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WONDER DOGS OF THE WORLD

In Sydney, bomb detecting dogs greet a soldier; in Moscow, a child is cheered during a therapy session; near Princeton, a veteran who lost an arm in Afghanistan gets a little help from a friend; in Singapore, an elderly man is comforted by a therapy dog; in Glasgow, a dog joins the search for survivors; and near San Francisco, reading to a dog builds confidence.

“People are realizing the value of animals in our lives,” says JoAnn Turnbull, marketing director for the Delta Society, an organization devoted to improving people’s lives through companion, service and therapy animals. “More doors are starting to open.”

Newfoundlands act as lifeguards on dangerous beaches in Italy. Highly trained Karelian Bear Dogs at the Wind River Bear Institute in Montana help biologists teach bears to avoid campgrounds. Dogs who once scouted for hunters now track animals for environmental studies (discover how they’re trained on p. 52). Jack Russell Terriers courageously sniff for snakes in cargo headed for Hawaii. A sniffer dog found psyllids (sap-sucking insect pests) in a FedEx package sent from India and saved California’s citrus crop. Other dogs are sniffing cancer and saving people’s lives.

These dogs join an expanding cadre of four-footed professionals eagerly trying new careers each day. Twenty years ago, no one thought to ask dogs if they could warn diabetics when their blood sugar was too high or too low, or to call 911 if their person suffered an epileptic seizure. Now we know they can, and they do. We take for granted that dogs see for the blind, hear for the deaf, help the disabled, identify contraband and find people buried in rubble. So, why do we react with surprise and wonder when we learn that dogs can detect minute traces of peanuts in our food or cancer in our bodies?

“I think we haven’t asked dogs the right questions,” says Sharon Sakson, author of Paws & Effect: The Healing Power of Dogs.“We’ve been slow to figure out what they can do.”

Chemical Reaction

Many of the new jobs for dogs center on tested and affirmed chemical reactions between people and canines. Leslie Horton, a registered nurse and the animal-assisted care coordinator in the rehabilitation center at Inova Fairfax Hospital in Falls Church, Va., has witnessed stunning examples of this chemistry: therapy dogs bringing people out of comas.

“We see about three or four a month,” she says.“We don’t know why—we don’t have funding to do the research. But it’s totally amazing.” Horton cautions that the dogs don’t wake every person from a coma, and that the patients had responded to at least noxious stimuli already, but she tells achingly lovely stories. Her favorite is of a young man who had been in a coma for two weeks.

“We’re talking serious detection,” she says. “These are not fluffy dog stories.”

“He was responding only to pain, but his therapist said, ‘We know he’s in there.’ It was just

before Christmas. We put a dog on his bed. The dog leaned against him and started licking his hand. Usually patients don't wake up all of a sudden, but he did. We said, 'Your mom hasn't left you for two weeks —you need to tell her hello,' and he mouthed, 'Hi, Mom.'"

Because the Inova facility allows animal assisted therapy in addition to therapy dog visits, the 22 teams of dogs and handlers under Horton's care spend time in all four hospitals on campus, always with a physician's order, and Horton lauds the Delta Society for providing appropriately trained teams for this work. In addition, the center has highly trained personal-assistance, or service, dogs.

"We demonstrate how service animals can help people accomplish activities in their daily lives," she says, offering herself as an example. "Everyone knows that dogs help the deaf and blind. But I have MS. If I'm having a balance issue, my dog catches me. If I'm dragging my right leg, my dog helps propel me forward." Horton has trained dogs to provide the same assistance — and more — for children with
autism (who often walk on their toes) and people with other mobility issues. "For some autistic children, just having a dog in the environment is enough to help them concentrate better," she says.

Communication Experts

Dr. Rolanda Maxim, a pediatrician in St. Louis who specializes in developmental behavioral health, agrees. She decided to try recommending dogs after noticing that her dog communicated better than some of the autistic children she assessed.

"He points to what he wants and looks at me," she says. "I thought, 'Wow. That's great communication. What a good way to teach a child with autism to interact.'"

She's seeing positive results with the children she treats. "I think they find common ground," she says. "A dog is always ready to play and give positive feedback. Of course, a trained dog can do more, but I encourage all my patients' parents to get a dog with good social skills for their child. It's much better to treat a child with a dog than with medication. Even a regular dog interacts with a child so beautifully, I think there's benefit."

