

Medication Management Plans (MMP) and High-Risk Medicines: The Impact of a Pharmacy Intern

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Background

- Majority of the geriatric pharmacist's time is spent reviewing patients on discharge. There are many missed opportunities during admission for de-prescribing and medication optimisation.
- A Medication Management Plan (MMP) is created when a pharmacist takes a medication history, reconciles against the medication chart and performs a clinical review. Recommendations are then made to the treating team.
- High-risk medications are prescribed for geriatric patients and are defined as those that contribute to Drug Burden Index (DBI) score due to anticholinergic and/or sedative properties.
- A Medilist is a patient friendly printed medication list given on discharge.

The impact of a supervised full-time pharmacy intern working on the geriatric team on the proportion of patients with an MMP was investigated. For patients admitted on at least one high-risk medication (that is, medications that contribute DBI) the impact of having an MMP on change in DBI score and number of high-risk medications was investigated.

Methods

A retrospective analysis of discharges was undertaken over two twelve-day intervals - firstly with, then without, a pharmacy intern. MMPs completed and any issues identified were recorded. Change in DBI and change in number of high-risk medications was calculated for patients who were admitted on at least one high-risk medication. A chi-squared test was used to test the significance of an intern increasing the proportion of Medilists and MMPs. Paired t-tests were used to test significance of change in DBI and change in number of high risk medications.

Results

A total of 54 patients were seen by a pharmacist on discharge from the geriatric department in the two-week period when the intern was present (20/2 – 3/3/17). There were 55 patients in the two-week period when no intern was present (17/4 – 28/4/17).

- Mean age of the patients was 88.6 years in both groups.
- 50 patients received an MMP during their stay.
- 58.7% (64/109) of patients were admitted on at least one high-risk drug and included for further analysis.
- For patients admitted on a high-risk drug those with (without) an MMP, average age was 86.6 years (89.0), baseline DBI was 1.10 (0.78) and base number of high-risk medications was 2.0 (1.49).

Figure 1: Medication Management Plan (MMP) and Medilist Rates With and Without a Pharmacy Intern (n=109)

