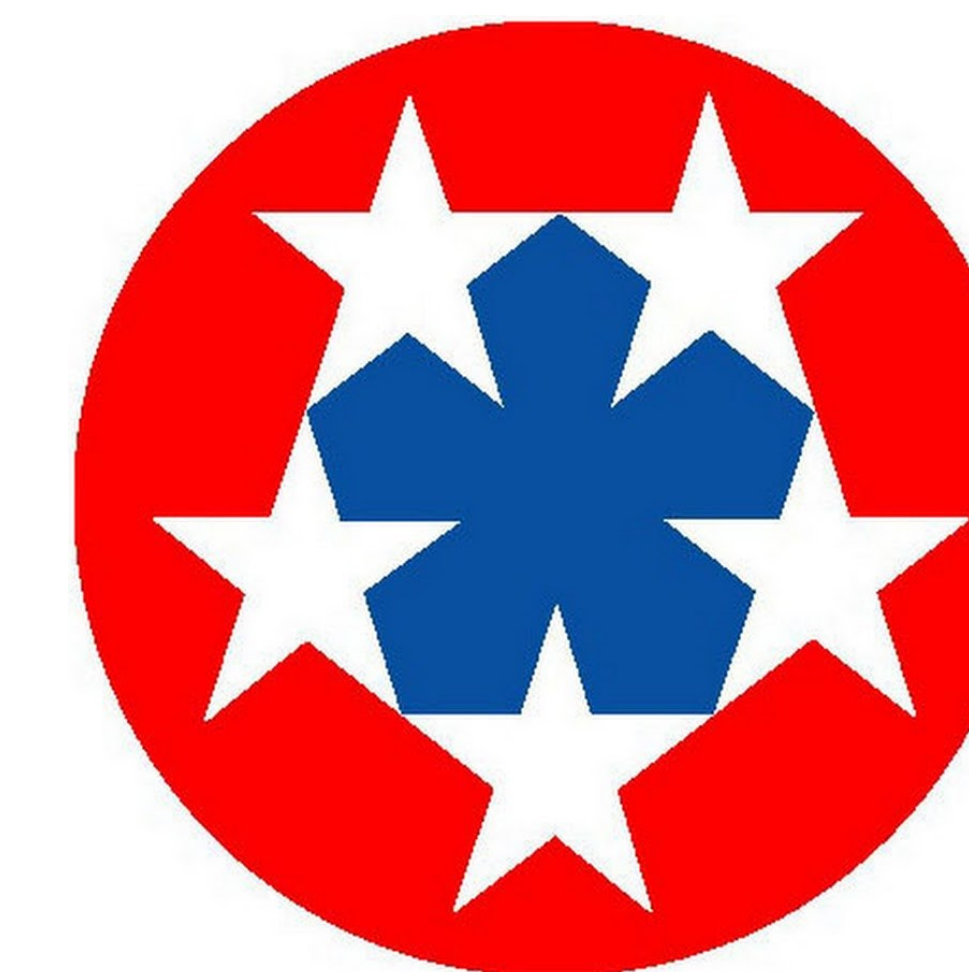




Prevalence rate of MCI diagnosis in older adults (OAs) with concomitant successful driving skills assessment in an outpatient geriatric clinic compared to a traditional primary care clinic

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INTRODUCTION

Mild Cognitive Impairment (MCI) is a complex clinical entity, often seen as a transitional state between normal aging and dementia. Assessing Activities of Daily Living (ADL) is critical in MCI diagnosis, but patient self-awareness can be compromised, leading to inaccurate self-assessment of functional abilities. This is especially concerning regarding driving ability, where there is no widely accepted consensus on evaluating driving skills in MCI patients. In this study, we demonstrate the higher success rates in MCI diagnosis using the MOCA in a geriatric clinic compared to a traditional primary care clinic. We also present an effective evaluation method for assessing driving skills in MCI patients at a geriatric clinic.

