

# Relationship between treatment input and outcomes for Low Back Pain patients



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## Background

The prevalence of chronic low back pain (CLBP) has increased dramatically over the past two decades, with more people seeking health care and increasing rates of absenteeism from work due to back pain-related disability(1). More recently a multi-dimensional, biopsychosocial treatment model has been promoted for the treatment of back pain as it can accommodate and address the varied pathoanatomical and psychosocial features that are associated with the condition(2).

Here in NZ, the Accident Compensation Corporation (ACC) and a group of rehabilitation providers have been piloting a new **Escalated Care Pathway (ECP)** that promotes a multi-disciplinary approach. The new pathway allows input from an expanded clinical team that includes Medical Specialists, Physiotherapists, Psychologists, Navigation and Vocational Rehabilitation (Return to Work) support. The pilot has provided the opportunity for ECP providers to identify the key components of interdisciplinary rehabilitation that impact outcomes for people with ongoing injuries.

## Aim

To determine the association between a specific component of multidisciplinary rehabilitation, and the clinically relevant outcomes that were achieved for LBP patients completing an Escalated Care Pathway.

## Methods.

Retrospective observational study of 1337 people with LBP referred over a four-year period for an Escalated Care Pathway rehabilitation programme between 2019 – 2023.

Outcomes measured included Change in Numeric Pain Rating Score (NPRS), perceived function (Oswestry Score) score, and Health Status (WHODAS) score from assessment to discharge. Outcomes were compared for patients that received **Vocational Rehabilitation** (Return to work support) versus those that did not receive Vocational Rehabilitation as part of their overall rehabilitation pathway.

Welch's t-test and Mann-Whitney U test were performed to quantify the difference in outcomes for both groups.