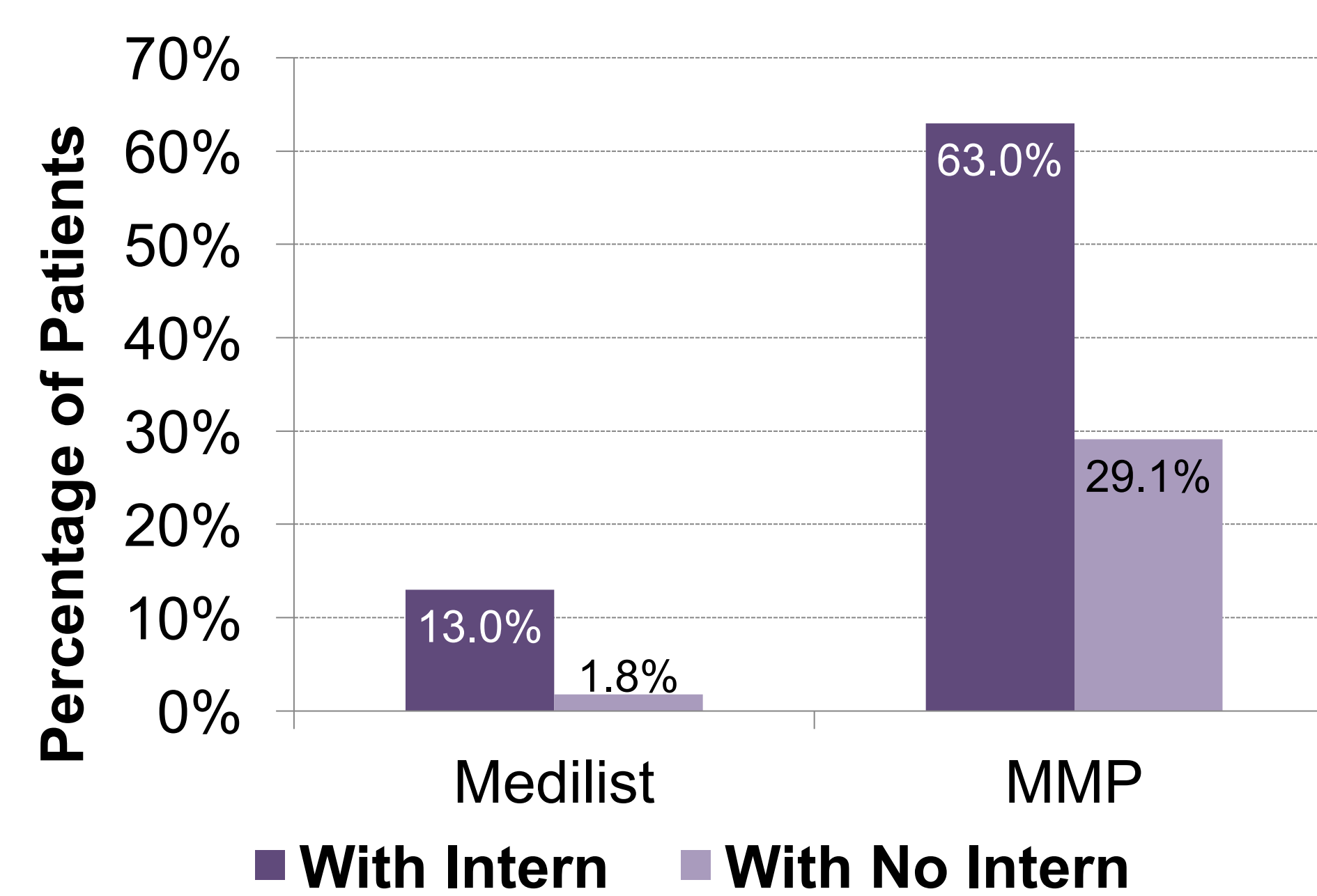


Figure 2: Number of Issues identified on MMPs With and Without a Pharmacy Intern (n=109)

