

The Impact of DOSH Enforcement and Consultation Visits on Workers' Compensation Claims Rates and Costs, 1999-2008

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Introduction

Since 2002 the Safety & Health Assessment & Research for Prevention (SHARP) program of the Washington State Department of Labor and Industries (L&I) has conducted annual analyses of the association between enforcement and consultation activities of the Washington State Division of Occupational Safety & Health (DOSH) and compensable claims rates. These reports showed that DOSH enforcement inspections at 'fixed-site' industry workplaces were associated with a decline in claims rates relative to those businesses that had no DOSH visits. But due to the greater volatility of claims rates at non-fixed-site businesses we had been unable to find statistically significant changes amongst businesses in this sector. The small numbers of consultation visits satisfying our selection criteria also made it difficult to see a consistent impact for these activities across annual study years.

In this analysis we pooled all ten previous annual studies together in order to gain greater statistical precision in our estimate of the effect of DOSH activity. All ten calendar annual studies were converted into one large study in which calendar years are converted into "DOSH activity year" followed by the "measurement year". The impact of DOSH activities on the change in compensable claims rates from the activity year to the measurement year was analyzed for all accounts and results were reported separately for fixed and the non-fixed-site industries. Since the focus of DOSH activity during a visit is likely to be on those hazards subject to specific regulation, we also performed separate analyses for non-musculoskeletal and musculoskeletal (MSD) claims rates. Additional analyses estimate the separate impact of DOSH enforcement activities with citation or without citation, and estimate the impact of DOSH activities on claim costs.

The following inclusion criteria were used to select the group of accounts for this study:

1. Only companies reporting hours each quarter during four consecutive years; two years before the DOSH activity year, as well as the two years including the activity year and the measurement year.
2. Only State Fund companies.
3. Only companies with a single business location.
4. Only companies with at least 10 FTEs per year.
5. Only companies with no DOSH activity during the two years prior to the year of the DOSH activity.

These restrictions allow for a rigorous, controlled evaluation of the effect of about 15% of all DOSH visits. Because average company size and the company's prior history of compensable claims rates can have an influence on claims rates, the changes in compensable claims rates and costs were examined in multivariate analyses controlling for these factors.

Main results: Pooled Analysis, 1999-2008

Impact of DOSH activities on overall compensable claims rates:

