

Immediate-Use Steam Sterilization: Reducing utilization

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INTRODUCTION

Background:

- Immediate-Use Steam Sterilization (IUSS), formerly known as “flashing”, is a method to process instruments utilizing the shortest time possible.
- Intended for immediate use only and cannot be stored for future use
- Staff must adhere to each instrument’s instructions for use (IFU) to determine proper cycle (temperature, exposure, and dry times)

Assessment:

- A survey of the department in 2021 identified opportunity for improvement, regarding infection prevention, by reducing IUSS utilization.
- IUSS rate was as high as 4% in previous years
- IUSS leaves instruments vulnerable to possible contamination leading to an increased risk a surgical site infection (SSI)

PREPARATION & PLANNING

Team:

- Surgical Services Leadership
- Infection Prevention
- Operating Room Staff
- Central Sterile Supply

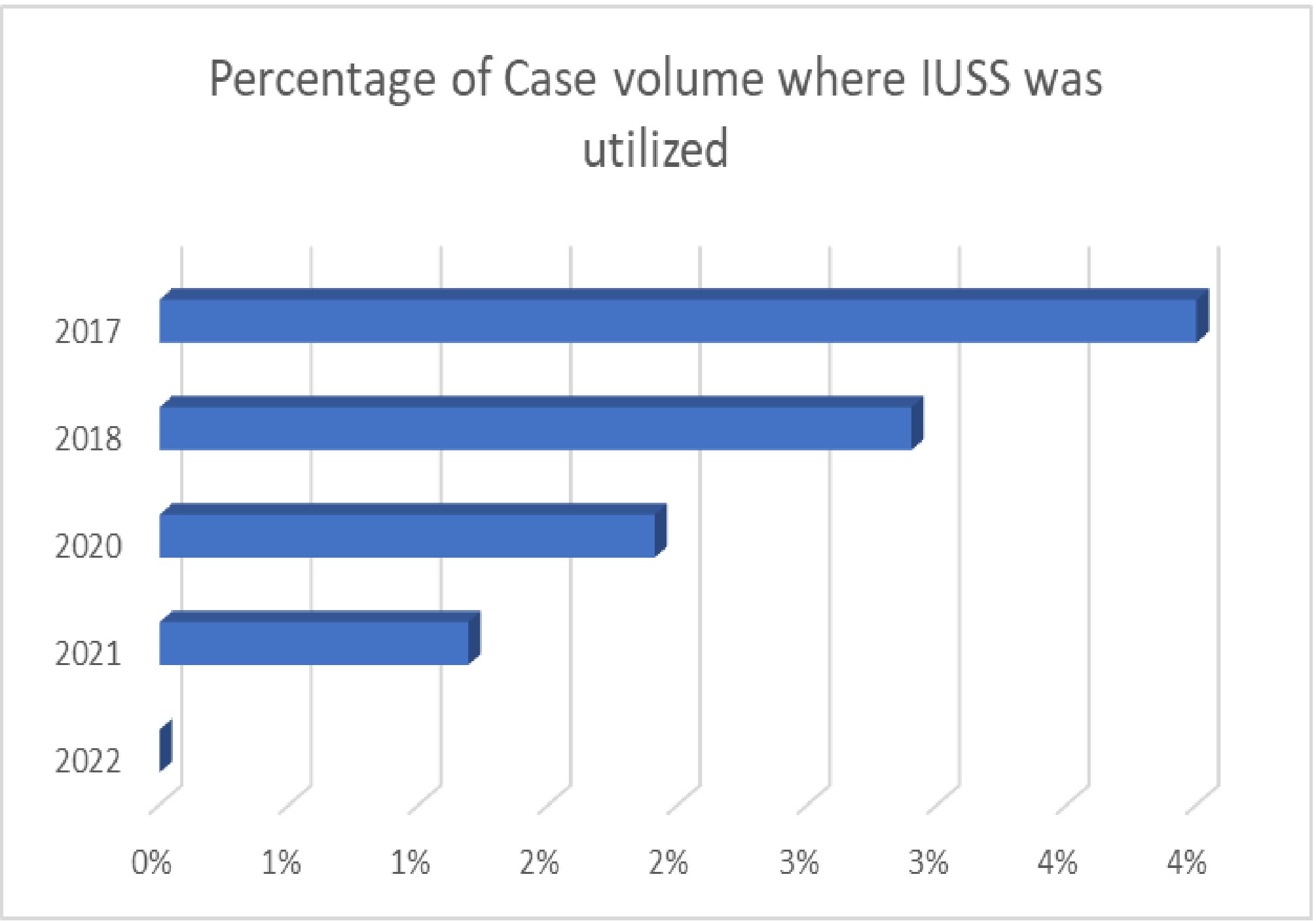
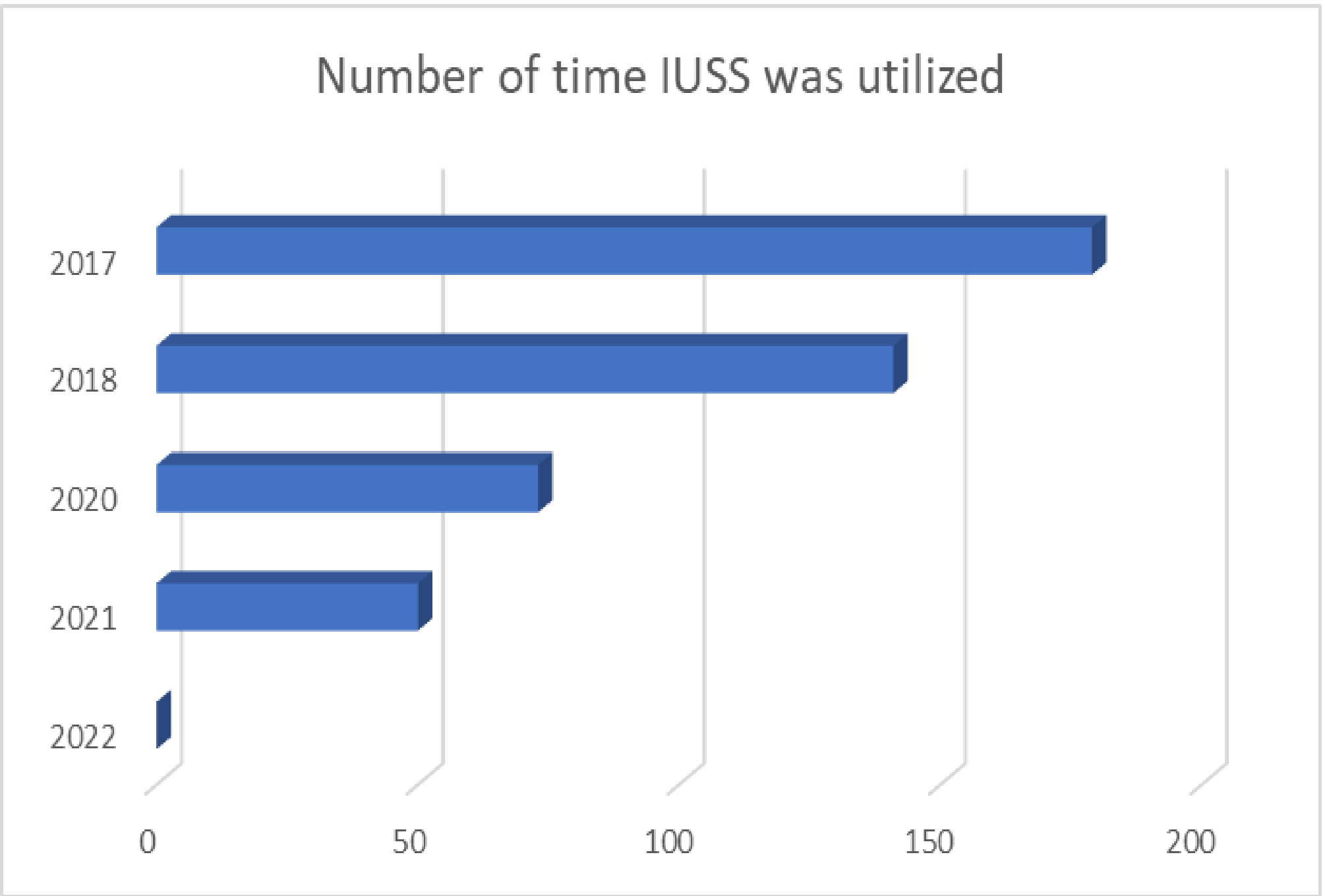
Strategy:

