

# Improving the Culture of Safety within the Operating Room – Safety Boards

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## 1 Background

In September 2015 SAQ survey results identified several Operating units that were classified as high-risk. In order to address the concerns of the units, informational boards were created to improve the culture of safety and correct the situations that led to the high-risk classification.

The high-risk designation was given to units that had negative scores in Safety Climate, Teamwork, Perceptions of Management, and Handoff categories.

The information boards were installed in order to reduce operating room risk. Simultaneously, management began holding discussions to identify staff concerns that affect the operating room environment and create a plan of action to rectify the situation.

## 2 Methods

In order to assess the safety culture in the Operating Rooms, we analyzed the Hopkins Event Reporting Online (HERO) results reported monthly to determine the baseline error reporting. 6 OR units, 2 intervention units and 4 control units, were evaluated for 7 months, 3 months prior to the installation of the boards, during installation, and 4 months after.

SPSS was used to compare mean harm score per month in each of the units using ANOVA testing, and to compare the intervention units to themselves using Paired T-Tests, to determine if our high risk units reported greater harm scores and if the intervention resulted in a reduction of mean harm score.

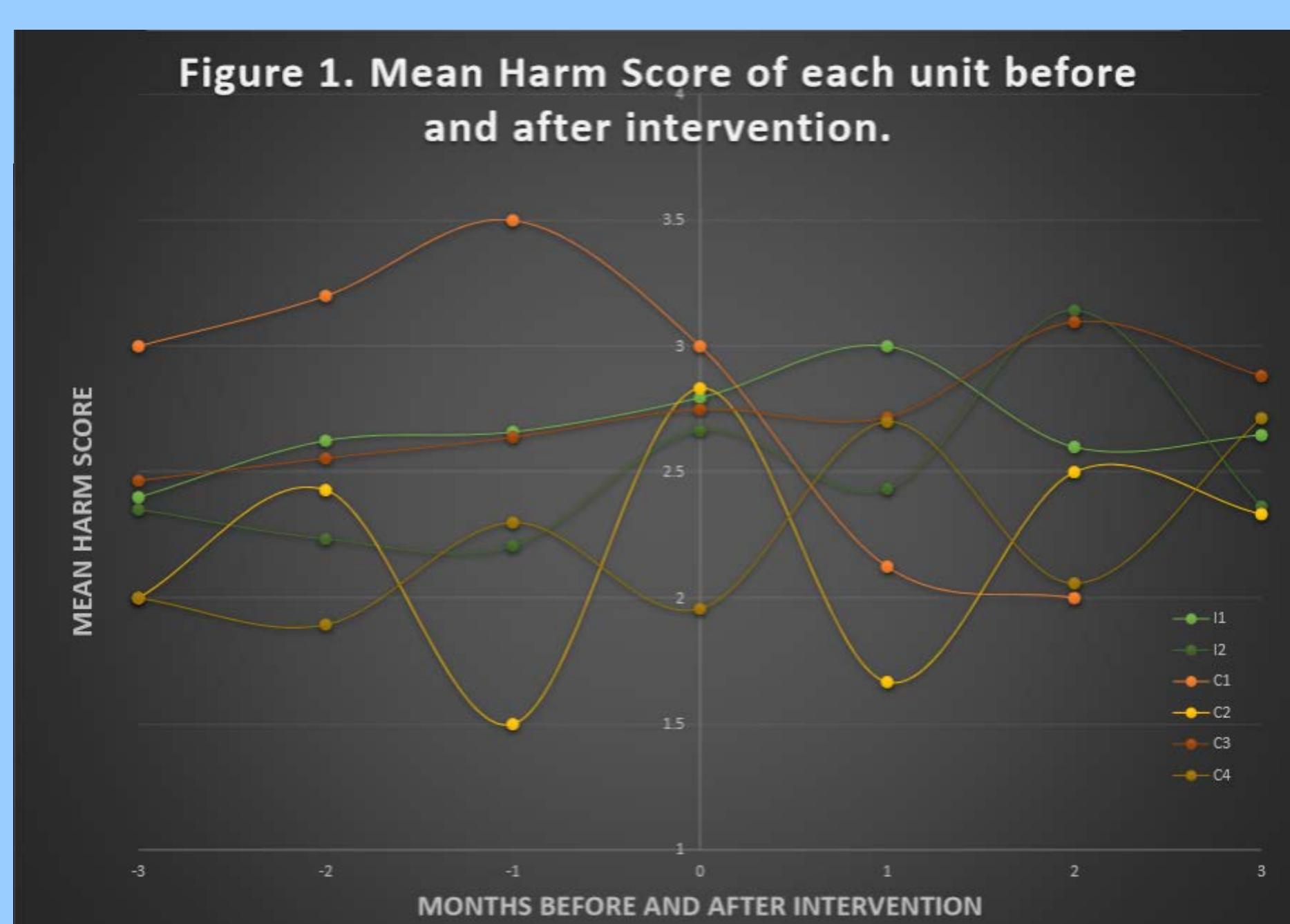


Figure 1 shows the mean harm scores reported in the units pre and post intervention. The Y-intercepts show the mean harm score at the point of intervention. 3 months after intervention, both Intervention groups (I1 and I2) had reduction in mean harm, whereas half of the Control groups had increased mean harm.

## 3 Results

In order to study the effect of Safety Boards on the Culture of Safety in Operating rooms the class of error reported was given a quantifiable score between 1 and 6. 1 was associated with no harm and 6 was very severe harm.

