

Racial And Ethnic Disparities In Healthcare Expenditures Among United States Older Adults With Joint Pain

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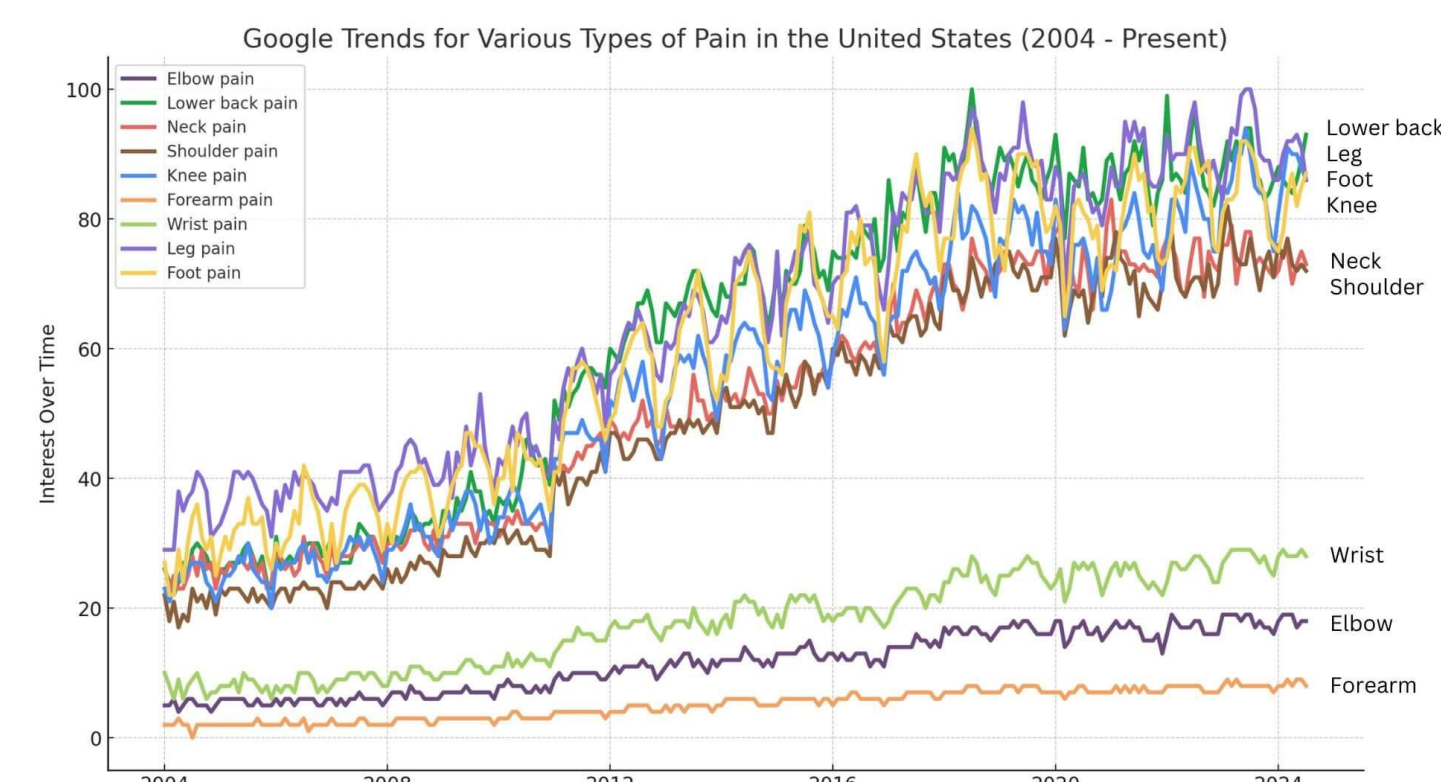
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BACKGROUND

- Joint pain affects **1 in 5 US adults** (~53.2 million), primarily due to arthritis.¹
- Over 100 million people** in the US suffer from joint pain, including back pain and arthritis.²



- Racial and ethnic minorities with joint pain face barriers to accessing standard treatment services, leading to **unmet healthcare needs**.³
- The disparities in healthcare access and utilization result in **poorer health outcomes** for minority groups with joint pain.

