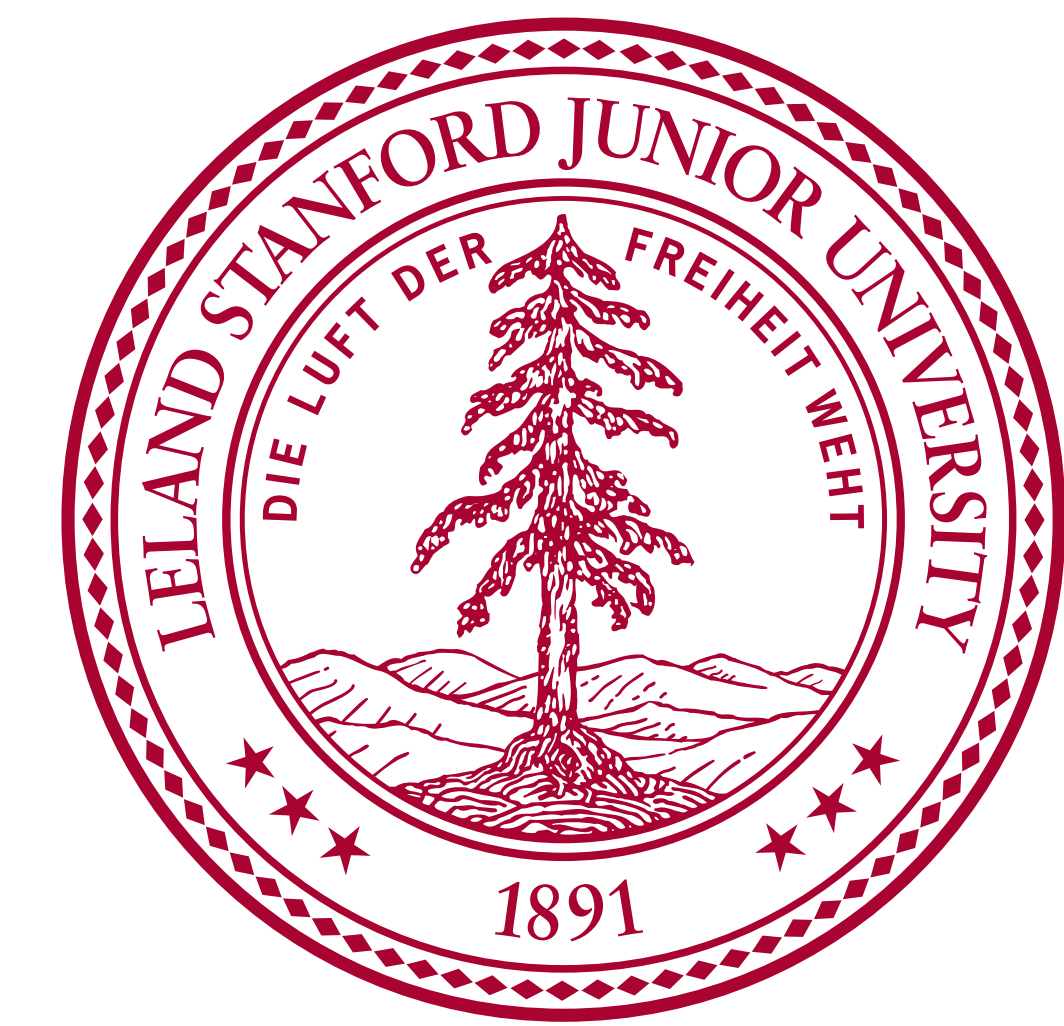




Community Outreach:

Helping to Build Our Future Healthcare Workforce



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Background

- The AAMC estimates a shortage of up to 139,000 physicians by 2033¹.
- Part of the solution includes early community outreach with a healthcare pipeline targeting grades K-12 through STEM curriculum.
- Anesthesiologists use science, technology, engineering, and math in their daily work and are perfectly suited to lead these efforts
- In partnership with a national nonprofit organization, Project Lead The Way (PLTW), we integrate our medical expertise to the STEM curriculum through interactive and engaging learning experiences.
- PLTW high school graduates are nearly 3x as likely to major in STEM versus non-PLTW graduates².

