiet quitting is a way for many people to communicate that they wish to keep their jobs but are not deeply motivated to go above and beyond. This is often a way to preserve their mental well-being. It helps them maintain a good life outside of a job offering them only a living wage.

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