In Seattle, prosecuting attorney Ellen O'Neill-Stephens was moved to found Courthouse Dogs after she saw the positive effects her son's service dog, Jeeter — a yellow Lab trained at CCI — had on children in juvenile court. The program, operated in partnership with Celeste Walsen, DVM, is dedicated to providing emotional support through facility dogs for people throughout the criminal justice system, from children to judges."The analogy I like to use is the Dalmatian in the firehouse," O'Neill-Stephens says. "But our facility dogs need to be highly trained. We have very high standards. We don't want to lose this precious tool." Jeeter has accompanied a rape victim into the courtroom, relieved the stress of witnesses waiting to describe a murder, and helped a child testify about sexual abuse. "We had the dog between the child and the defense attorney, and the two were petting him during cross examination," she recalls.

Sensing Trouble

Similarly, social worker Kim Atchley's dog, Nigel, soothes the stressed children whom she sees in Child Protective Services. Nigel's main job, though, has nothing to do with social work; he's a medical alert dog: Atchley is a sleepwalker. "The clincher was waking up in my car," she says. "I had driven to a store where I had bought some items. Later, I asked the clerks if they noticed anything strange. They said I was in my pajamas and glassy-eyed, but I gave them the right change."

Her sleep specialist, knowing that dogs alert to seizures, wondered if a dog might stop her from sleepwalking. Atchley consulted with a certified animal behaviorist and researched various breeds for a year and a half before narrowing her choice to a Rhodesian Ridgeback. "I needed a dog big enough to block the door and smart enough to think on his own and troubleshoot," she says. Nigel's initial training was simply staying with her 24/7. Three weeks after arriving, he banged on his crate until Atchley woke up. To be certain it was an alert, though, the two entered a sleep study. Monitors at the hospital clinic confirmed that moments before Atchley entered the dream state that led to sleepwalking, Nigel air-scented and alerted.

"I haven't left the house [in the middle of the night] since I got him," she says. So that Nigel could stay on the required schedule and accompany her to work, Atchley gave him extensive obedience training and socialization, and Nigel became a certified therapy dog. Still, it took four attorneys to help her convince her employers that he is, in fact, a service dog.

The highly trained dogs who help the blind and disabled obviously provide a service. Nigel's service is not so obvious, and the same is true for psychiatric service dogs. Joan Esnayra, a biologist and former program officer at the National Academy of Science, is working to open people's eyes to this more subtle form of service. When she realized her dog alerted to hypomania (an abnormal mood state), she published her findings in a journal of psychiatric services. Then, she founded the Psychiatric Service Dog organization. Now she's working with the U.S. Department of Defense on what she and research psychologist Craig Love hope will be an 18-month study at Walter Reed Army Medical Center on the use of dogs to help soldiers with PTSD.

"We'll have psychometric instruments administered by trained clinical psychologists," she says. "This is real science. I know we're on the cusp of something big."At a military health research conference recently, Love and Esnayra presented the results of a survey of 39 people with PTSD teamed with psychiatric service dogs. Eighty-two percent reported fewer symptoms and 40 percent used fewer medications after getting the dogs.

"Some people think that if a dog initiates a behavior on his own, it's not disability-related assistance because it's not related to a command," Esnayra says. "We have standards. The dogs need obedience training and public access skills. But we approach dogs as beings with perceptive intelligence and independent intellects. I think we don't yet know what dogs can tell us."

Find It

It's possible that, like Nigel, psychiatric service dogs perceive changes through their sense of smell. Indeed, many of the new jobs for dogs center on this extraordinary ability of our four-legged friends

to detect and differentiate scents, an ability long employed by the police and military. In fact, to develop its conservation canine program, the University of Washington's Center for Conservation Biology began with narcotics-dog trainers.

