

Reduce Sharps Injury in Dental Clinic

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Aim

1. To reduce or eliminate incidents of sharps injury caused by dental burs at Dental Clinic by the end of December 2023
2. To redesign and develop a new system or processes to reduce and prevent the risk of recurrence of sharps injury

Background

Due to repeated incidents of sharps injury in Dental Clinic, the Department of Infection Control and Risk Management was



alarmed!
A total of 6 incidents of sharps injury caused by dental burs occurred from April to September 2023.

The injuries were caused by contact with burs when the doctor or nurse reached over the handpieces panel to get the instrument. Doctors were injured during treatment, while nurses were injured after treatment when clearing the instruments.

Interventions



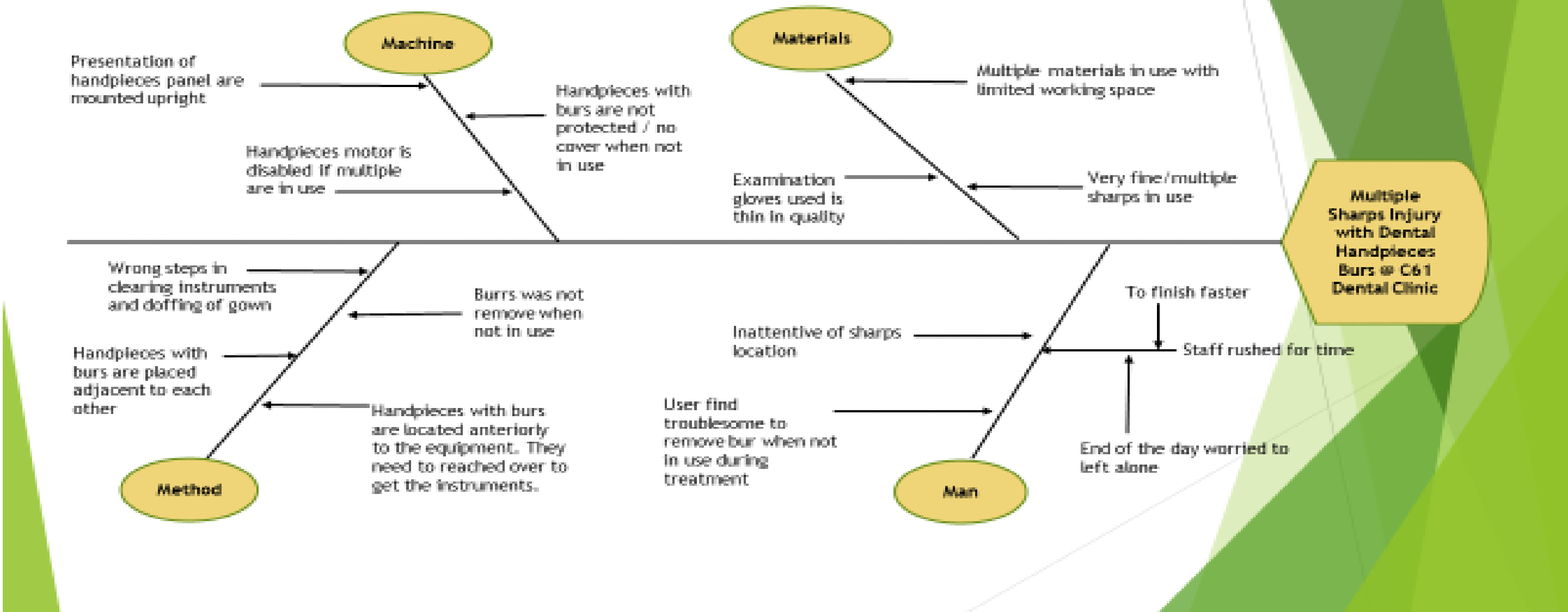
Previous: Layout of handpieces and instruments with burs exposed



Current: No instrument on the handpiece panel and tip is covered when not in use

ROOT CAUSE ANALYSIS

Fish Bone Diagram



1. Root cause analysis was conducted, and each domain was analysed
2. Department sharing was done on the analysis and implemented the proposed plan

MAN:

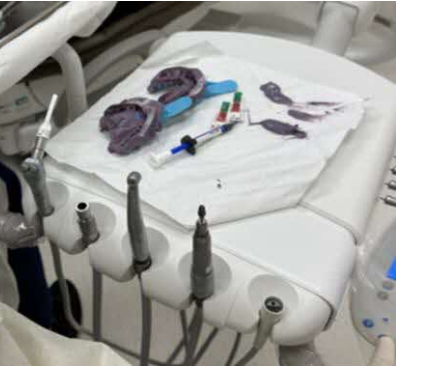
- Reinforce to dentist to remove the burs after used
- Educate staff to maintain visual contact with sharps during use
- To create awareness of sharps safety through sharps safety tips for dental clinic setting

