

An Examination of the Lancet Commission's Modifiable Dementia Risk Factors in a Los Angeles-Based Cohort

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Introduction

- The 2024 Lancet Commission identified 14 modifiable risk factors, which account for 45% of dementia cases worldwide (Figure 1).
- Research is lacking on how these risk factors manifest on more local levels, especially in diverse metropolitan regions with varied neighborhood and environmental exposures.
- This project aimed to examine the prevalence of these 14 modifiable risk factors across Los Angeles Service Planning Areas (SPA's) (Figure 2) within a longitudinal cohort of older adults without dementia.

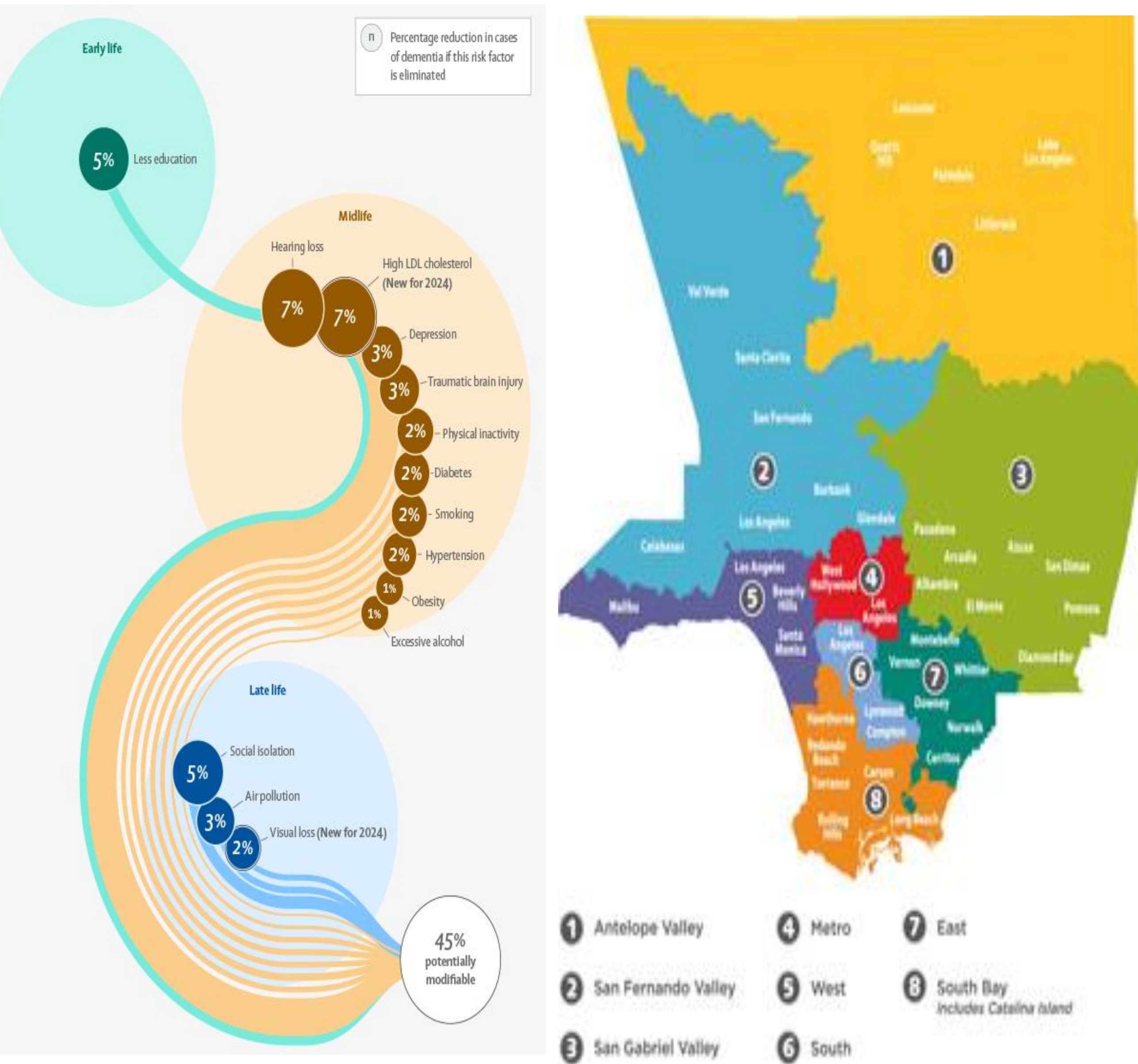


Figure 1: Modifiable Dementia Risk Factors

Figure 2: Los Angeles SPA's

Methods

- Modifiable risk factors were surveyed in 72 older adults (Figure 3) participating in a cohort study at Cedars-Sinai Medical Center.
- Prevalence of modifiable risk factors were examined and cross-tabulated across distinct regions of LA referred to as Service Planning Areas (SPAs).