## Demographics of sample group

**N = 1337 clients**

**Mean age: 46.5 years (SD=6.2)**

**Gender: 42% Female 58% Male**

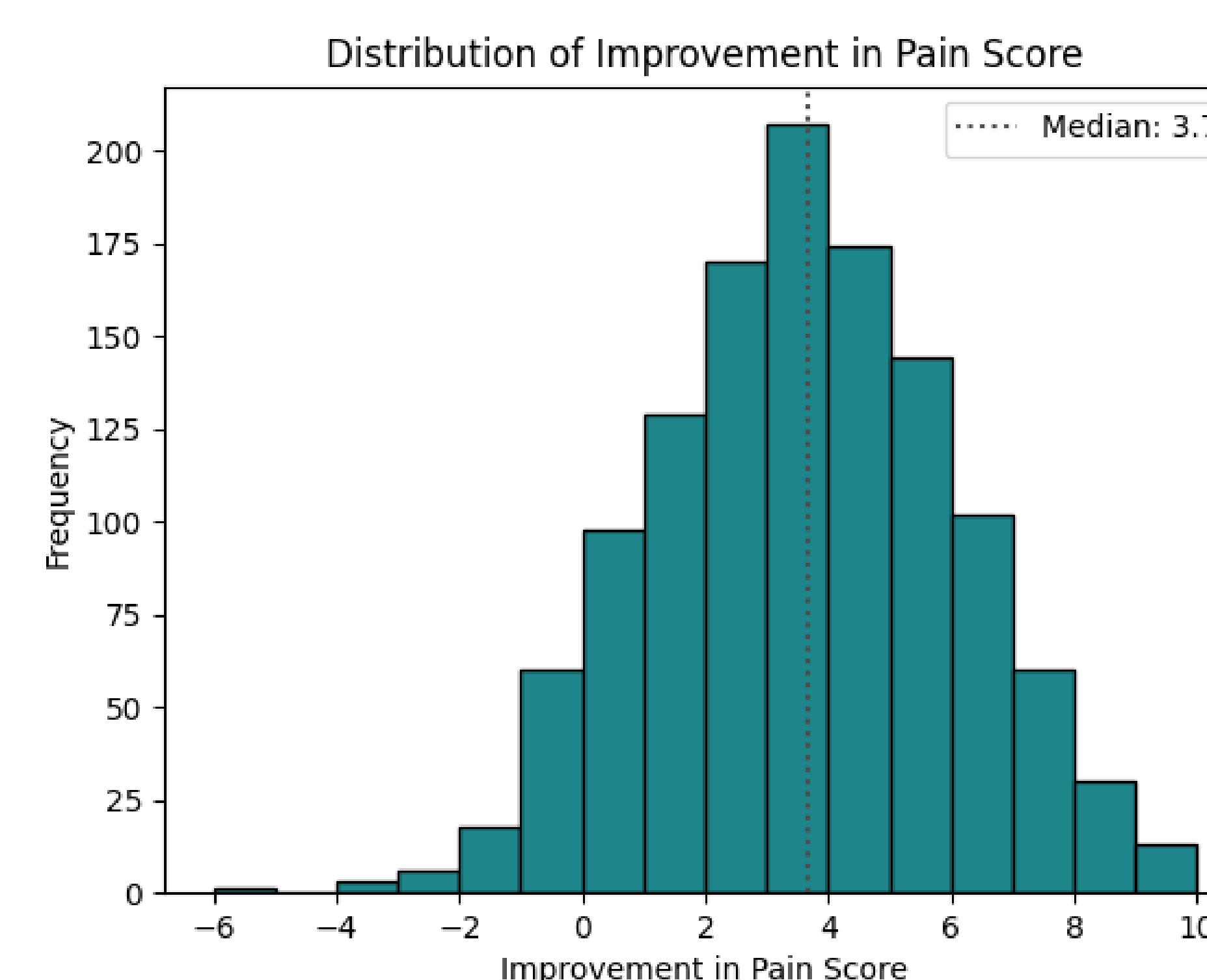
**Mean Injury Duration: 72 days**

**Mean Psychosocial risk: (Orebro) score 54/100**

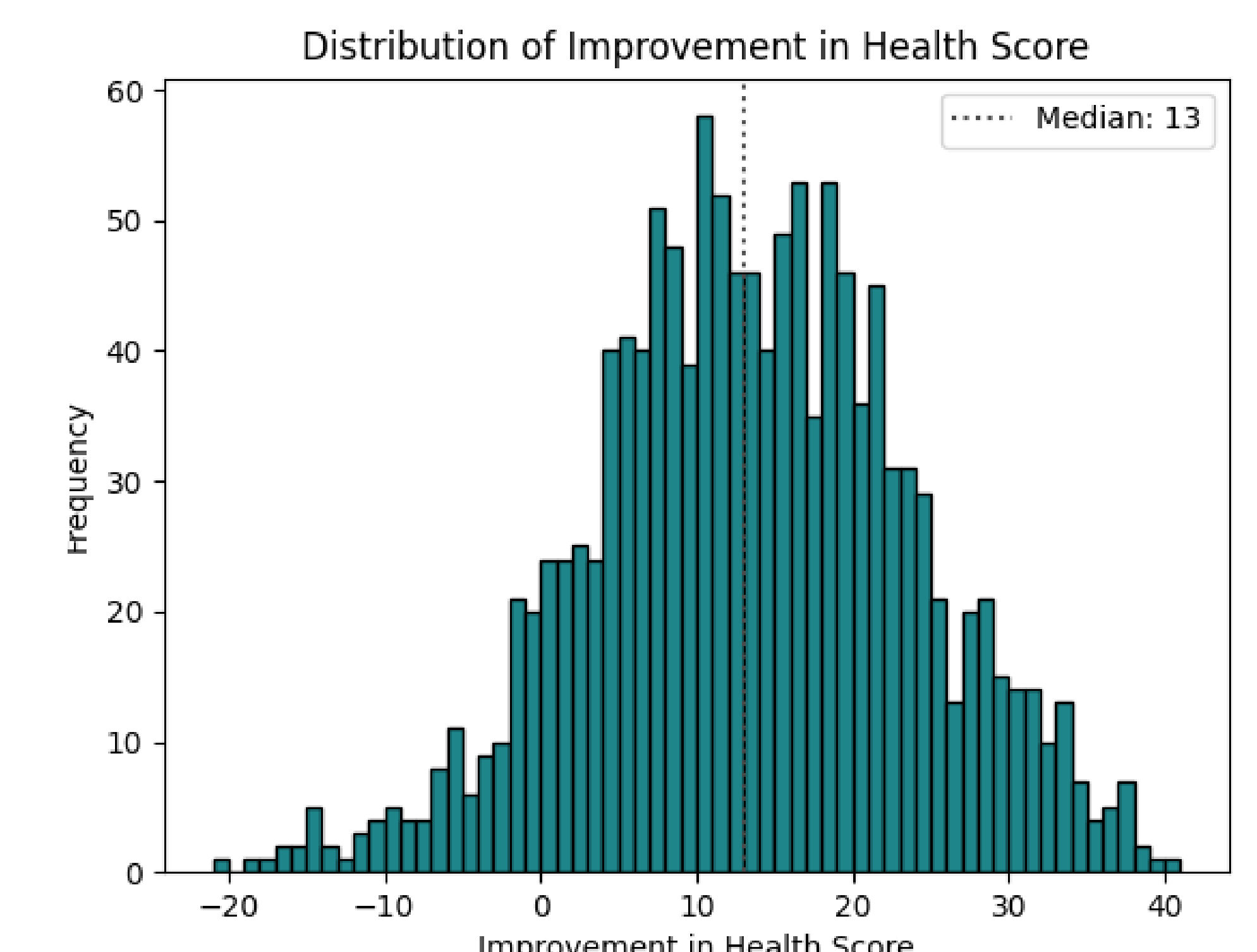
## References

1. Freburger JK, et al. The rising prevalence of chronic low back pain. Arch Intern Med. 2009;169:251–8. 2. ACC Injury Statistics 2001. Wellington: Accident Compensation Corporation; 2001.
2. Costa LC, Maher CG, McAuley JH, Hancock MJ, Herbert RD, Refshauge KM, et al. Prognosis for patients with chronic low back pain: inception cohort study. BMJ. 2009;339:b3829