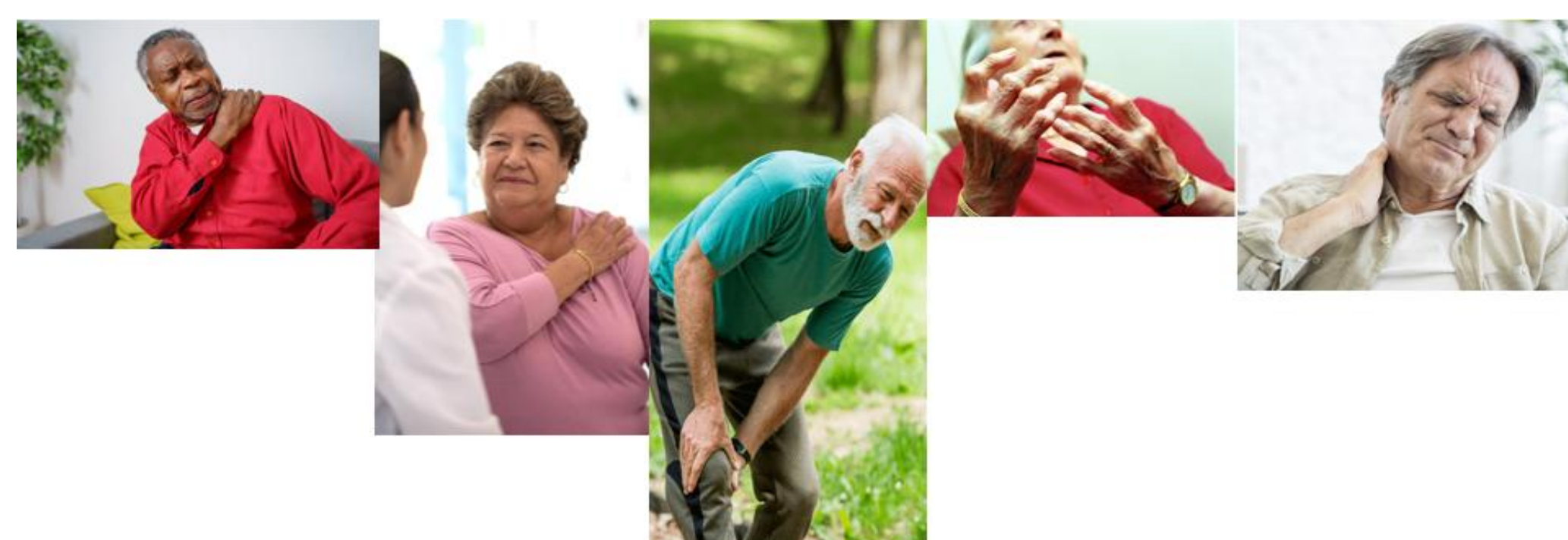
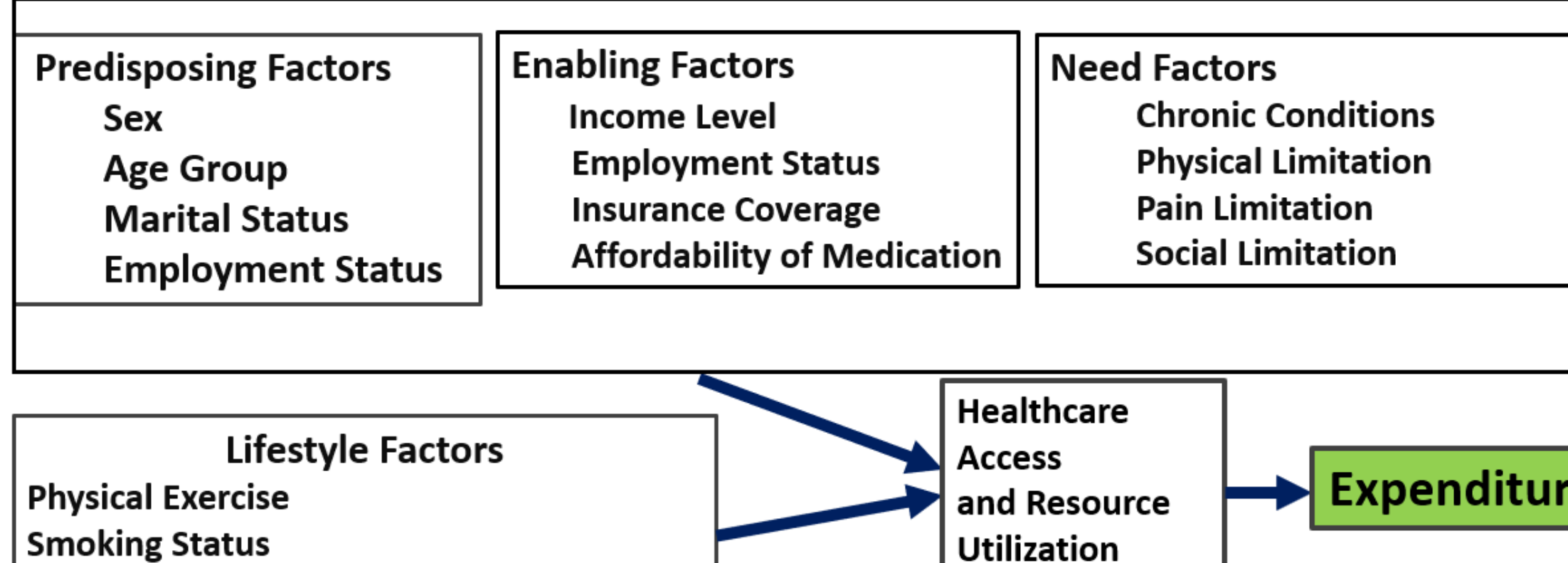