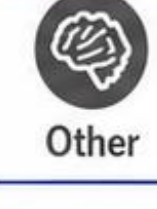
Study Sample Characteristics		
 Age 69.2 ± 9.2 years	 Female 70.8%	 Education 16.1 ± 2.7 years
 Race/Ethnicity	%	
Hispanic/Latino	36.1%	
White	31.9%	
Asian	15.3%	
Black/African American	8.3%	
Other/Multiple	8.3%	

Values may not total 100% due to rounding.

Figure 3: Demographics Table

Results

- **Strong Prevalence:** Hypertension (60-80%), hypercholesterolemia (61-88%), alcohol use (57-71%), hearing loss (61-67%), vision loss (61-70%), TBI (56-86%) and social isolation (54-71%) were prominent across regions. In 5 out of 6 regions, ≥3 risk factors were endorsed by ≥50% of individuals (Figure 4).
- **Modest Prevalence:** Physical inactivity (0-14%), cigarette smoking (11-43%), and low education (0-3%) were low in each area.
- **Regional Differences:** There was regional heterogeneity with substantially higher obesity rates in the San Gabriel Valley (57% vs 0-14%) and hypertension (86% vs. 27-56%) and hypercholesterolemia (88% vs. 27-67%) in Metro LA.

Risk Factor		Metro LA (n = 9)	San Gabriel Valley (n = 7)	West LA (n = 8)	South Bay (n = 13)	San Fernando Valley (n = 7)	East LA (n = 28)
 Cardiovascular	Hypertension	89% ★	29%	38%	46%	29%	61% ★
	Hypercholesterolemia	89% ★	29%	50%	31%	57% ★	39%
	Obesity	11%	57% ★	13%	15%	14%	14%
	Diabetes	56% ★	14%	13%	15%	14%	43%
 Sensory	Hearing Loss	67% ★	29%	38%	46%	57% ★	36%
	Vision Loss	67% ★	29%	50%	69% ★	29%	61% ★
 Lifestyle	Alcohol Use	44%	14%	75% ★	62% ★	57% ★	54% ★
	Smoking (Cigarette)	11%	43%	25%	23%	43%	11%
	Physical Inactivity	11%	0%	0%	0%	0%	4%
 Psychosocial	Depression	22%	43%	38%	23%	29%	18%
	Social Isolation	33%	71% ★	25%	54% ★	57% ★	54% ★
 Other	Traumatic Brain Injury	56% ★	86% ★	38%	46%	43%	39%
	Low Education	0%	0%	0%	0%	0%	4%

Prevalence (%)

0% 20% 40% 60% 80% 100%

Note. Values may not total 100% due to rounding.
★ = Prevalence ≥50%

Figure 4: Modifiable Dementia Risk Factors Prevalence throughout LA

Discussion

- Modifiable dementia risk factors were prevalent across Los Angeles Service Planning Areas, with most regions exhibiting multiple risk factors affecting a substantial proportion of participants; hypertension, hypercholesterolemia, hearing loss, social isolation, TBI, vision loss, and alcohol use were among the most commonly reported risk factors.
- Distinct regional patterns emerged, including elevated obesity and TBI in the San Gabriel Valley and higher rates of hypertension and hypercholesterolemia in Metro LA.
- These findings highlight the importance of considering local and community-specific risk profiles when developing dementia prevention and risk-reduction strategies.



Cardiovascular



Sensory



Lifestyle



Psychosocial

Future Directions

- Expand recruitment across Los Angeles Service to increase sample size and improve representation of diverse communities
- Investigate how clusters of modifiable risk factors interact and influence longitudinal cognitive outcomes and incident dementia.
- Evaluate whether community-tailored prevention and risk-reduction strategies are more effective than broad population-based interventions in reducing modifiable dementia risk factors.

Acknowledgements

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References

Livingston et al. (2024) *The Lancet*, Vol. 404, No. 10452P572-628