EHR Lessons from the Zoo

by Mary Butler

For many health IT stakeholders tackling the bugaboo of making electronic health records (EHRs) interoperable, it's easy to imagine many of them thinking, *This would be so simple without HIPAA or reimbursement.* When it comes to the "one system, many providers" approach to EHR interoperability, looking to their closest zoo for inspiration could be a step in the right direction for healthcare providers.

The Zoological Information Management System (ZIMS), one of the most widely used EHR systems used in zoos and veterinary hospitals throughout the United States and the world, allows veterinarians to track a zoo animal's pedigree, health history, and geographic history, to connect with other doctors who've treated the animal previously, and to exchange test results with any facility that treated the animal in the past or will do so in the future.

A closer look at the capabilities and limitations of using ZIMS is just one of the many areas that reveals health information management (HIM) professionals and veterinarians who work in zoo settings have much more in common than they might expect—and that HIM could even have something to learn from their practices.

In a recent trip to the Chicago Zoological Society's Brookfield Zoo, the *Journal of AHIMA* observed the exam of a Dirk's dik-dik—a species new to the zoo—and spoke with Michael Adkesson, DVM, vice president of clinical medicine at the Chicago Zoological Society and Brookfield Zoo, about the challenges of information management in his organization.

Information Exchange

ZIMS is able to accomplish the kind of information exchange that HIM and standards development organizations professionals are hoping to achieve in the future. Users are able to input clinical notes, observational notes, blood work results, other lab testing, diagnostic results, and images. Radiology files, however, are too large and are managed in another system. And all this information will stay with the animal—even if it moves from one facility to another.

"One of the most wonderful things about that connectedness [with ZIMS] is that when animals move between zoos and facilities, their background from the care and husbandry side moves with them," Adkesson says. "It's very important because there are unique species and there isn't necessarily a lot of baseline information on some of these animals, so it's important that we maintain that information as it moves, and also feed into a global database where we can access information from others in facilities that hold the same animal or species to get information under their care."

ZIMS also helps facilitate research in this way, says Adkesson. For example, every animal that's new to Brookfield undergoes x-rays and blood work, which is entered into ZIMS. This helps establish a baseline for the animal and for the species. Researchers who are studying any given animal, or who are looking at general health trends for a species across the world, can tap into ZIMS for disease monitoring or other more general purposes.

Patient Identity Matching

When it comes to correctly matching an animal's identity to his medical history, clinicians working in the animal world easily have an advantage over HIM folks working in hospitals. Every animal that Adkesson sees has an implanted microchip. Before any exam or procedure, the animal is scanned for the chip and is identified by a unique identification number. Each animal has a global identification number that will never change, as well as a different number used internally at Brookfield to identify the animal separately from the global number.

Correctly identifying an animal for medical care is important for the very same reason in animals as it is for human patients.

"There could be very significant ramifications for misidentifying an animal, which is why we take great strides to never allow that to happen. We put a tremendous amount of effort into doing this correctly," Adkesson says. "We make medical decisions based on previous test results and medical identification. We want to have the right animal and the right medical history—and make sure we're working on the animal we think we're working on."

Clinical Terminology and Standards

One disadvantage of using ZIMS, says Adkesson is the lack of standardization for some of the data and terminology. While ICD-9 and ICD-10, SNOMED, and CPT standardize how healthcare providers and payers classify anatomy, diseases, and procedures, there isn't an equivalent for zoological documentation.

"There's been a big push with the transition to ZIMS to standardize a lot of the data so that it is easier to mine out the information amongst different facilities. It's very easy for us to look through our own data because we know how we enter things—we know which phrases we use or key words we tag to certain records," Adkesson says. "It can be difficult in moving through facilities" to know for sure if everyone's on the same page.

He says that there is "a tremendous amount of work in vet school to teach veterinarians to properly document and maintain good medical records," Adkesson says, "and there's a lot of emphasis is the veterinary curriculum to make sure graduates come out knowing what needs to be in a record and how it needs to be maintained."

Information Governance

Before ZIMS became the norm, Adkesson says someone with an HIM background did help his facility manage the records due to the similarities between the kinds of record-keeping practices between the veterinary and human realms. But when all the recordkeeping and management became electronic, there was less of a need for that.

But moving to ZIMS doesn't mean there are no paper records left to manage, or that the remaining paper records don't require governance activities. Much of the paper records are still stored on-site for reference purposes. Because of the mission to further research for the care of these animals, records are kept in perpetuity.

The paper records of some animals simply didn't make the electronic transition because they are so old.

"Obviously our animals at the zoo, we've got animals that are 40-50 years old. We've got a Mitchell's Cockatoo here that's been here since the zoo first opened. He's 82 years old at this point. And obviously there's paper files that follow him back 82 years. That information has not been moved into an electronic state."

For more from Adkesson on ZIMS and zoological medical records, check out the video below.

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