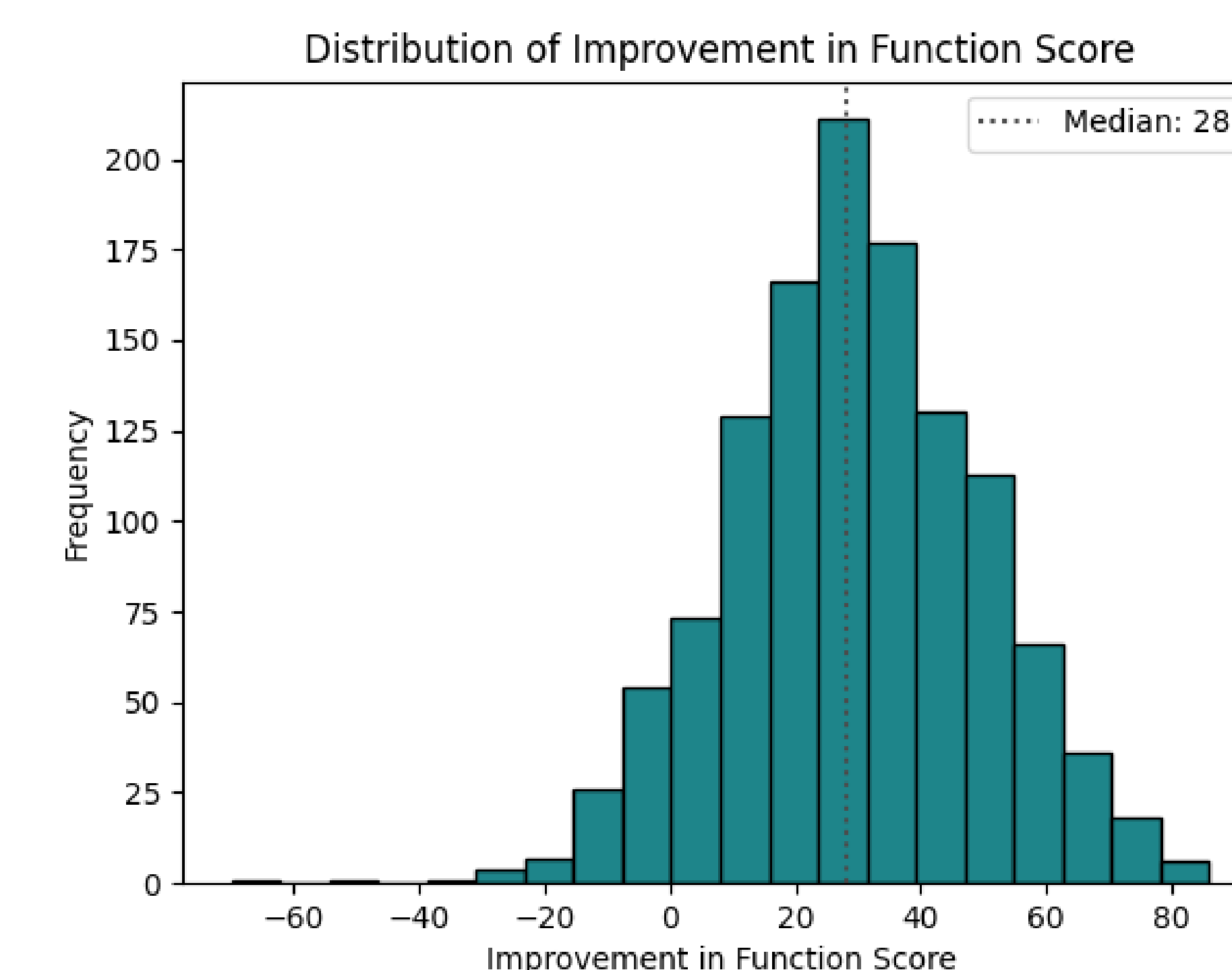
## Results



The group achieved an average 3.7 point improvement in pain scores (NPRS) score from assessment to discharge.

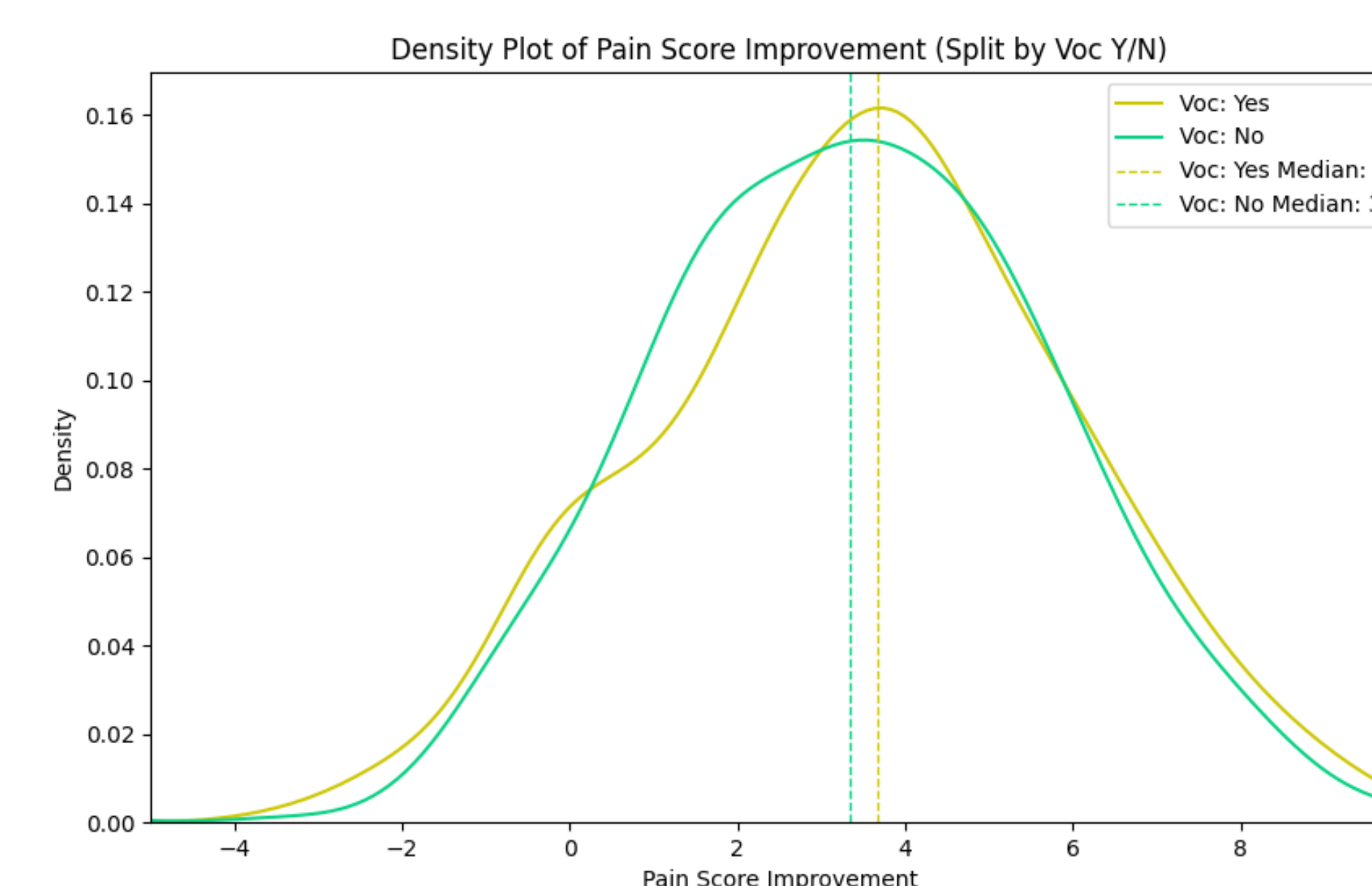


The group achieved an average 13 point improvement in health status (WHODAS) score from assessment to discharge.