Project Description

- Due to the COVID-19 pandemic, educational activities were adapted to an online curriculum using video conferencing platforms.
- PLTW teachers from 3 local high schools host online classrooms. We lead a total of 8 sessions held over 2 days.
- In each hour-long session, anesthesiologists teach lessons on airway anatomy, cardiac and respiratory monitoring, and crisis resource management in the OR while encouraging student engagement and participation.
- Sessions end with a Q&A connecting students, teachers, and physicians to promote interest into healthcare fields

Outreach in 2019



Virtual Outreach in 2021



Lessons Learned and Discussion

- We learned ways to adapt to virtual teaching sessions to continue community outreach events in the time of the COVID-19 pandemic.
- We asked students what they would like to learn more about next time so we could incorporate their feedback into future sessions. Some of their responses included:

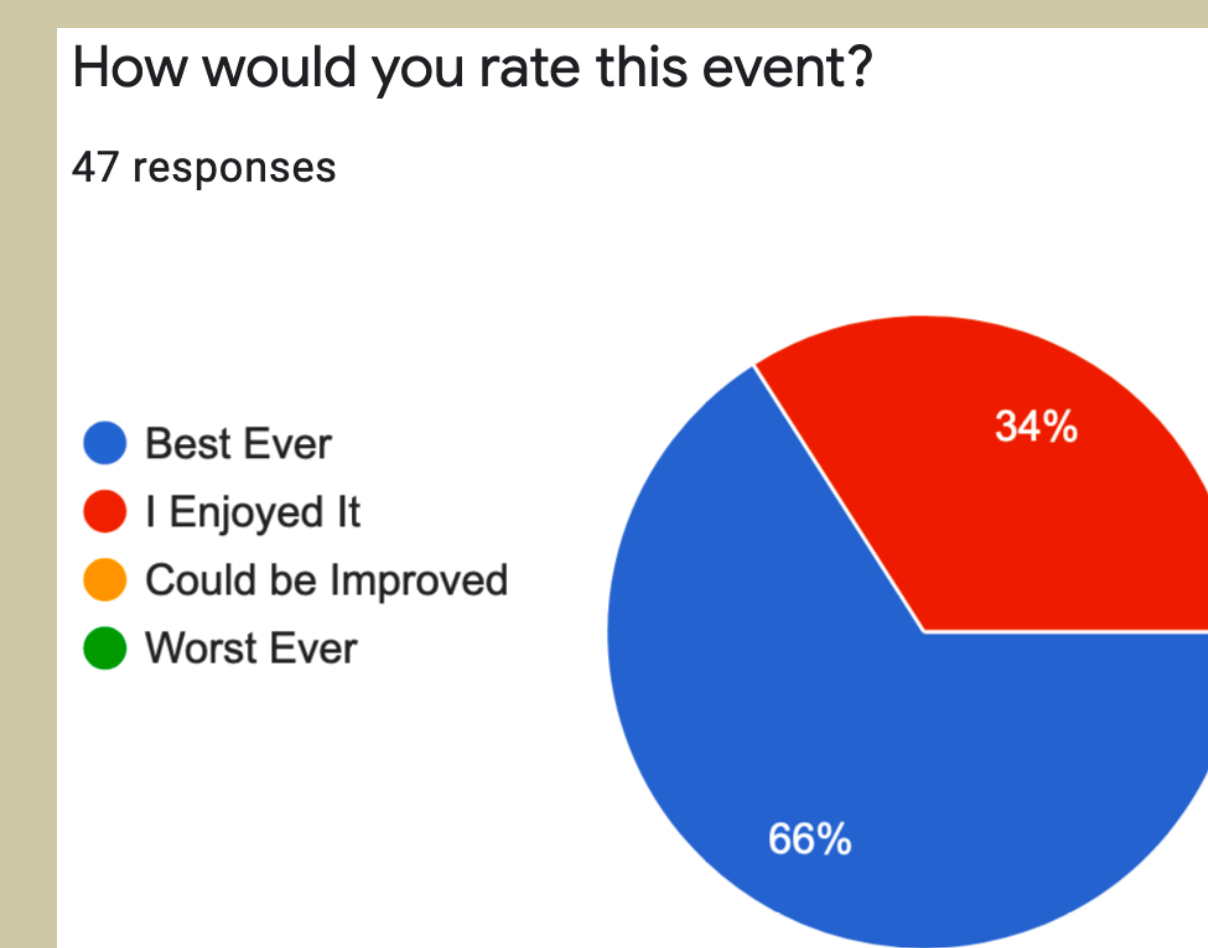
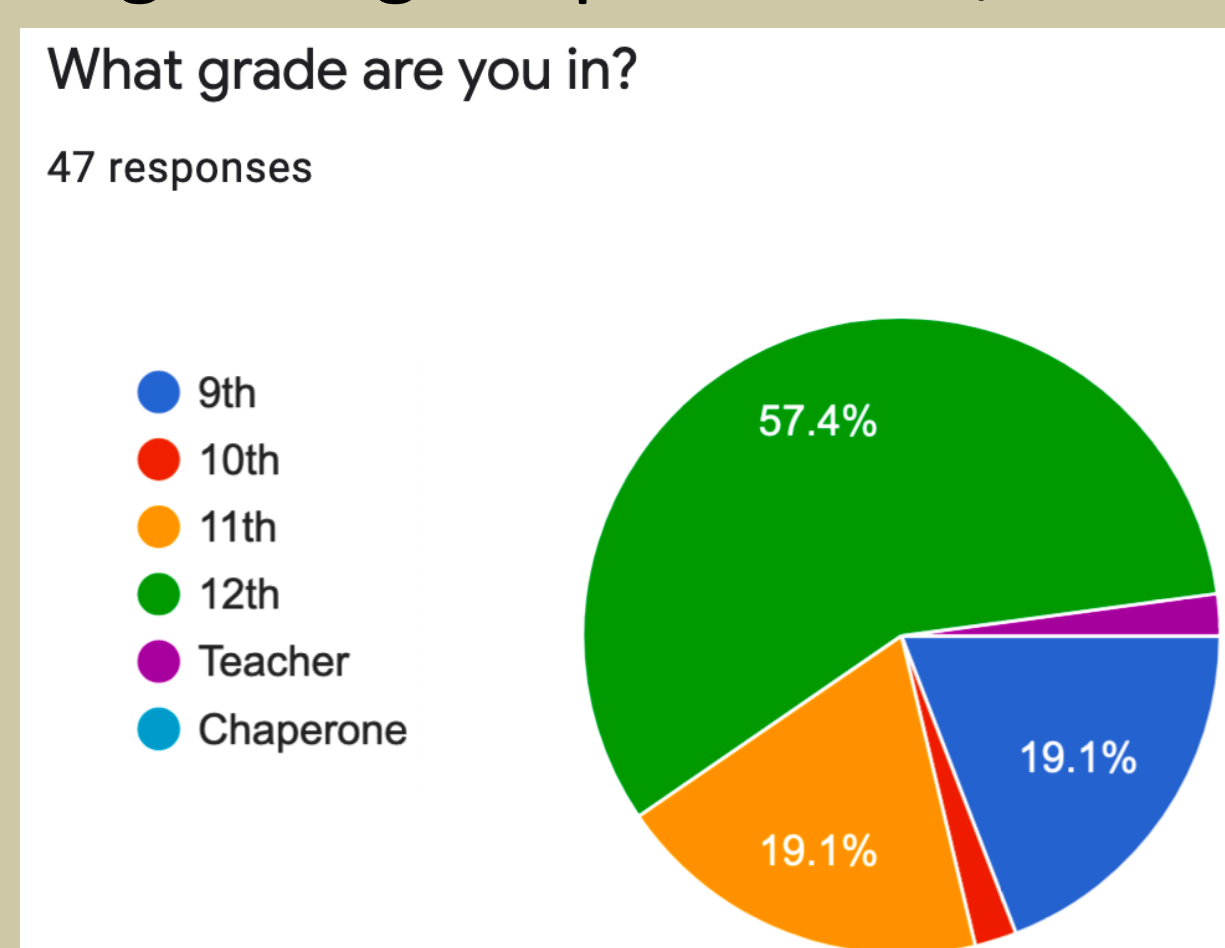
"I would like to learn more about the tasks and responsibilities an anesthesiologist has outside of surgery, and also what they do during an operation when they have already intubated a patient."