METHODS

Our project utilized the Model for Improvement framework and the PDSA cycle to guide implementation (exhibit 1-1). We conducted a retrospective review of Electronic Health Records (EHR) from 2021-2023, comparing MCI diagnoses and referrals for driving assessments between a geriatric clinic and a traditional primary care clinic.

Phase One: We compared MCI diagnoses across the two clinics using the diagnostic code G31.84 for MCI. The diagnosis was confirmed by a MOCA score of 19-25, indicative of MCI.

Phase Two: We conducted a chart review to identify:

1. Patients receiving DMV forms,
2. Patients completing a DMV driving assessment,
3. Patients passing or failing the driving assessment,
4. Patients who were driving, regardless of taking the assessment.

Phase Three: Data from the chart review were statistically analyzed with the help of a statistician to extract and graphically present the results.

Phase Four: Based on the findings, we proposed a more effective method for DMV referrals for MCI patients in the geriatric clinic.

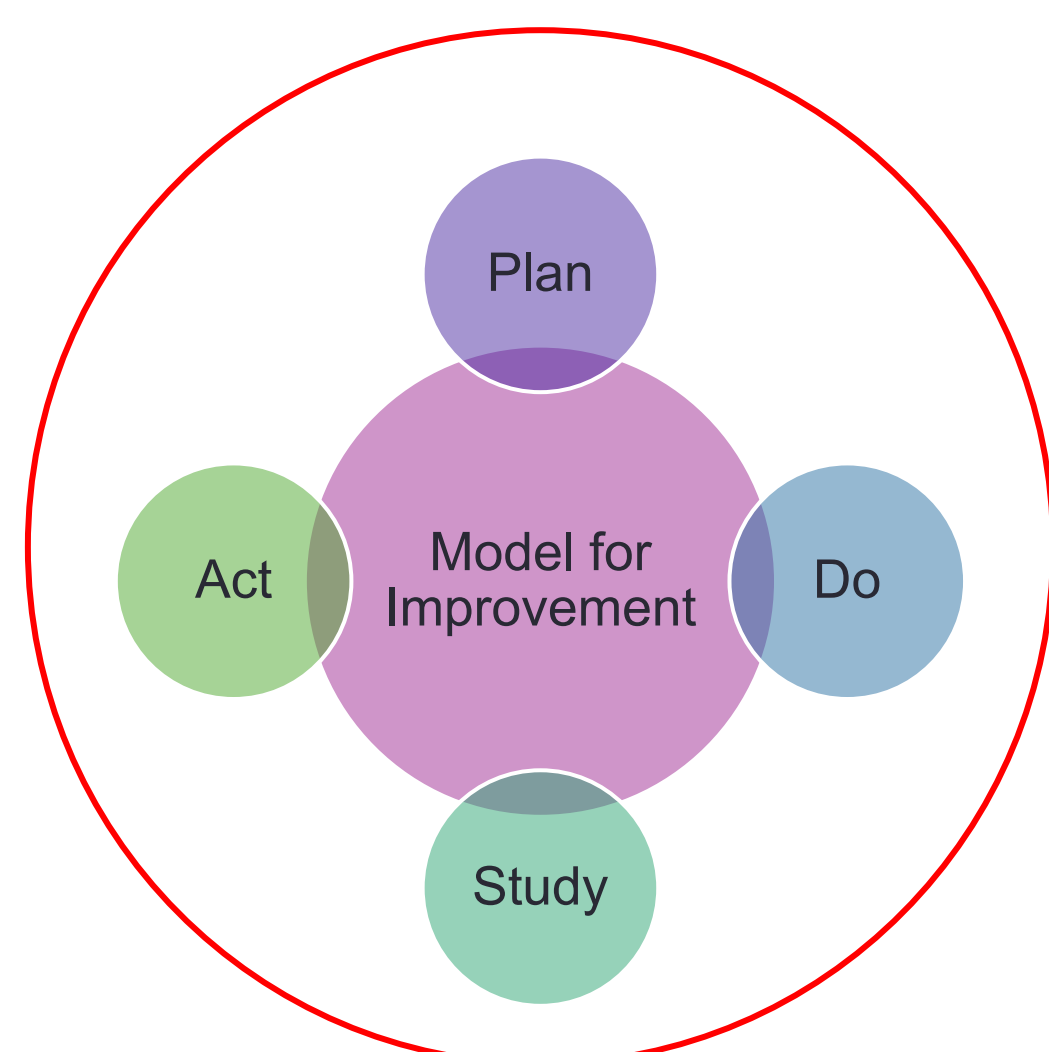


Exhibit 1-1: Model for Improvement

DATA ANALYSIS

- Our data revealed that the geriatric clinic compared to the traditional primary care clinic had a significantly higher number of MCI diagnoses.
- **34 patients** were formally diagnosed with MCI in the geriatric clinic vs **0 patients** in the traditional primary care clinic.
- **17 patients** were referred to DMV for assessment of their driving capability in the geriatric clinic.
- Of those, **8 (47.1%)** completed the driving assessment, and **2 (25%, 3% - 65.1%)** successfully passed.
- Assuming the same percentage applies to the entire referred patient population, between **6 to 16 (34.9% - 97.0%)** patients will fail the driving assessment.

