CASE STUDY:

Web-based Clinical Simulations Help Professional Society Members Better Diagnose And Treat Anaphylaxis.

Introduction: Unlike many other professional specialties, allergy, asthma and immunology practitioners require more of a cognitive rather than procedural approach to continuing medical education. Through web-based clinical simulations, members of the American Academy of Allergy, Asthma and Immunology (AAAAI) are becoming more proficient at addressing one of the most serious emergency situations they encounter: Anaphylaxis from insect bites, drug or food allergies.

AAAAI is a professional organization with more than 6,700 members in the U.S., Canada and 72 other countries. Its members include allergist/immunologists, other medical specialists, allied health and related healthcare professionals involved in the research and treatment of allergic and immunologic diseases.

One of the biggest challenges its members face is a sudden and unexpected case of anaphylaxis. As many as 45 million Americans have allergic sensitivities that could put them at risk for anaphylaxis. Yet, the actual incidence is unknown, because anaphylaxis is underreported due to a lack of a standardized, internationally accepted definition and inconsistencies in diagnosis.

A cognitive approach that enhances decision-making and outcomes.

In support of a multi-year, grant-driven educational initiative regarding anaphylaxis, AAAAI sought a cognitive approach that would help practitioners when faced with this rare and often life-threatening allergic response. Through the DecisionSim™ platform, three simulations were created to improve clinical decision-making, proficiency and ultimately patient outcomes.

"What we were struggling with is if you've got a patient who has experienced anaphylaxis sometime in the past and you have to diagnose the cause, how do you simulate it?" asked AAAAI Director of Education Steven Folstein, M.Ed. "Educational approaches in the past only really handled a small fraction of the kind of education AAAAI members need."

Simulation-based learning is key in medical curriculum and therefore widely accepted by its members. AAAAI chose to partner with Decision Simulation due to the robust educational activities the DecisionSim platform provides. Through DecisionSim, AAAAI can test practitioner knowledge of more complex cases, help them make the correct diagnosis and prescribe the best treatment path in a mirror image of a real clinical setting.

"Part of the CME challenge," said Folstein, "is identifying gaps in what our providers know or are doing in practice. As a professional society, we don't have access to patient records to define those gaps, but now we can use DecisionSim data to better understand what's happening in practice so we know what additional education is needed."

A powerful tool for helping to save lives.

More than 1,500 people die in the U.S. each year from anaphylaxis. Each case is unique, compounding what is already a difficult challenge to diagnose and effectively treat. AAAAI and the Decision Simulation team developed three real-life scenarios based on actual clinical situations; one was a reaction to a wasp sting, another from a drug interaction, and a third from a patient who has suffered multiple episodes of anaphylaxis.

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– Steven Folstein, M.Ed., AAAAI Director of Education

These simulations are helping clinicians better manage challenging clinical scenarios through branching decision points and multiple-choice questions regarding diagnostic and therapeutic options. For each question, the authors provide detailed feedback regarding both right and wrong answers. With each simulation requiring only a short time to complete, this type of CME fits easily into a busy practitioner's schedule.

"Creating the three DecisionSim scenarios was a very rewarding experience," said AAAAI Instructor Vivian Hernandez-Trujillo, M.D. "It's a great way for anyone, inside or outside of the specialty, to learn about anaphylaxis. Learners can go through the simulations at their own pace. It's a very powerful educational tool."

Overcoming the significant challenges of clinical education.

The sheer numbers of practitioners and allied healthcare providers to educate about anaphylaxis can be difficult to reach effectively. Since anaphylaxis can affect virtually any medical subspecialty, it was important for AAAAI to leverage a user-friendly, information-intensive tool that not only provided education, but helped improve performance among its member base and beyond. The DecisionSim platform reinforced case-based teaching throughout, helping healthcare professionals easily differentiate between the right and wrong treatment path based upon the individual patient history, presenting symptoms and the learner's hypothesis as to what triggered those symptoms.

"DecisionSim is a great learning tool. It's the most fun educational project I've had the pleasure of participating in," said Dr. Phil Lieberman, past President of AAAAI and editor of the AAAAI's Ask the Expert website. "It's a very unique educational format that's engaging, challenging, and very useful. As an educational tool, it lends itself to online learning better than any I've ever seen."

Unlike a linear, didactic approach, the DecisionSim platform improves retention, recall and the ability to transfer knowledge easily and effectively. AAAAI took advantage of the benefits of a branched simulation approach and the proven performance improvements that simulation provides through deliberate practice and game-enhanced learning. Adding media to represent people, scenes, the pathology, and disease mechanisms helped organize therapeutic decisions and improve comprehension.

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Decision Simulation

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