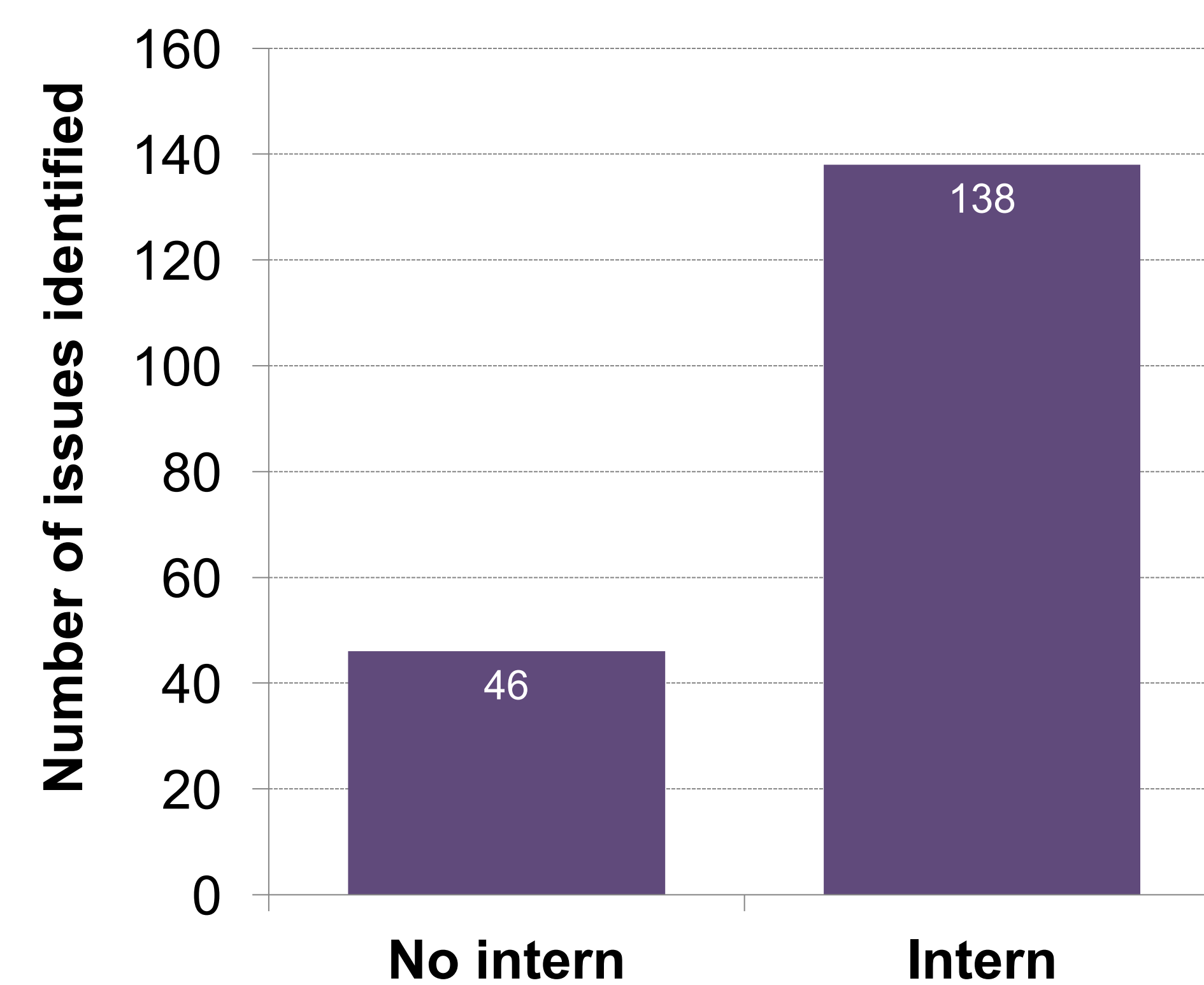


Figure 3: Average Change in Drug Burden Index (DBI) With and Without a MMP (n=64)