"How anesthesiologists take on action during a bad outcome in an operating room."

"Anesthetics and how they affect the body/how they work"

Outcomes: Post-Simulation Survey

- Stanford Anesthesiology Department and the CSA in collaboration with state legislators have reached hundreds of high school students over the past 3 years through PLTW.
- 47 survey responses were obtained with 74% from Willow Glen high school and 25% from Palo Alto high school.
- 100% of participating high school students would recommend this workshop to a friend. 66% rated the event as the "best ever" with the remaining indicating that they "enjoyed it."
- Students broadened their knowledge on basics of a mechanical ventilator, cardiac and respiratory monitors during a surgical procedure, intubation techniques, and potential pathways to medicine and anesthesiology.



What was your favorite part of the day and why?

"Seeing an actual operating room, and a demo of how someone undergoes anesthesia. I learned so much throughout the process. As well [as] information on the personal backgrounds because I get inspired."

What are three things that you learned that you are going to share with others?

"[I learned] how ventilators work, the amount of masks you wear does not affect your breathing, how you get breathing tubes down w/ a camera"

"I learned about what is monitored during surgery, how people become doctors, and what an operating room actually looks like."

Community Partnership and Acknowledgements



We would like to acknowledge all of our community partners including PLTW, state legislators, and our local high schools but a special thank you to CSA for helping to fund annual specialty training for teachers.

Recommendations

- Anesthesiology is one of many fantastic medical specialties to engage STEM students. Each specialty can offer a unique perspective on healthcare, thus engaging a wider audience of students in medicine.
- All residency programs should consider engaging their community and state legislators by leading community outreach efforts to increase the healthcare pipeline with the support of their department and institution.

References

1. The Complexities of Physician Supply and Demand: Projections From 2018 to 2033. AAMC. June 2020. <https://bit.ly/3vmpXh7>
2. Pike, Gary and Kirsten Robbins (2014). Using Propensity Scores to Evaluate Education Programs. Indiana University-Purdue University-Indianapolis.