- Hold meetings to educate about IUSS, including staff and surgeons
- Identify conditions when IUSS would be and would not be appropriate to use
- Update IUSS hospital policy
- Update IUSS log sheet
- Track IUSS monthly usage

IMPLEMENTATION

- Dedicated surgical services team members assembled, reviewed the IUSS policy, and identified three instances when IUSS may be utilized. It was noted in the policy that IUSS should only be used in an emergent/urgent situation. The following are situations when staff may consider using IUSS:
 - The procedure has begun, and the patient is under anesthesia
 - All other options to secure sterile replacement of the instrument have been exhausted
 - A delay in procedure, that has not started, could cause serious harm to the patient
- IUSS cannot be performed without the approval of either the OR Manager or Director. Signs were posted around the unit as well as next to the IUSS sterilizer.
- A checkbox for “surgeon approval” was added to the IUSS log sheet
- OR staff were provided with education about increased risks of using IUSS and the situations (mentioned above) where they are allowed to consider using it.
- Vendors and surgeons were notified of change in policy to implement new initiative for patient safety
- OR and CSS management identified areas for inventory improvement of surgical instrumentation.
 - Asked vendors to bring in back-up trays in case of contamination
 - Utilized metal trays instead of cloth wraps to prevent holes/tears
 - Identified hospital owned trays that had a quantity of one and created a second one.
 - Ordered more peel-packed instruments that are highly used and have limited quantity.
- Daily huddles with OR, CSS, Scheduling, Inventory, and Anesthesia help to identify procedures where turnover of trays is expected. Cases are scheduled accordingly so that tray turnover does not cause delay.

DATA



| FY | 2017 | 2018 | 2020 | 2021 | 2022 |
|------------------|------|-------|-------|-------|------|
| IUSS uses | 179 | 141 | 73 | 50 | 0 |
| Percent of Cases | 4% | 2.90% | 1.91% | 1.19% | 0% |

*2019 data omitted due to inaccurate information

OUTCOMES

- Change to IUSS was initiated in early 2021
- The number of times IUSS was utilized has been decreasing over the years, now down to zero.
- The percentage of case volume where IUSS was utilized also decreased over the years, now down to zero percent.
- IUSS was last used in May 2021 (as of Feb 2023)***

Team Effort:

- Surgical team works together to identify similar instruments that can be used instead of using IUSS for contaminated instruments
- Surgeons have been very receptive to the change and willing to utilize alternative instrumentation in the event of contamination
- CSS increased inventory of highly used instruments and/or trays
- No increase in SSI. Decrease of IUSS aides in preventing an increase in SSI.

RESOURCES

- CDC Guidelines for Disinfection and Sterilization in Healthcare Facilities (2008)
- National Integrated Accreditation for Healthcare Organizations (NIAHO) – Accreditation Requirements, Interpretive Guidelines, and Surveyor Guidance for Hospitals (2020)
- The Association of periOperative Registered Nurses (AORN) – Guidelines for Perioperative Practice (2021)
- The Joint Commission. Instrument Reprocessing – Immediate Use Steam Sterilization (2021)