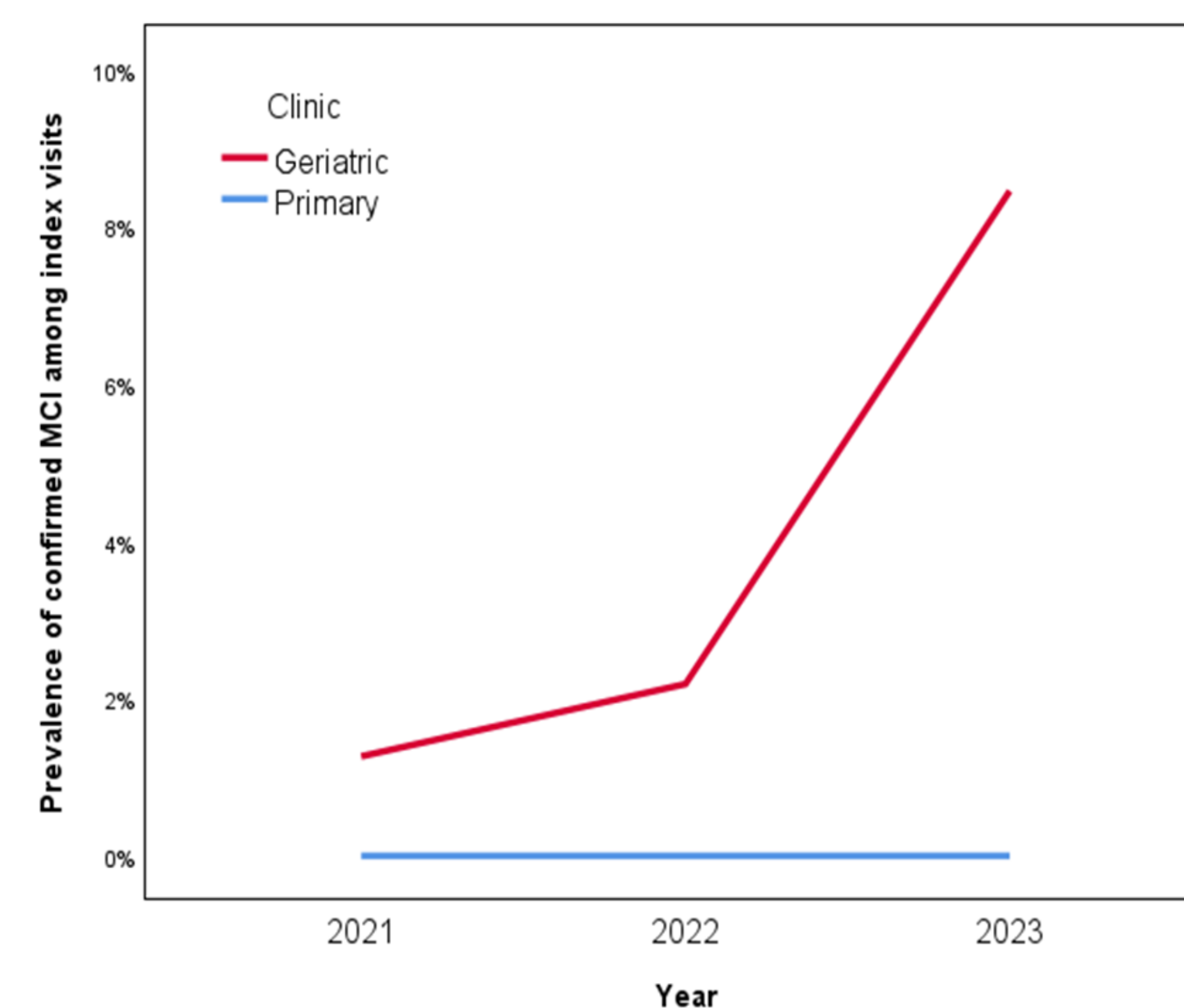


Exhibit 1-2

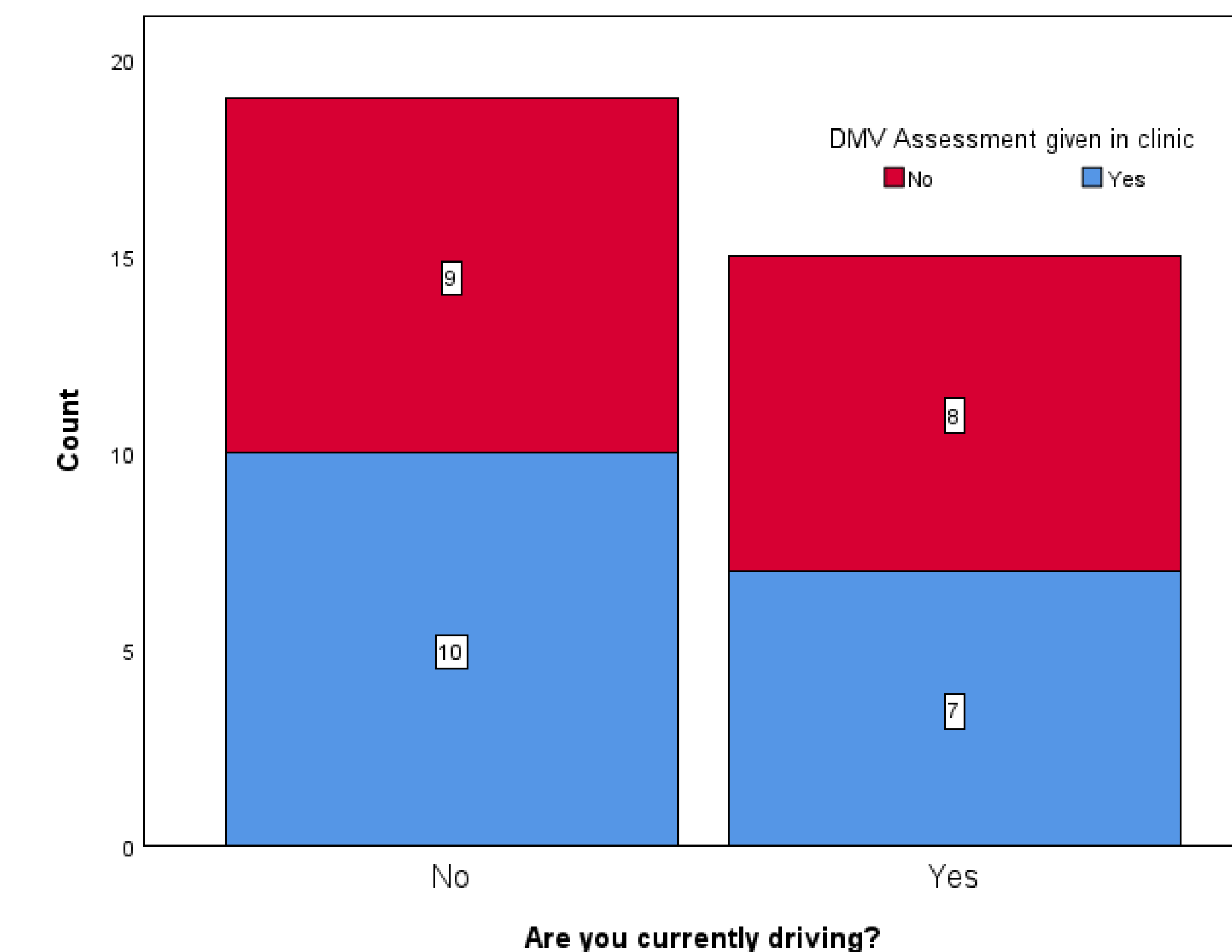


Exhibit 1-3

DISCUSSION

Research emphasizes the urgent need for driving assessments in patients with cognitive impairments. Studies show cognitive decline, particularly in MCI, as a significant predictor of unsafe driving behaviors and increased motor vehicle accidents (MVs). Carr and Ott (2010) highlighted the correlation between cognitive impairment and driving cessation, advocating for routine evaluations to ensure safety. Similarly, O'Connor et al. (2019) linked cognitive deficits in MCI patients with poor driving performance, underscoring the importance of early intervention.

Our study found 34 newly diagnosed MCI cases in the geriatric clinic compared to none in the traditional primary care clinic, a significant difference that highlights the need for specialized geriatric care in diagnosing MCI, as illustrated in exhibit 1-2, which shows a sharp increase in the prevalence of confirmed MCI diagnoses in the geriatric clinic from 2021 to 2023. Early