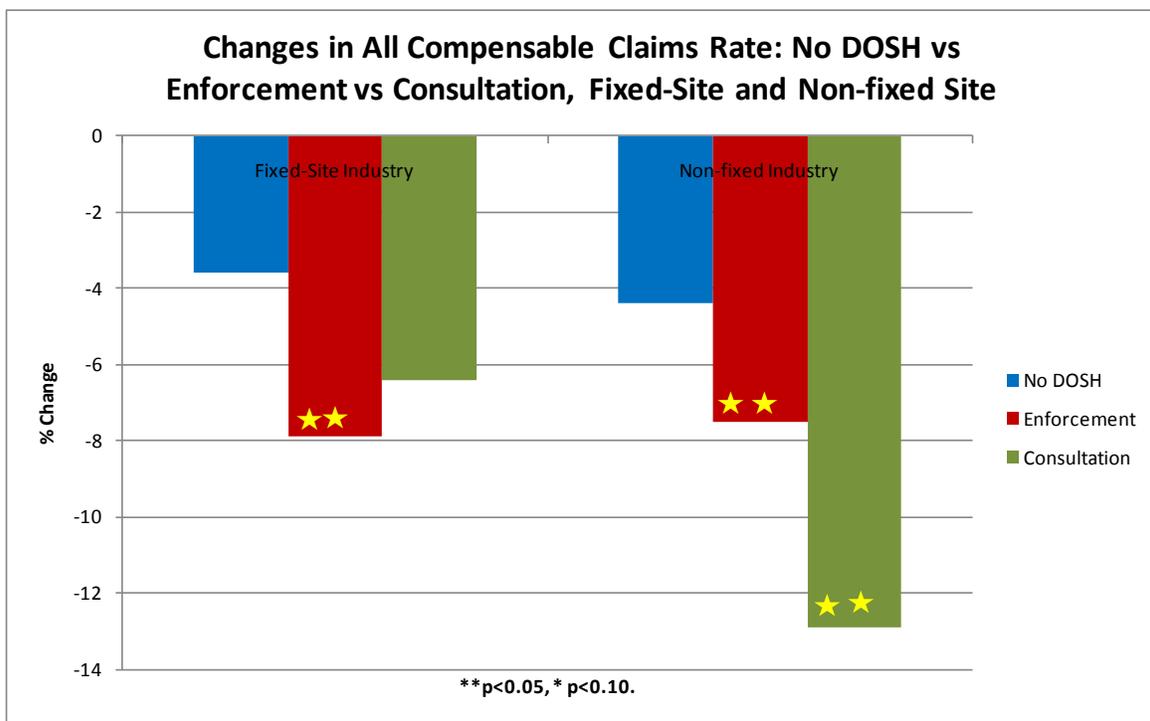
- **Fixed-site industries:**

DOSH **enforcement** inspections were associated with a **4.3% larger decrease** in compensable claims rates relative to employers with no DOSH activity. DOSH **consultation** visits were not associated with a

statistically significant decrease in compensable claims rates relative to employers with no DOSH activity.

- **Non-fixed-site industries:**

DOSH **enforcement** inspections were associated with a **3.1% larger decrease** in compensable claims rates relative to employers with no DOSH activity. DOSH **consultation** visits were associated with an **8.5% larger decrease** in compensable claims rates relative to employers with no DOSH activity.



These results suggest that while enforcement activity has significant impact in all industries, it is slightly greater in fixed-site workplaces. The impact of consultation is greater in non-fixed site workplaces such as in the construction industry.

Impact of DOSH activities on Non-MSD compensable claims rates:

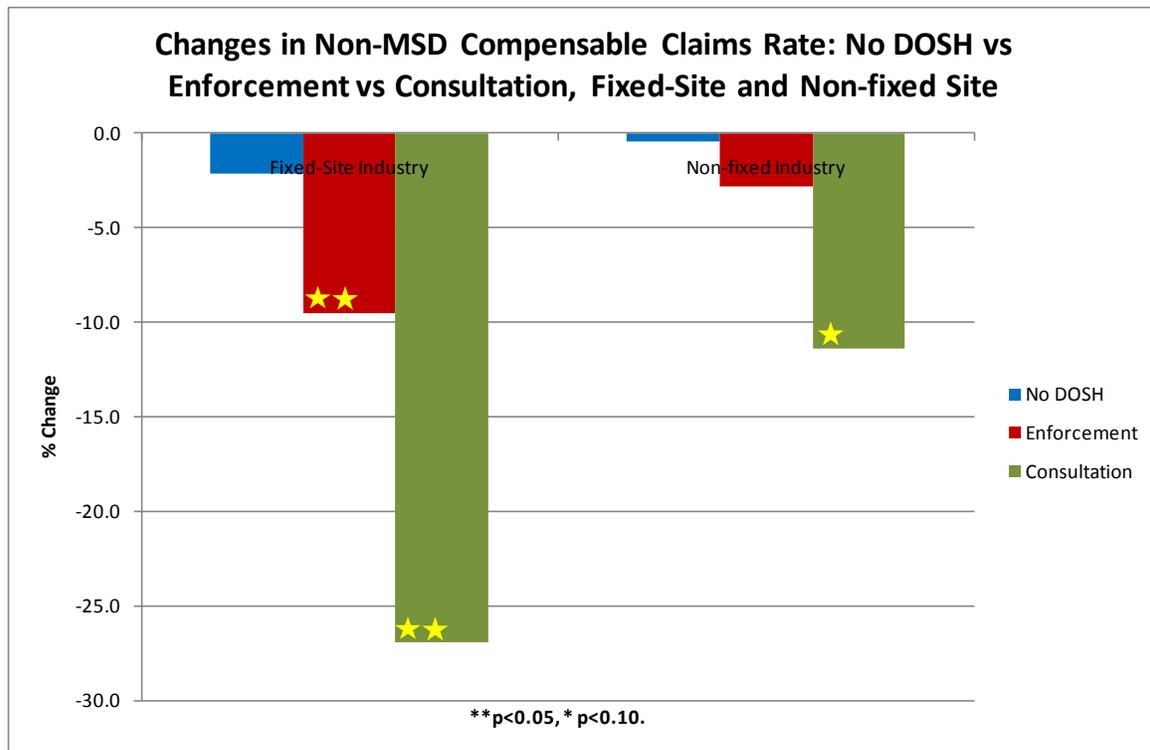
The outcome measure used to track the impact of DOSH activity is compensable claims rates. But a large proportion of these injuries are non-traumatic musculoskeletal (MSD) disorders. Since these arise from hazards for which there is no specific DOSH regulation, the focus of DOSH inspections is on hazards related to non-MSD injuries such as unguarded machinery, lockout/tagout practices and fall hazards. If we restrict the outcome measure just to non-MSD claims rate changes we find the following:

