



3 takeaways from the Veterinary Innovation Summit

by [Brendan Howard](#) with ChatGPT inputs | October 16, 2023 | for [Animal Health Digest](#)

The annual Veterinary Innovation Summit, organized by NAVC, took place October 9th to 11th in Kansas City, Missouri.

Among all the glossy videos for virtual-reality-enabled veterinary education, surgical procedures and AI-enabled client communication, three presentations stood out in how attendees and presenters talked about these current and future technologies.

The future was coming, is here and you're not ready

A self-styled "medical futurist," Bertalan Meskó, PhD, MD, kicked off the summit with a presentation sponsored by Nationwide Pet. His website is medicalfuturist.com. He spoke to attendees via a scripted video, then a live Q&A session, with a stylish Millennium Falcon and Mandalorian helmet from the Star Wars franchise on the shelves behind him to highlight his message that new science and other new ideas start with science fiction.

The problem is always with how things are now: doctor shortages, lack of public trust in doctors and lack of money for clients to pay for ever-evolving, ever-more-expensive medical interventions. Of course, this situation is mirrored in veterinary medicine, with the client standing in for the patient.

How can we make care cheaper and more available in a world with not enough medical professionals? "Don't worry," Meskó told us. "Technology can save the day, replacing the data-based tasks where creativity is not required. Those tasks must be replaced by automation," he said.

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His tips for how to manage this world of increasing cost of care (because the medicine is improving), higher demand and worries of doctors being replaced were numerous and big picture:

- **Embrace patient (or, in vet med's case, client *and* patient) design.** Ask clients for their opinions about changes to technology, client interfaces, physical care spaces, protocols, etc. Give them a seat at the table—ideally a seat on an executive board.
- **Embrace new (scary!) technologies.** Remember when everyone was freaking out about Dr. Google in a world where pet owners would go to the web and get any question answered by ... who knows who? "Well," he says, "The time for gatekeeping is over. The Ivory Tower is no more. There is no door to medical information and you have no key to the door." However, clients today want to receive care and someone will pop up to make it happen if there's money to be made doing it. Companies continue to experiment with at-home health sensors and lab tests. Virtual reality, extended reality and augmented reality are all variations on adding or taking away information or stimuli from your communication with clients or procedures with patients. Even deeper, more sophisticated AI may make it easier to transform how data is gathered from and deployed from clinical trials. ChatGPT and other vaunted AI technologies are already here, providing first drafts to client emails, answering easy questions first for clients and diverting those with more serious concerns or issues to the human, creative experts: the veterinary professionals. In this dizzying world of information, "Clients will still need guidance and insights from you," Meskó says.
- **Embrace learning, even—especially—if you're skeptical.** An attendee asked what to do as a practitioner in this new world of dizzyingly fast changes to technology. "Learn," he says. "Experiment with devices, software, VR and AI. Learn about 'prompt engineering,' so you can ask AI technology, such as ChatGPT, the right questions to get better answers."

If the human healthcare and veterinary medical worlds can't fill the gap in demand from clients, we will need to turn to technologies, Meskó says. "I'm not saying it's ideal, but I am saying it's what we may need to do."

Genetic study, therapies on demand will be a thing

Let's talk dystopia. In a 1980s comic book based on a toy line, *Micronauts*, the big bad Baron Karza kept body banks full of poor people whose parts were harvested for the rich and powerful. That sounds terrible.

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But the new reality of synthetic biology is probably closer to what Andrew Hessel talked about during the summit. He co-founded Humane Genomics, a company focused on cancer viral therapies but, in a wider sense, 3-D printing the world to come. His website is humanegenomics.com.

"All life reduces to code," he says. "Type in the information and machines could produce and analyze, at less and less cost, therapies that cater to individualized bodies with individualized medical problems."

Holding us back? "It's just money," he says. "And, of course, a lack of biosecurity." He wants to see Space X-like challenges for people to make new ways to create DNA base pairs at less cost. Why not print drugs on demand the way we print tee shirts?

On the flip side, he has spent years working with viruses, he's fascinated by them and he wants to see the world recognize that this technology needs guard rails.

"We can create new viruses in a matter of days for a few hundred dollars," Hessel says. "Kids will be interacting with the world of biology through their smartphones and at-home devices. All I see is a massive opportunity. But that massive opportunity also comes with the obvious risk. Biosecurity needs rules and protocols the way cybersecurity is getting them," he says.

The natural world has been working, reworking, splicing, tearing apart and reconstructing genetic code for hundreds of millions of years. This is just us playing in the sandbox.

Attack the problem from both ends

Sounds like a lot of modern technology and affluent clients, right? Yeah, maybe. And maybe not.

UK surgeon and teacher Shafi Ahmed still works in the OR, but also is CEO of a company called Medical Realities. The website is medicalrealities.com.

VR goggles and haptic gloves to let surgeons help perform surgeries virtually are amazing. But so is the work in places like China and Africa, where high-tech medical professionals and organizations have figured out how to give more healthcare to more people for less money.

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Ahmed highlighted the cost of a procedure in the United States priced at \$100,000 done for \$1,500 in India. There may be many differences between the procedures, but for those who cannot receive care because of doctor shortages or no money, less-than-perfect care is pretty good.

How do they do it? Examples include reusable/re-washable scrubs, cutting down on air-conditioning with buildings with better airflow, more judicious diagnostic testing and training family how to do post-procedure care at home.

Are all these options possible in every country and community? No.

But Ahmed, amidst his excitement with virtual-reality surgeries and internationally available veterinary education, thanks to the internet, pointed to ways those with fewer resources can sometimes teach those with more how to improve medical care.

Commentary

Listening in on conversations from doctors and professionals in the summit hall and the foyer, some people were asking how they could get started. "Can I take a class in prompt engineering, and what's the best one?" "Could I play with augmented reality in my practice or lab to learn how more information on a heads-up display could make me more efficient?" "Can I play with this to see what I can find?"

Just as many conversations, however, were about how a technology was distasteful. "Ugh, AI doctors for emotionally distraught pet parents?" "AI and templates, not real people communication?" "Robots to do surgeries when the best surgeons can do better?"

We're all in the same boat. Excited and wondering. Fearful and anxious. Exhausted at the speed of change and uncomfortable with the weirdness of changing how we do things.

No magic bullets. Ahmed hasn't gotten the entire world of human healthcare to jump in with both feet on using goggles and gloves and HUD displays for medical care, and even less so in medical education. No one's won Hessel's contest to produce cheaper DNA base pairs yet. And Meskó's pitch for more patient and client say-so in human healthcare often reaches deaf ears in companies and hospitals too big to change quickly.

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These speakers earn part of their living from selling us on their visions for the future. And some visions for the future are vaporware, destined never to come to reality and be as helpful or successful as they promised. But maybe the trick is to keep playing and experimenting and thinking.

We can't guarantee a bright future where every human being gets the care they need for themselves and their pets, but we can all temper our hope with skepticism, and skepticism with hope.

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