"Working initially with the Washington State Department of Corrections, we literally started with our dogs working on marijuana," says Dr. Sam Wasser, the center's director. "When the trainers would usually shift to heroin, we went to poop of the target species."Now, teams of dogs trained at the center track populations of wild animals for environmental studies by air-scenting for scat—moose, caribou and wolves in northeastern Alberta oil fields, endangered northern spotted owls in the Pacific Northwest, and orcas in Puget Sound, among other animals. Dogs even track pocket mice the size of golf balls with poop the size of sesame seeds. Similarly, dogs working closer to home find sewage leaks and mold as well as bedbugs, underground bumblebee nests, termites and other unwelcome creatures. Pepe Peruyero, a former police dog trainer who trains entomological and other scent dogs at his J&K Canine Academy near Gainesville, Fla., has developed a proprietary training method using food rewards. "Dogs are quick to pick up specific odors," he says."The difficulty is applying that in the field and isolating that odor from all others.We never wean them off [the food rewards]. For our dogs, it's the best way to maintain high accuracy." At the University of Florida's entomology department, Peruyero's dogs achieved a 98 percent accuracy rate and a false-positive of less than 4 percent in clinical trials. To maintain that rate in the field, Scott Umphenour,who handles Kirby, a Beagle trained by Peruyero for Falcon Termite and Pest Control, makes sure Kirby finds these bugs every day, whether he's on the job or at home.

Because the ability of dogs to precisely distinguish scents is being tested and confirmed, people are thinking of new targets. In Florence, Texas, the Southern Star Ranch has begun training dogs to sniff minute quantities of peanuts in any form: raw, cooked, oil, butter, even dust. And recently, Peruyero has begun working with the University of Florida to train dogs to detect melanomas. If dogs can sniff out mouse poop the size of a sesame seed in a forest, and peanuts in dust, couldn't they differentiate between normal and abnormal chemical changes in our bodies? The answer is yes, and this probably explains the reactions of alerting dogs.

Diagnostic Dogs

At the Pine Street Foundation in San Anselmo, Calif., teams of highly trained dogs inhale breath captured and frozen in vials to detect molecules of ovarian cancer. In the UK, anecdotal studies published in The Lancet, a medical journal, led to the first clinical trial involving dogs sniffing for bladder cancer. That 2002 trial resulted in a scientific study published in the British Medical Journal in 2004, and the founding of a charity, Cancer and Bio-detection Dogs, in 2008. The charity works with researchers supported by another charity, the Amerderm Research Trust through the Buckinghamshire Hospitals Trust.

Claire Guest, a training and behavior consultant at the organization, is currently involved with a double-blind, yearlong clinical study of the cancerdetecting ability of the dogs. During training

and practice, the dogs are achieving an impressive success rate; she rewards the correct answers with clicks and treats. “We’re talking serious detection,” she says. “These are not fluffy dog stories.”

During the double-blind study, the trainers don’t know which samples, if any, are from people with cancer, so the dogs receive no affirmation or reinforcement for correct responses. Still, the success rate is good. “We’re using very bright dogs,” Guest says.“No matter what we try, they know which times they are not going to get rewards.”

In addition to dogs who screen urine samples for bladder cancer, the organization trains dogs to alert diabetes patients to impending hyper- and hypoglycemia. The overriding goal for this group and others like it is to help scientists learn which odors—which complicated patterns of molecules — dogs use to detect disease, so that someday, for example, doctors might have mechanical cancersniffing devices in their offices and people with conditions such as diabetes might wear alert bracelets.

“I think the dogs’ role, really, is to accelerate the research,” Guest says.

Recently, one of Guest’s dogs began behaving anxiously around her. “The dog was almost neurotic,” she says. When Guest found a painful spot on her chest, she decided to investigate and discovered that she had breast cancer.“I’m in my 40s, and we don’t get routine mammograms here until we’re in our 50s,”she says.“The consultant said they would never have felt the tumor—it was so far in.”

Fortunately, because of her work, Guest was canny enough to know something might be wrong rather than to think her dog had a behavior problem.

“I’m sure dogs have been picking up on the volatiles coming off our body, our breath and our sweat, but we’ve been totally unaware,” she says. “I can’t be completely sure, but I don’t think they’re observing behavior. They come in, they smell and they alert straight away. I think these things have been staring dogs in the face for a long time. It’s frustrating for me that people would rather spend millions of pounds on research trying to discover what a dog could tell us in a couple of weeks. They could identify anything that causes a biochemical change. And once you can get the odor from a group of people, you can be pretty sure you can warn people of changes.”

If we could read our dogs’ minds, we’d probably hear them thinking something like, “We’ve been trying to tell you what we can do for years. All you have to do is ask.”Imagine how the world might change if funds became available for research and training —what we might learn, how many lives could be made richer, even saved. Our best friends are ready, willing and able to assist in ways we have only begun to understand. And they ask for little more than the toss of a ball, a pat on the head, a cookie and a smile.

To learn more about the work of dogs, go to thebark.com.