METHOD:

- Advise the users not to put sharps adjacent to each other
- Advise the dentist, dental assistant to avoid placing instruments/equipment behind the handpieces Panel
- Re-educate staff to do doffing of PPE after clearing instruments & before leaving the room

MACHINE:

- Place handpiece motor on tray when in use. Will provide handpieces dummy to enable to use multiple handpieces motor
- To swivel the handpieces panel in 45 deg. angle
- To provide covers to handpieces to cover the bur, if possible



MATERIALS:

- Suggest to use thicker quality of gloves, if possible. However, it was not implemented after evaluation, as it is too thick for the doctor to perform procedures

Implementation

1. Department sharing with doctors, and revise workflow
2. Design new sharp injury awareness poster detailing revised workflow and important sharps prevention tips for dental clinic
3. Doctors & nurses were re-educated on the new workflow & compliance was monitored. Immediate feedback was given if there was non-compliance



Onward 2026

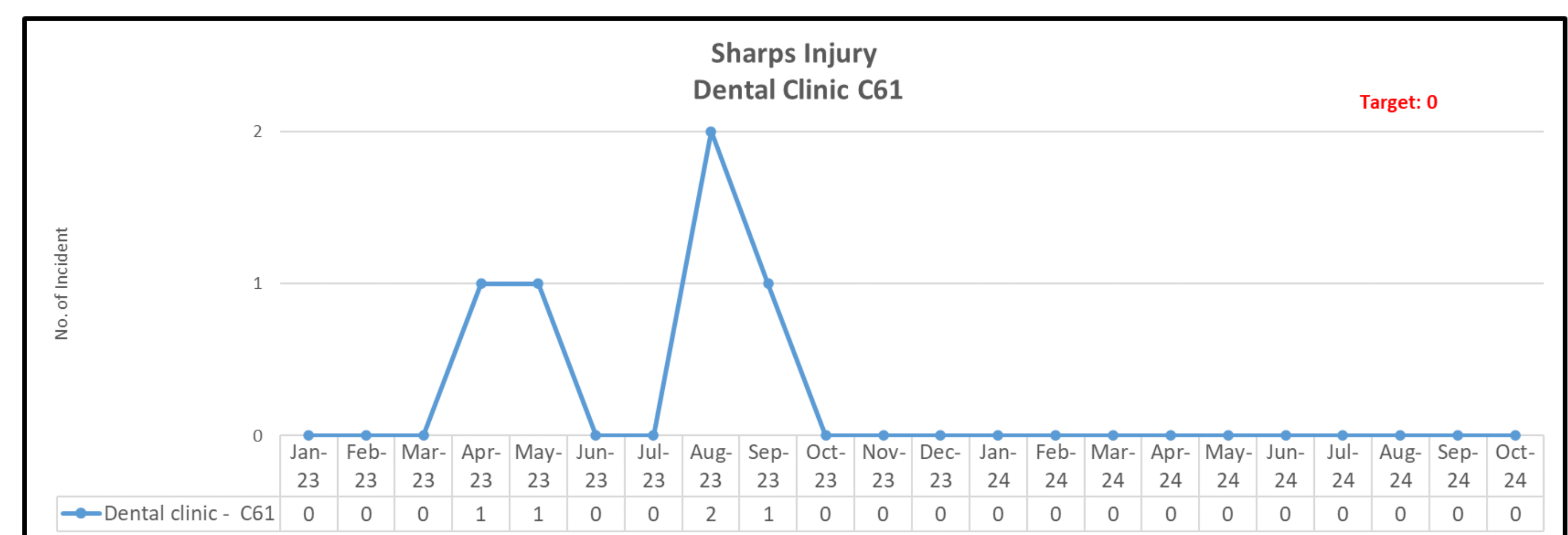
There was effective reinforcement during the follow-up period after the implementation. The great effort for raising awareness through re-education & re-design the workspace and workflow have positive effect in reinforcing sharps safety culture among dentist, dental assistants & nurses.

Foundation: Staff Well-Being, Quality & Patient Safety

Improve staff safety through reducing occurrence of sharps injury and reducing mental stress arising from a sharps injury

Results & Outcomes

1. Sharps injury incidents related to burrs reduced to zero from October 2023 till now for one year follow-up period
2. Staff are more aware of the risk involve in day-to-day work that deal with sharps and more aware of reporting such incidences
3. Cost saving of staff & patient consultation time required for sharps injury
4. Cost avoidance for the department was **\$1,365** for post-injury laboratory investigations & time avoidance in total was **7.5 hours** for reporting and following up the incident for each sharps injury



Conclusion

In the 12 months post-implementation period with the revised workflow and raised awareness, number of sharps injury has dropped tremendously.