- **Fixed-site industries:**

DOSH **enforcement** inspections were associated with a **7.4% larger decrease** in non-MSD compensable claims rates relative to employers with no DOSH activity. DOSH **consultation** visits were associated with a **24.8% larger decrease** in non-MSD compensable claims rates relative to employers with no DOSH activity.

- **Non-fixed-site industries:**

DOSH **enforcement** inspections were not associated with a statistically significant decrease in non-MSD compensable claims rates relative to employers with no DOSH activity. DOSH **consultation** visits were associated with an **11% larger decrease** in non-MSD compensable claims rates relative to employers with no DOSH activity.



The impact of DOSH on non-MSD compensable claims is much greater than that for compensable claims overall, particularly in fixed-site industries. Consultation activities also show a greater impact on non-MSD compensable claims. In fact, when we look at the impact of DOSH activity on compensable MSD claims, we do not find any consistent pattern of association.

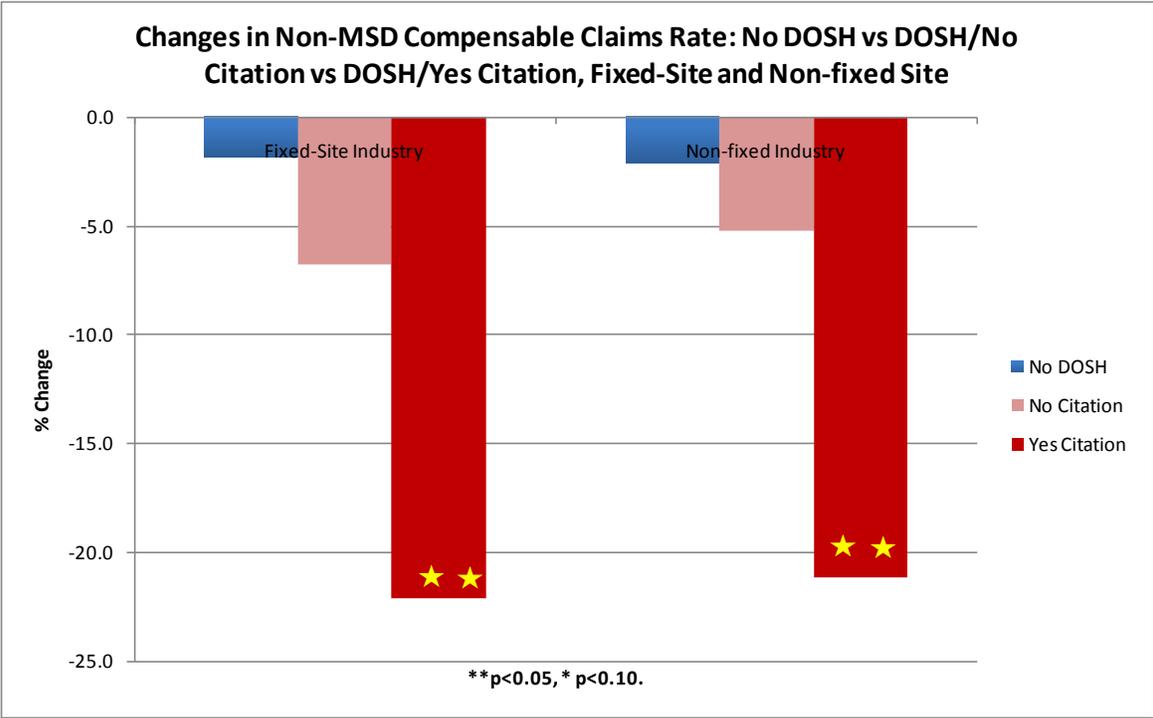
Impact of DOSH enforcement with and without citation on non-MSD compensable claims rates:

