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## Is There a Doctor in the Exhibition?

By KAREN JONES MARCH 19, 2014



*Beth Burrous leading a Botanic Garden Medicinal and Poison Plants Tour in Washington. Credit United States Botanic Garden*

**A** POISON of choice since antiquity, belladonna has been linked to witches, sorcerers, kings and queens — all with murder on their minds. Also known as deadly nightshade, it is part of the Medicinal and Poison Plants Tour at the [United States Botanic Garden](#), said Beth Burrous, the tour’s creator.

Despite its lethal history, belladonna also has medicinal uses, such as those of scopolamine, a belladonna product for relief from [motion sickness](#), Dr. Burrous said. “Plants make substances that are poisonous or medicinal because they are defending themselves against predators.” Often, “only a matter of degrees” separates a cure from a deadly toxin, she added.

Students from the National Capital Poison Center attend her monthly poison plants tour to solidify such distinctions and expand their knowledge on how plants affect human health, Dr. Burrous said. “These students will be answering emergency calls for poisoning and treating cases of poisoning, many caused by common plants. This gives them real-world context.”

The collaboration between the botanic garden, which houses more than 200 plant species, and the poison center is just one example of how museums are making contributions to health care, said Ford W. Bell, president of the [American Alliance of Museums](#).

According a recent alliance report, “[Museums on Call: How Museums Are Addressing Health Issues](#),” museums are opening their doors and collections to promote health literacy, research, medical training and disease prevention.

A science museum like the [Field Museum](#) in Chicago, which has been collecting specimens for more than 120 years, is “an amazing resource,” said Darin S. Carroll, a microbiologist in the [Poxvirus and Rabies Branch](#) of the Centers for Disease Control and Prevention. With archived specimens from the Field’s collection, Dr. Carroll was able to confirm the identity of the species of exotic African rodent imported into the United States that was responsible for an outbreak of monkeypox virus in 2003.

“Instead of us marching across Africa to collect the specimens, which we would never have the funding to do, we can use a collection that already exists,” Dr. Carroll said, adding that learning more about the natural setting of zoonotic diseases (transmitted from animal to human) like monkeypox “helps develop more efficient prevention and control strategies.”

“Everyone knows the Field Museum and the Smithsonian are where you go to see mammoths and dinosaurs as a kid,” he said. “What they don’t know is that behind those exhibit walls are archived specimens and tissues we can use in applied public health research.”

Specimens provide a baseline for institutions like the C.D.C. to study deadly pathogens. The Field recently teamed with the Institute for Genomics and Systems Biology, also in Chicago, on the [Emerging Pathogens Project](#) to help facilitate research into zoonotic diseases like Ebola and SARS.

“We wanted to see if we could fill in the pieces of the biodiversity puzzle so when an outbreak of one of these devastating diseases happens, there is a better infrastructure to answer questions about disease-causing organisms,” said Shannon Hackett, associate curator of birds at the Field Museum and a director of the Emerging Pathogens Project. “As humans we tend to think the only linking that matters is people being sick, but you can only answer questions by understanding the rest of biodiversity,” Dr. Hackett said. “What were these organisms doing before they got into people?”

Art museums are well suited for partnerships with health care institutions, particularly when visual-thinking strategies are used to help train future medical practitioners. “It is a methodology that uses art as a tool to hone communication skills, critical-thinking skills and visual-literacy skills,” said Hope Torrents, school programs coordinator at the [Lowe Art Museum](#), part of the University of Miami. She is the creator of the [Fine Art of Healthcare](#), a workshop that employs visual-thinking strategies to help develop diagnostic observation and communication skills for graduate students from the university’s health care schools. “Standing before a piece of art and finding meaning is similar to looking at a patient to generate a possible diagnosis from signs and

symptoms,” Ms. Torrents said. “Art works so well because it is nuanced, it has ambiguity and there are multiple interpretations.”

Workshops include a mix of students from the university’s medical, nursing, psychology and [physical therapy](#) curriculums — and group discussion is encouraged. “We want to help them understand how important collaboration is before they get out into the field.” Ms. Torrents said. “Statistically, misdiagnoses occur more often due to lack of communication or poor communication skills.”

Students have told her that their interviewing skills have improved after attending the workshop, she added, to the benefit of future patients. “Sometimes diagnosis takes time,” she said. “Sometimes you have to back in and start over, and that can include listening to other ideas and even changing your mind.”

Dr. Gauri Agarwal is assistant regional dean for medical curriculum at the University of Miami Miller School of Medicine. Her students attend sessions of the Fine Art of Healthcare as part of their introduction to medical humanities. “Clinical skills and medical reasoning can only come with seeing patients, but perhaps a mindful approach and certain valuable communication skills can be refined using art,” Dr. Agarwal said.

“The students have found the experience of learning in a museum to be enjoyable and a valuable counterpart to the science which fills most of their days,” she added. “It reminds them that knowledge is only one measure of ability — the best physicians are those that quietly observe, patiently listen, hear the individuality and perspective of each patient, and are able to effectively communicate.”

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