The mean score each month was calculated and compared to the other units. Prior to intervention the mean harm scores on the units were not statistically significant from one another.

After intervention began it was determined that there was not a statistically significant change in reported harm scores on the intervention units compared to the control units. Nor was there a statistically significant change when comparing the units to themselves.

However, after 3 months of intervention there was a reduction of average harm of 0.15 in intervention group I1 and a reduction of 0.30 in intervention group I2. Furthermore, there was a reduction in total 4 (Harm) scores and there were no 5 or 6 (Serious harm or Death) harm scores reported in the intervention groups which is clinically significant if not statistically significant.

There was also a reduction in total number of HERO reports in the two intervention groups where each intervention unit reported 10 fewer incidents after 3 months than at the time of intervention.

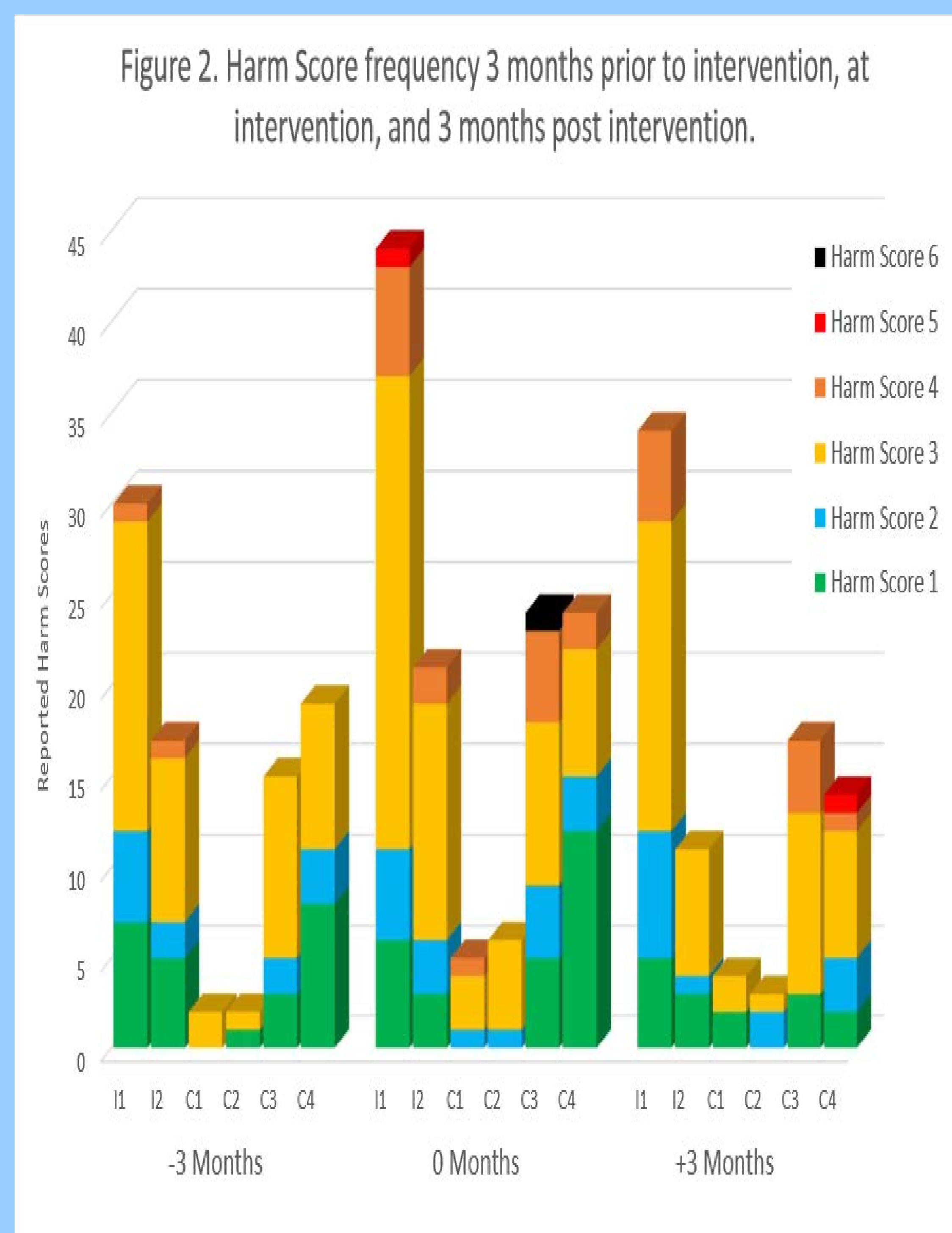


Figure 2. Harm Score frequency 3 months prior to intervention, at intervention, and 3 months post intervention.

## 4 Conclusions

We can conclude:

- Safety boards have not been shown to cause a statistically significant reduction in harm scores
- Safety boards may have had a clinically significant effect on increased error reporting and reduction in harm

At this time we have not seen a statistical change in harm score, but more information is needed to determine if there has been a clinical significance in reduced Serious Harm and Death.

We are unable to assess at this time if the Information section of the safety boards has had an effect on SAQ results and if the units would still be classified as high-risk.

## 5 Future Directions

Going forward, more work is needed in continuing to study the long term effects of this safety intervention. In addition, to further evaluate the buy in of staff, surveys on the use and effect of the boards should be implemented on the intervention units. Analysis into unit compliance completing event reports is necessary to determine units that are underreporting errors. Lastly, a new SAQ report is needed to determine if units are still considered “risky” after the intervention.

## 6 References

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