Inspections that result in citations for violations of safety rules would be expected to have greater impact due to the penalties which employers face. When we break out the impact of DOSH enforcement visits that result in citations from those that do not we find the following:

- o **Fixed-site industries:** DOSH enforcement inspections that had **no citation** had only a 5.0% greater decrease in non-MSD compensable claims rates

relative to employers with no DOSH activity. But DOSH enforcement inspections that had **one or more citations** had a **20.3% greater decrease** in non-MSD compensable claims rates relative to employers with no DOSH activity.

- o **Non-Fixed-site industries:** DOSH enforcement inspections without citation had a only a 3.1% greater decrease in non-MSD compensable claims rates relative to employers with no DOSH visits. But enforcement inspections **with one or more citations** had a **19.1% greater decrease** in compensable claims rate relative to employers with no DOSH activity.



The impact of DOSH on non-MSD compensable claims rates when inspections result in citations is greater still than that for non-MSD compensable claims. These results suggest that inspections that focus on violations of specific DOSH regulations, and which may

result in penalties, have the greatest impact on workplace hazards and have the greatest potential to achieve injury prevention.

Impact of DOSH enforcement and DOSH consultation on accepted claims costs:

○ **Fixed-site industries:**

DOSH **enforcement** inspections at the workplaces which met the selection criteria were associated with a **\$1.6 million savings per year** in accepted claims costs relative to employers with no DOSH activity. If this is extrapolated to **all** DOSH enforcement visits the total savings in claims costs is **\$19.8 million**. DOSH **consultation** visits were not associated with a statistically significant change in claims costs relative to employers with no DOSH activity.

○ **Non-fixed-site industries:**

DOSH **enforcement** inspections at the selected workplaces were associated with a \$1.1 million decrease in claims costs relative to employers with no DOSH activity. However this result fell short of being statistically significant ($p=.28$). If extrapolated to all DOSH enforcement visits the total savings in claims costs would be \$10.7 million per year. DOSH **consultation** visits were not associated with a statistically significant decrease in total claims costs relative to employers with no DOSH activity, though they were associated with a **\$0.3 million decline in medical costs** relative to no DOSH. If this is extrapolated to all DOSH consultation visits the total savings in medical costs is **\$2.9 million**.

Conclusion

The results of the pooled analysis show that DOSH enforcement and consultation activities make a significant contribution to reducing claims rates and costs in the period following the visit. They also suggest that while enforcement has a similar impact in both fixed and non-fixed-site industries, consultation has a particularly strong effect in the non-fixed establishments. When we exclude musculoskeletal injuries and focus on those arising from hazards for which there are specific regulations, we find that the DOSH effect strengthens substantially for fixed-site industries. Citations for non-compliance have a powerful impact on non-MSD claims rates in the following year: claims rates fall by more than triple the amount at businesses having a DOSH enforcement visit with no citation. Finally, DOSH enforcement and consultation activity is shown to result in substantial savings in total claims costs in the year following a visit.