OUR JOURNEY TO A "GO CLEAR" AWARD: PROMOTING A SMOKE-FREE ENVIRONMENT

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Background

Research has proven that surgical smoke contains viral, bacterial, and carcinogenic material that exposes the patient and perioperative personnel to adverse health risks (AORN, 2021). Based on awareness of the hazards of surgical smoke, the Surgery Department decided to implement changes in practice to reduce risk of exposure to surgical smoke.

Department Significance

- Pre-project implementation baseline data showed a 20% compliance with evacuating surgical smoke

- Surgery Department staff survey comprised of RNs and Surgical Technicians (STs) revealed that 100% of staff felt their health was being affected by inhaling surgical smoke

- Surgeon survey revealed that many of the surgeons did not agree that exposure to surgical smoke posed health risks to the patient and or perioperative team

- 80% of the surgeons surveyed stated that the smoke evacuation pencils were too bulky, and the machines were too noisy; resulting in a barrier to using smoke evacuation devices
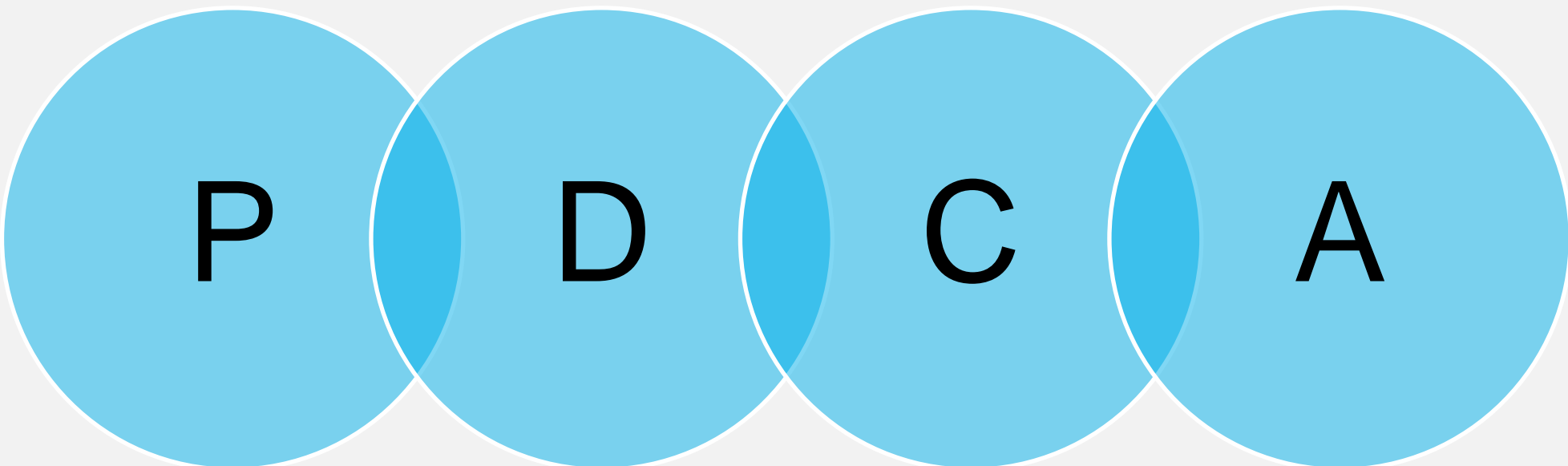
Objective

The objective of this project is to achieve 80% compliance with evacuating surgical smoke on all procedures that generate surgical smoke, within one year of implementation. Secondary goal is to apply for an AORN GO Clear Award. To mitigate the risks of exposure to surgical smoke, a team of key stakeholders came together to effectively implement surgical smoke safety best practices.

Gap Analysis

The gap analysis showed multiple areas of opportunities in current practice:

- Staff and physicians had limited knowledge on the hazards of surgical smoke

- No policies and procedures were in place

- No formal education curriculum and competency verification

- Lack of education and training on available smoke evacuation devices, equipment and supplies

- Lack of standardization of smoke evacuation devices and supplies

- Lack of physician buy-in

Method

The Plan-Do-Check-Act method was used throughout each quarter to implement change and achieve the objective of this project.

P D C A

Implementation

1st Quarter
- Engaged surgeons, anesthesiologists and staff via education, meetings and shared governance committee
- Completed daily surgical smoke audits
- Created an education board in the OR Lounge
- Collaborated with materials management to identify supplies for standardization

