

# Association between Age of Migration and Odds of Cognitive Impairment Among Older Mexican Immigrants to the US

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HRS HEALTH AND RETIREMENT STUDY

Mexican Health & Aging Study

## Background

- Migration follows an age-dependent pattern, peaking in young adulthood<sup>1</sup>.
- Migrating to the US from Mexico during distinct life stages may differentially impact late-life cognitive outcomes<sup>2</sup>.
- Older vs younger age of migration has been related to lower mortality<sup>2</sup>.
- We assess whether age of migration is associated with risk for cognitive impairment and Alzheimer's disease and related dementias.
- We examine whether associations vary across those living in US vs. those returning to Mexico.

Migration Group  
(Stayers vs Returners)

Age of Migration

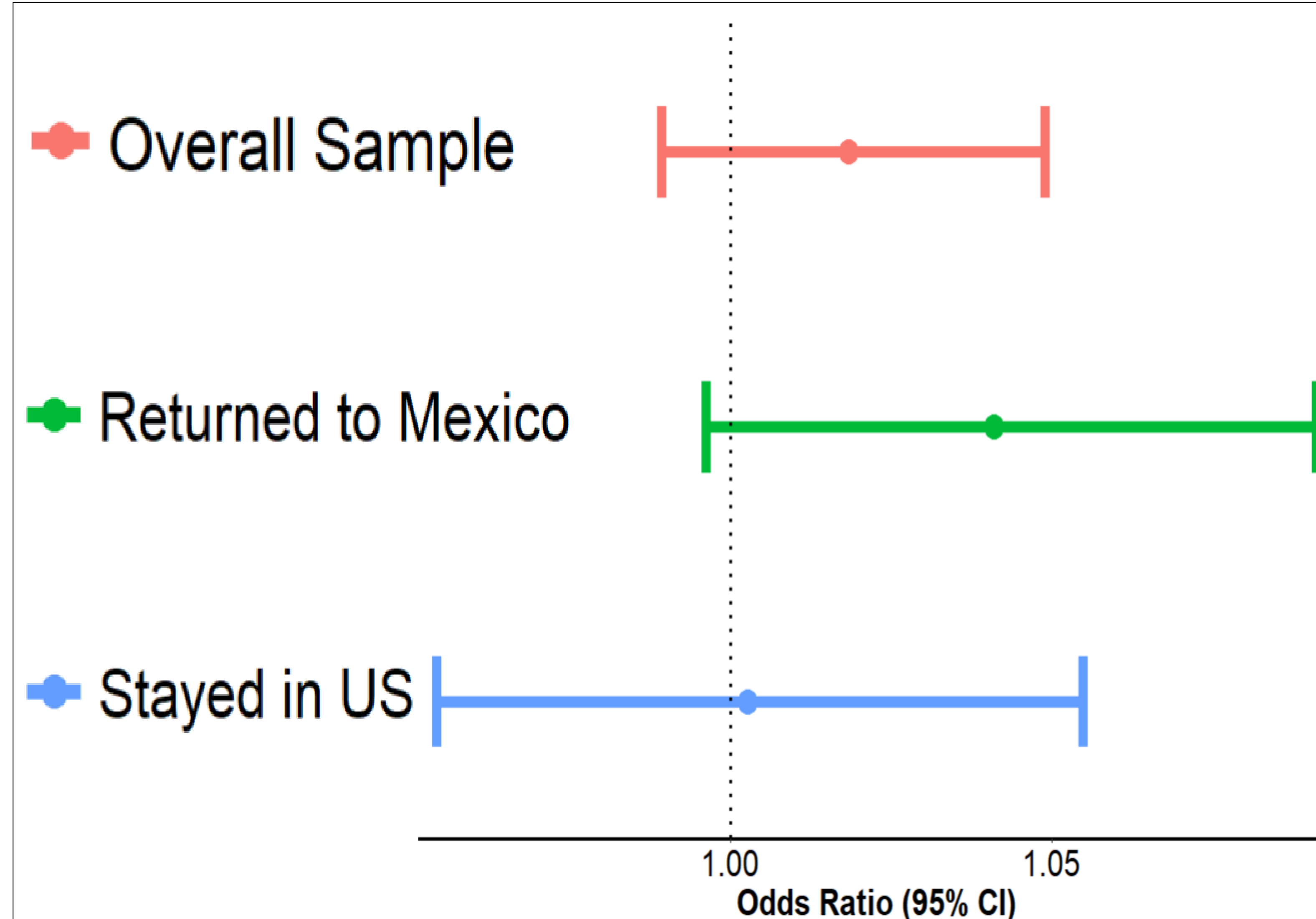
MCI/  
Dementia

## Methods

- Health and Retirement Study/Harmonized Cognitive Assessment Protocol-2016, Mexican Health and Aging Study/Cognitive Aging Ancillary Study-2016
- Logistic regressions stratified by nation
- **Predictor:** self-reported age of first US migration, mean centered
- **Outcome: Cognitive status (i.e., normal vs mild cognitive impairment/dementia)** algorithmically derived from robust, country-specific normative samples

## Results

Figure 1. Increased Age of Migration Not Associated with Increased Odds of Cognitive Impairment/Dementia



Odds ratios and 95% confidence intervals shown are from three separate models.

Models included harmonized covariates: age mean centered, sex, education, marital status, parental education, wealth, occupational level, and locality.

Results held in models:

- With reduced covariates
- Among those with formal education
- With imputed parental education
- With dichotomized age of migration (<18 years and ≥18years)

Table 1. Sociodemographic Characteristics by Group, N=234

| Characteristic              | Return Migrants<br>n = 130         | Stayed in US<br>n = 104           |
|-----------------------------|------------------------------------|-----------------------------------|
| Age of Migration            | 28.1 (10.9)                        | 26.4 (10.8)                       |
| Age *                       | 70.8 (9.8)                         | 73.3 (6.9)                        |
| Female **                   | 18%, (24)                          | 61%, (63)                         |
| More than Primary Education | 25%, (33)                          | 28%, (29)                         |
| Occupation Level **         |                                    |                                   |
| Low/Medium                  | 82%, (107)                         | 78%, (76)                         |
| High                        | 15%, (19)                          | 3.1%, (3)                         |
| Never worked                | 3%, (4)                            | 19%, (19)                         |
| Estimated Wealth **         | \$91,035<br>[\$36,263 – \$245,511] | \$47,500<br>[\$6,250 – \$127,500] |
| Urban Locality **           | 45%, (58)                          | 90%, (85)                         |
| Cognitive Status *          |                                    |                                   |
| Normal                      | 77%, (100)                         | 64%, (65)                         |
| MCI/Dementia                | 23%, (30)                          | 36%, (36)                         |

M(SD), % (n), or Median [IQR]. Estimated wealth in 2016 US dollars.

\*\* $p < .001$ , \* $p < .05$ , otherwise group differences not significant

## Conclusions and Future Directions

- Age of migration was not associated with odds of cognitive impairment/dementia.
- Effect directions in the overall sample suggest that greater age of migration may be related to greater odds of cognitive impairment.
- **Limitations:** Limited sample size, self-report of age of migration is difficult to validate.
- **Future Directions:** incorporate age of return to Mexico, separate out by duration in US, use match weighting or sequence analysis, analyze by historical period of migration.

1: Bernard et al., 2014; *PDR*. 2: Angel et al., 2010; *JAH*.

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