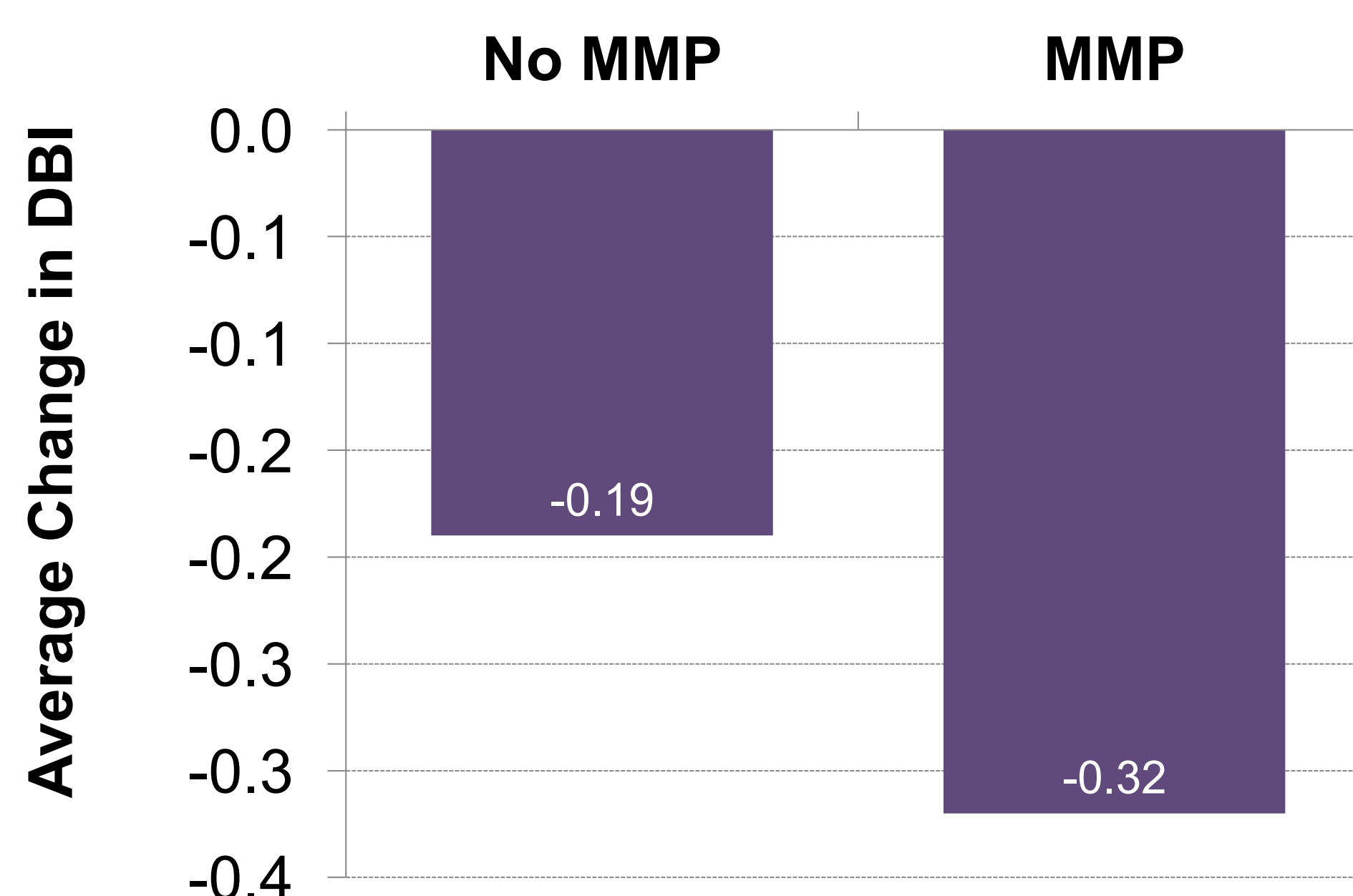
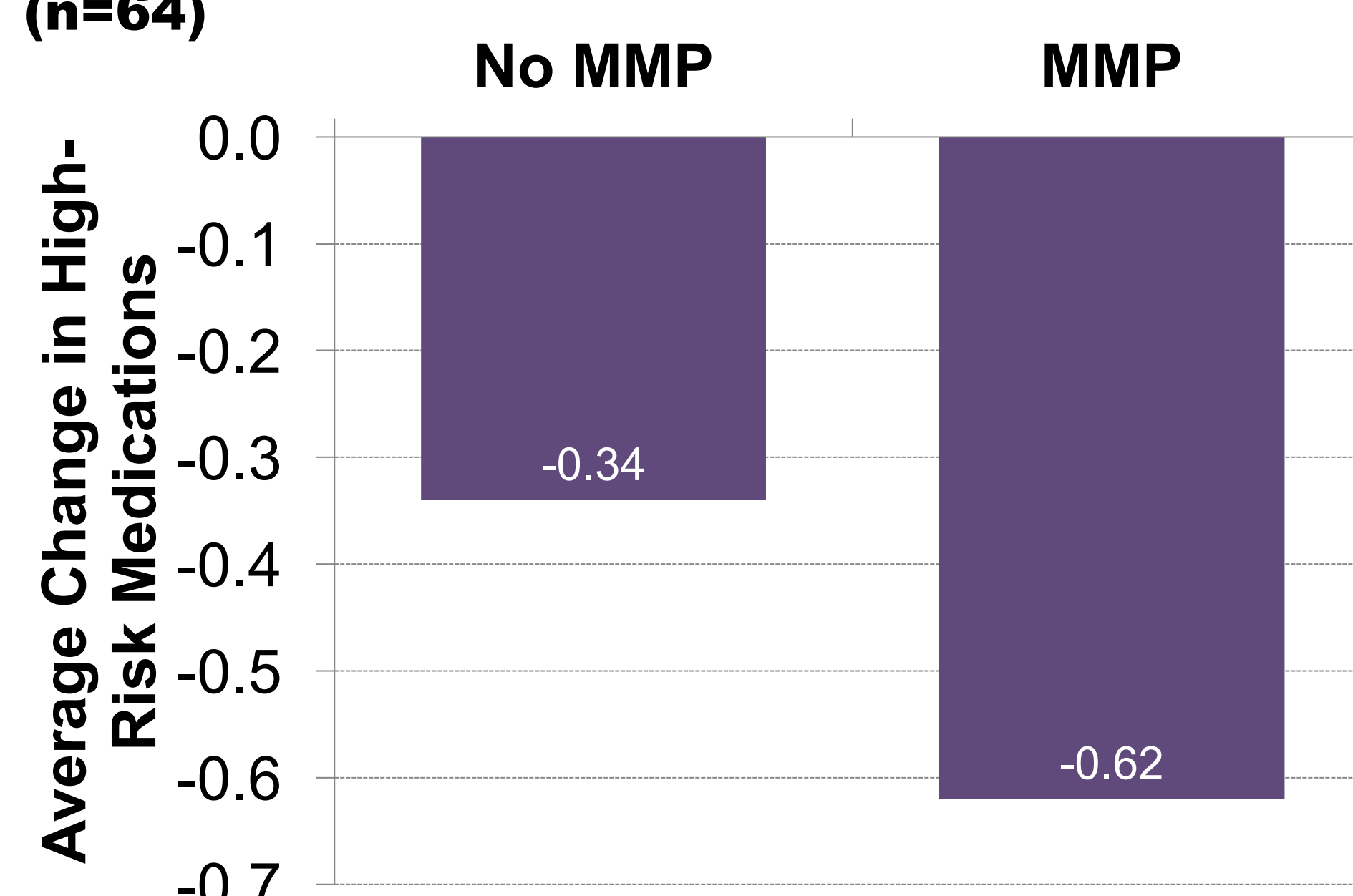