2nd Quarter
- Continued education to staff, surgeons, and anesthesiologists on compliance progress
- Trialed various smoke evacuation supplies/devices
- Advised STs to pull and open smoke evacuation devices on all appropriate procedures
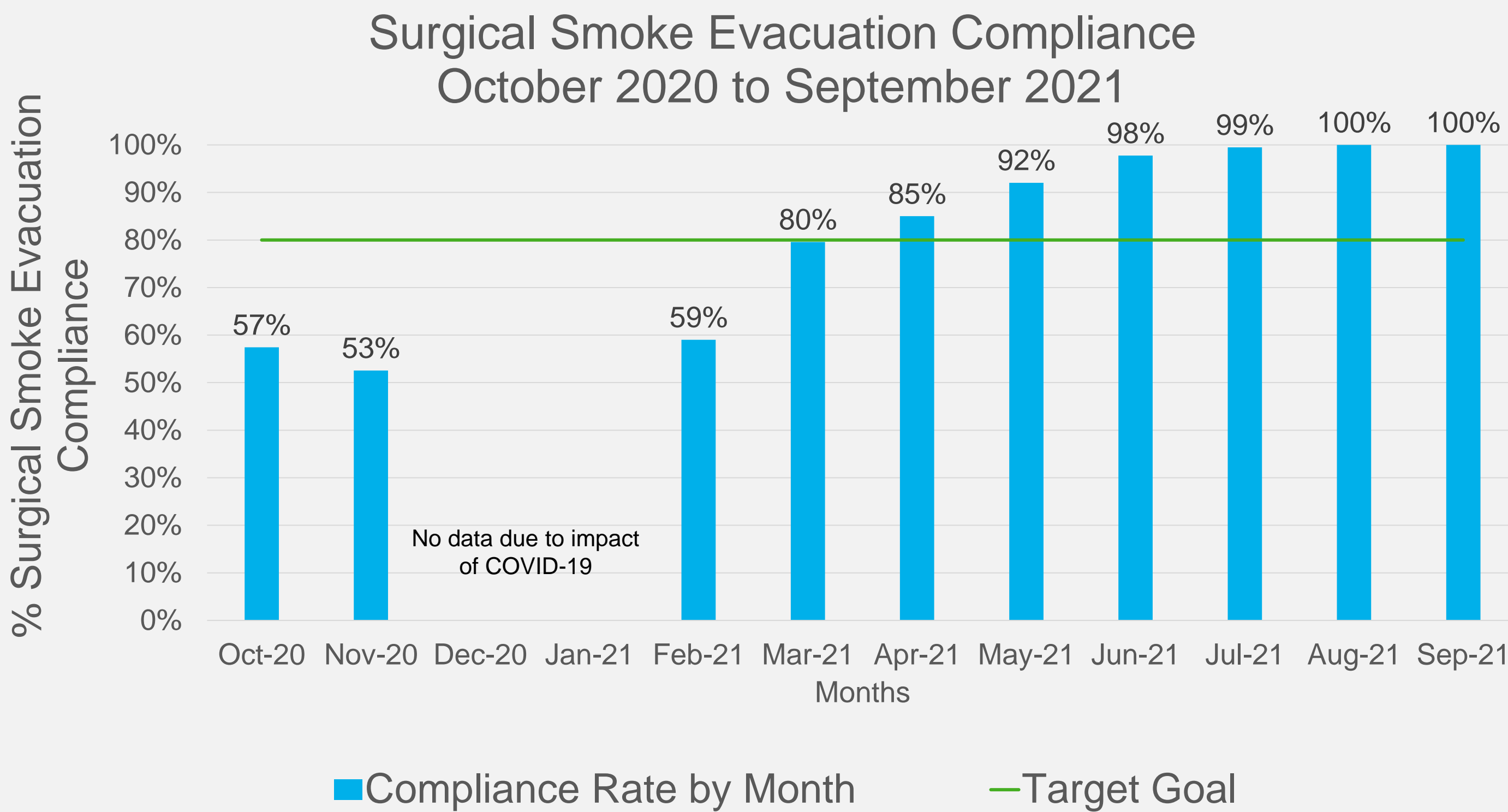- Developed policy and procedures for minimizing surgical smoke in the operating room

3rd Quarter
- Displayed compliance rate by surgical specialty
- Reviewed requirements to apply for the AORN Go Clear award
- Staff completed AORN online education and post-test
- Ordered in-line filters for minor procedures

4th Quarter
- Standardized smoke evacuation bovie pencils (2 options) and laparoscopic devices
- Staff completed AORN education modules and post-test with passing scores
- All surgeons signed an agreement to use smoke evacuation devices
- Applied for and received the AORN GO Clear Award with a Gold Distinction

Results

Surgical Smoke Evacuation Compliance October 2020 to September 2021

Month	Compliance
Oct-20	57%
Nov-20	53%
Dec-20	No data due to impact of COVID-19
Jan-21	No data due to impact of COVID-19
Feb-21	59%
Mar-21	80%
Apr-21	85%
May-21	92%
Jun-21	98%
Jul-21	99%
Aug-21	100%
Sep-21	100%

■ Compliance Rate by Month — Target Goal

Key Takeaways

- Enlist leadership support and a physician champion

- Create a team of key stakeholders

- Survey staff and physicians on challenges and barriers to smoke evacuation compliance

- Developed a policy and education curriculum to drive practice, compliance & empower staff

- Utilize the anesthesiologists to support the initiative

- Trial products and standardize devices, equipment and supplies based on surgeon & staff feedback

- Include other departments (IR, Cath Lab, L&D) that perform procedures that generate surgical smoke, as this is a requirement for the AORN GO Clear Award

REFERENCES

- AORN. (2021). Guideline Essentials: Surgical Smoke. Retrieved from https://aorn.org/essentials/surgical-smoke