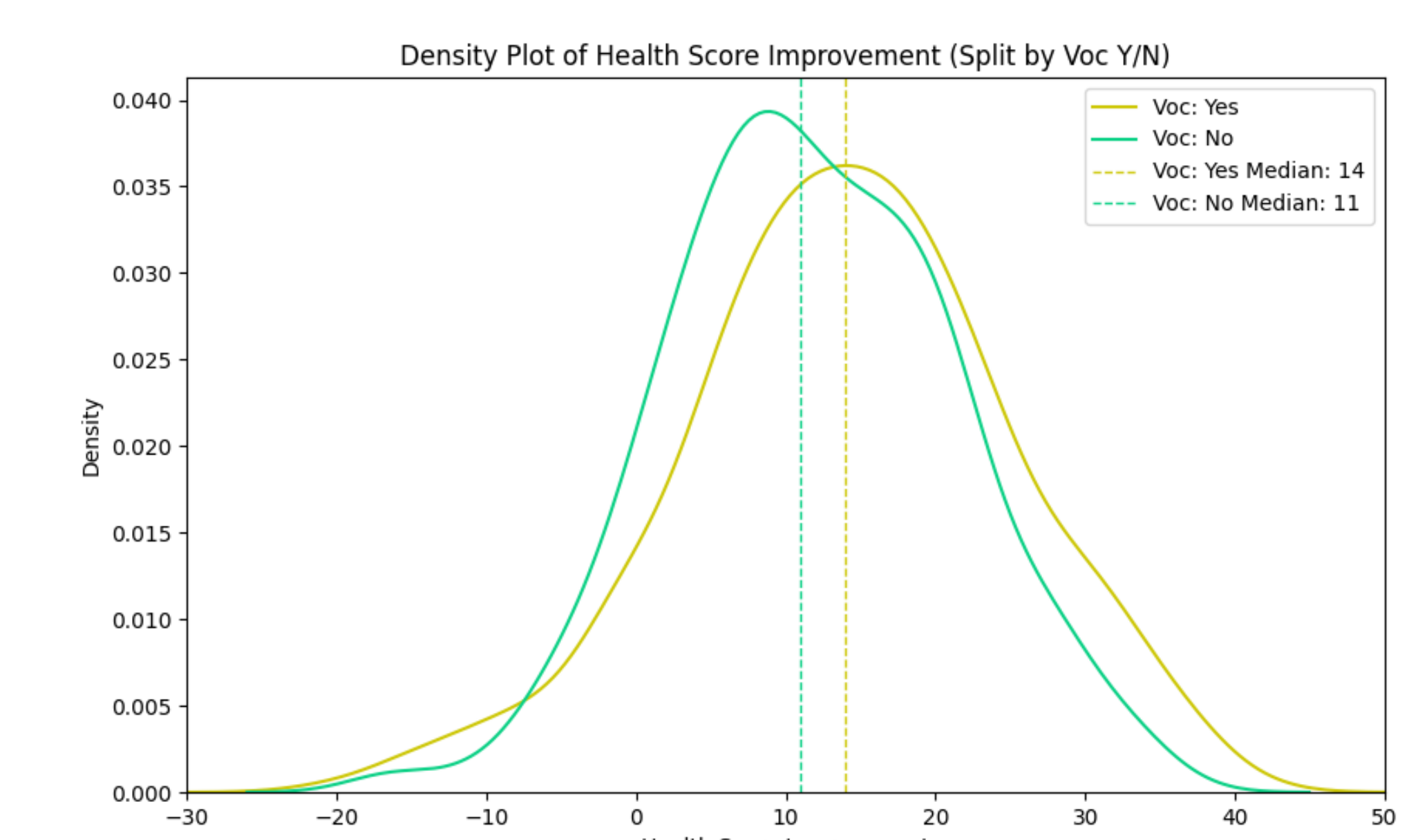


The group achieved an average 28 point improvement in function (Oswestry) score from assessment to discharge.