Figure 4: Average Change in Number of High-Risk Medications With and Without a MMP (n=64)



Discussion

- The presence of an intern increased the rate of Medilists significantly from 1.8% (1/55) to 13.0% (7/54).
- The presence of an intern increased the rate of MMPs significantly from 29.1% (16/55) to 63.0% (34/54).
- The number of issues identified on MMPs increased from 46 issues (from the 16 MMPs created in the two-week period when no intern was present) to 138 issues (from the 34 MMPs created in the two-week period with an intern present).
- Patients with an MMP had a greater average DBI reduction (-0.32 vs. -0.19). Patients with an MMP had a greater average reduction in number of high-risk medications (-0.62 vs. -0.34). These results were not significant at the 0.05 level.
- An MMP is an important communication tool within the hospital to highlight high-risk medications, including those with a DBI score, for review. Changes can be made whilst monitored in a safe hospital environment.

Conclusion

- The addition of a pharmacy intern allows more MMPs and Medilists to be completed.
- Further research is required to confirm statistical significance of increased reductions in DBI and high-risk medications when an MMP is completed.
- Further studies should be performed to quantify the impact of a ward-based technician working alongside the geriatrics department. This would allow the pharmacist to focus on new admissions and high-risk patients.
- Further investigation into the role of electronic medication management as a flag for high-risk medications for review and de-prescribing is required.

Acknowledgements

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References

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