detection is essential, particularly for enabling patients to access new treatments, such as monoclonal antibody therapies (e.g., Leqembi in Kinsula), and to implement preventive measures targeting the 12 modifiable risk factors for dementia, as identified by The Lancet Commission's 2020 report.

Routine driving evaluations are critical for MCI patients. Our study suggests that up to 97% of MCI patients may fail driving assessments due to cognitive impairment, posing significant risks if they continue driving without intervention. Exhibit 1-3, illustrates DMV assessment results, stressing the need for improved evaluation methods. With an estimated 8.4 million individuals in the U.S. potentially affected by MCI, there is an urgent need for a standardized, nationwide screening process. This would not only identify unsafe drivers but also prevent accidents, reducing both societal and economic burdens associated with MVAs in this vulnerable population. Further studies, such as those by Marshall et al. (2007), support structured driving evaluations, showing a reduction in MVAs among elderly drivers. This aligns with public health goals to protect older adults, enhance driving safety, and improve the quality of care through early MCI diagnosis.

SUMMARY

Our study highlights the vital role of specialized geriatric care in the early diagnosis of Mild Cognitive Impairment (MCI) and underscores the importance of structured driving assessments for patients with cognitive decline. The geriatric clinic had significantly higher success in diagnosing MCI compared to primary care, stressing the need for tailored geriatric approaches. Our findings also emphasize the risks associated with driving in MCI patients, reinforcing the importance of routine driving evaluations to protect both patients and public safety. Collaborating with the DMV, geriatric clinics can implement optimal driving regulations that ensure safety and independence, while educating patients and families about driving risks associated with MCI to improve outcomes and reduce isolation.

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