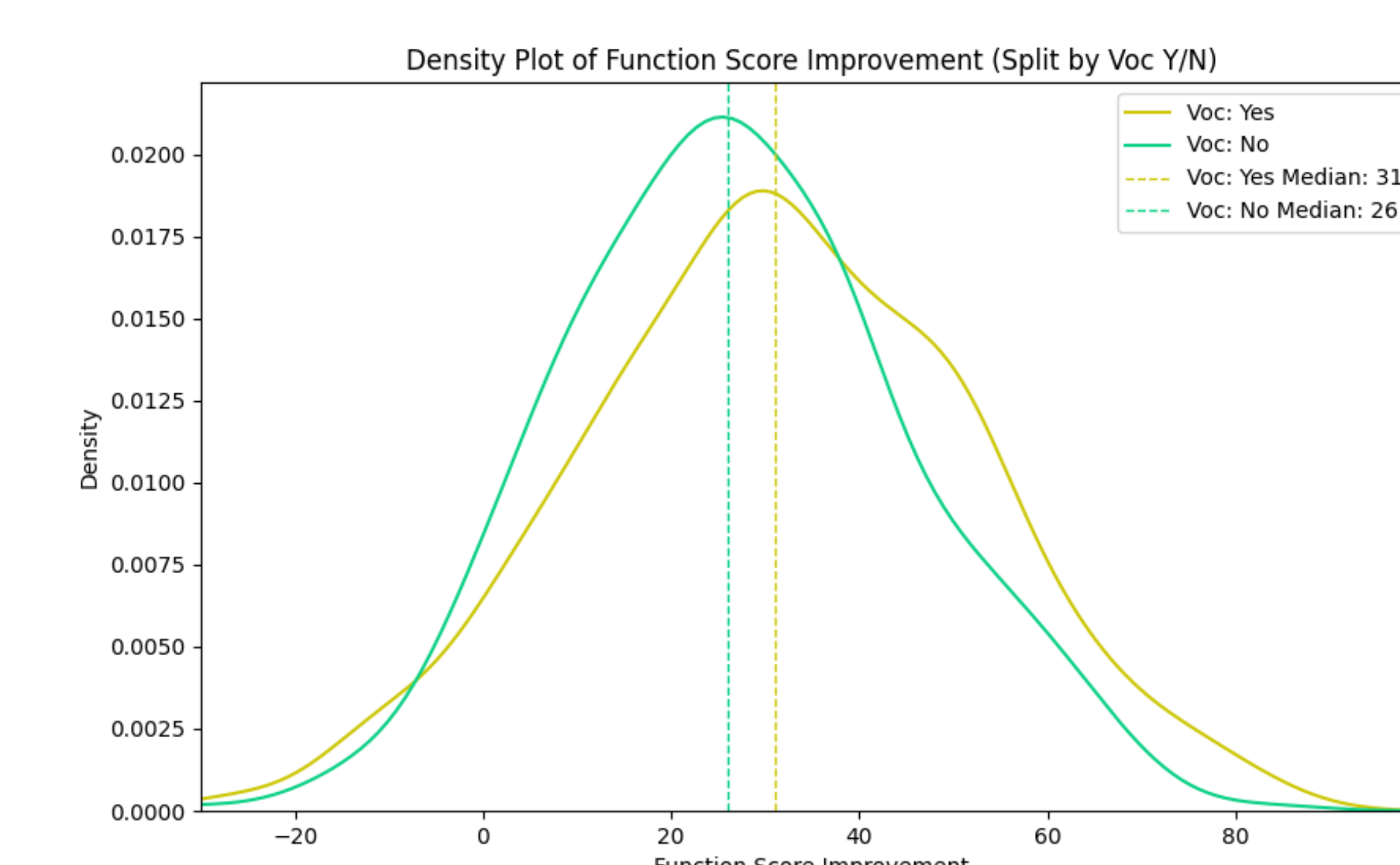
## Vocational Rehab Vs. No Vocational Rehab



There was no significant difference ( $P=0.47$ ) in pain score improvement for patients that received Vocational Rehab versus those that did not receive Vocational Rehab.



There was a statistically significant ( $P<0.01$ ) more positive improvement in health status for patients that received Vocational Rehab versus patients that did not receive Vocational Rehab.



There was a statistically significant ( $P<0.01$ ) more positive improvement in perceived function for patients that received Vocational Rehab versus patients that did not receive Vocational Rehab.

## Conclusion

Treatment input is an important consideration when planning a multidisciplinary rehabilitation pathway. This study has shown that people with LBP that receive Vocational Rehabilitation as part of their treatment pathway, appear to have better improvements in overall function and health status. Future research on additional treatment factors that influence outcomes will ultimately improve the effectiveness of treatment pathways for LBP patients.