

Research on ventilator allocation, e-cigarettes lands top honors

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An unprecedented event, during unprecedented times, deserves unprecedented results. In that regard, the finals of the first-ever AMA Research Challenge did not disappoint. When it came time to reveal the winner of the AMA Research Challenge, a panel of expert judges couldn't pick just one.

Shamsh Shaikh, a third-year medical student at Boston University School of Medicine, and Victoria Danan, a medical student in her second year at Charles E. Schmidt College of Medicine at Florida Atlantic University, split the top honor.

Danan's project—"Winning the Ventilator Lottery: A Comparison of Five Scarce Resource Allocation Protocols in the Midst of the COVID-19 Pandemic"—was touted by judges for its social science and ethics value. Shaikh's poster—"The Effect of Pod-based E-cigarettes on Endothelial Cell Phenotype: Preliminary Results"—was honored for its value as translational research.

As was revealed in the premiere on the AMA's YouTube channel, the two winners beat out stiff competition. The event's final round featured five competitors, but the initial field was nearly 1,000 submissions, about 500 of which were selected for presentation in our virtual AMA Research Symposium poster gallery.

Of those, the top-scoring posters were featured in the poster competition and voted on by participants to reach the finals of the AMA Research Challenge. Each finalist made a five-minute presentation on their research to the panel of four judges, who then shared feedback and commentary regarding the research and presentation. All five finalists won \$500 and a one-hour mentoring session with Howard Bauchner, MD—editor-in-chief, JAMA scientific publications—about their research and career.

Learn about the four things judges look for in medical poster presentations.

Allocating scarce resources in pandemic

Looking at the potential worst-case scenario during an unprecedented pandemic, Danan's work examined limitations on ventilators hospital systems faced, using published research on scarce research allocation protocol.

"It is inherently against a physician's moral code to determine which patients will not receive lifesaving treatment," Danan said during her presentation to judges. "However, during these critical times we are faced with this possibility."

Many have posited that a randomization process for awarding ventilators is the fairest method. Danan's research found that to be an ineffective way of handling the matter. Instead, she favored a point-scoring system that would allow patients with the potential for the most favorable outcomes to get resources.

"Blind allocation will not likely result in effective research stewardship or support the goal of saving the greatest number of lives," she told judges.

Find out why the horrific COVID-19 surge demands readiness on crisis standards of care.

Understanding the harm of e-cigarettes

Recent research cited in Shaikh's presentation indicated that one in four high school students has used an electronic cigarette within the prior month.

Shaikh's presentation listed three reasons e-cigarettes made Juul, a subsidiary of Marlboro owner Altria Group Inc., and others have become popular among younger nicotine users: their pod liquids, the discreet manner with which they can be used, and the availability of the product.

Shaikh's research examined the components of e-cigarettes and the potential harm that the product can have. Results offered some startling data, concluding that Juul e-liquid components demonstrated acute toxicity in vascular endothelial cells.

In response to the presentation, judges lauded the research for its potential to inform public policy.

Learn more with the AMA about why the move to ban some vape flavors is only the first step in the e-cigarette addiction fight.

The AMA Research Challenge featured the best of the best in research from medical students,



residents and fellows, and the international medical graduate communities. The event was the culmination of the recent AMA Research Symposium, an annual event that is the largest of its kind and typically draws hundreds of entries. The abstract submission process for the 2021 Research Symposium will begin in June.