Figure 1. Proposed Conceptual Model based on the Andersen Behavioral Model

Patient Factors



OBJECTIVE

This study aimed to examine racial and ethnic differences in healthcare expenditures among older adults (65+) with joint pain in the United States. Expenditures were analyzed across total healthcare expenditure, office-based visits, inpatient visits, outpatient visits, emergency room visits, and prescription medications. These differences were specifically observed among Non-Hispanic Whites (NHWs), Non-Hispanic Blacks (NHBs), and Hispanics.

METHODS

Figure 2. Methodological Process

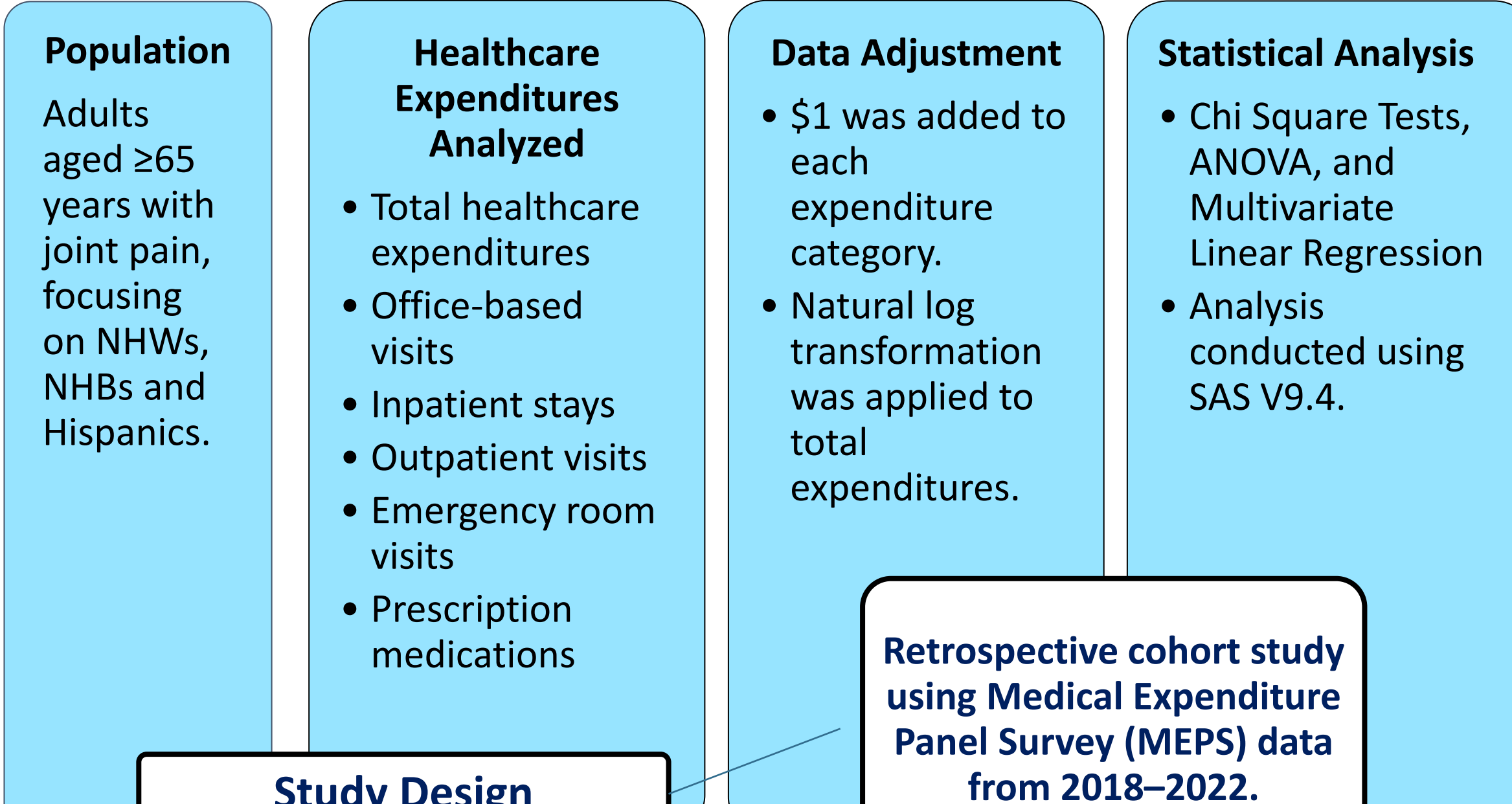
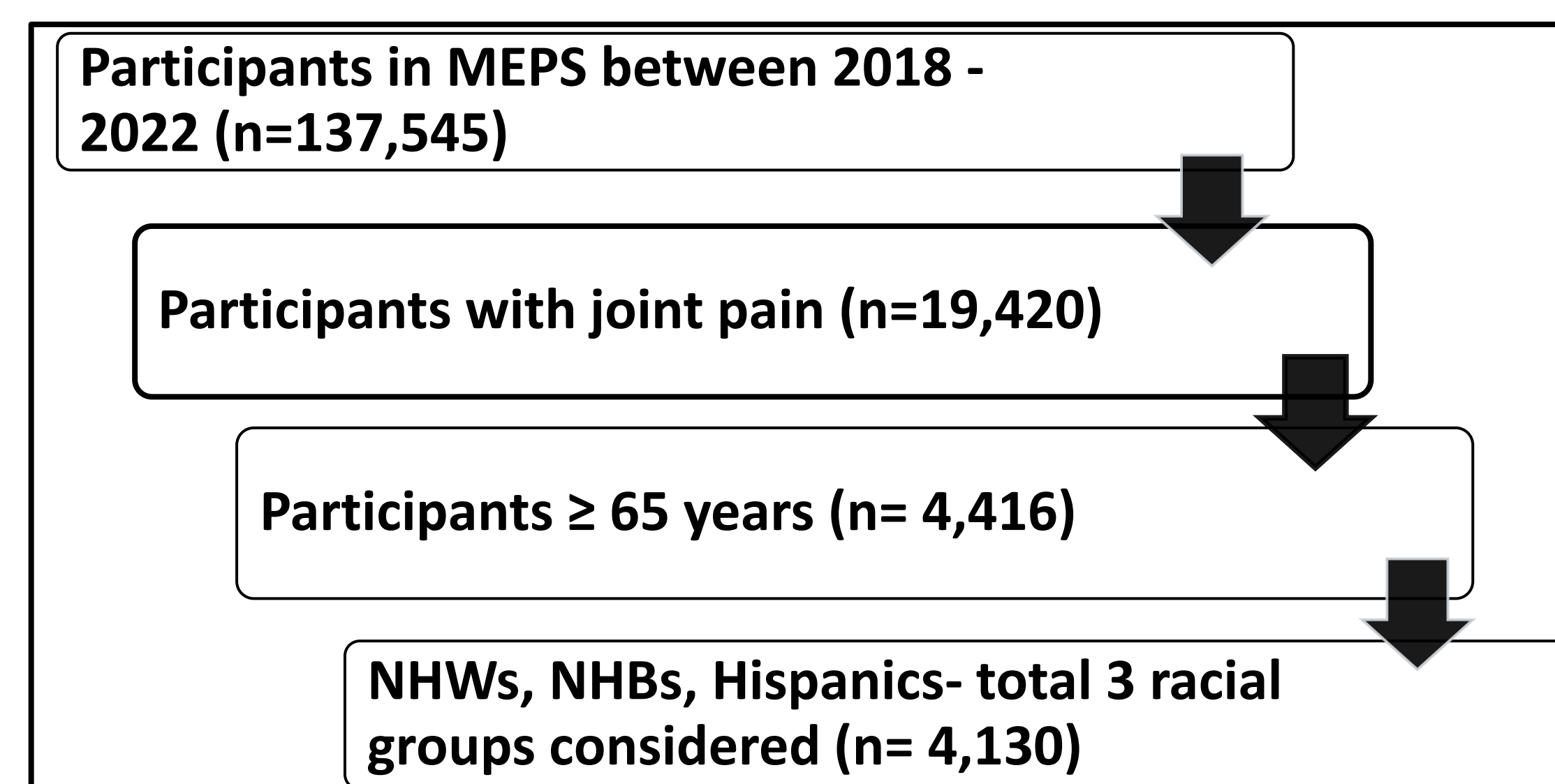


Figure 3. Attrition Flow Chart



RESULTS

Figure 4. Sample Characteristics

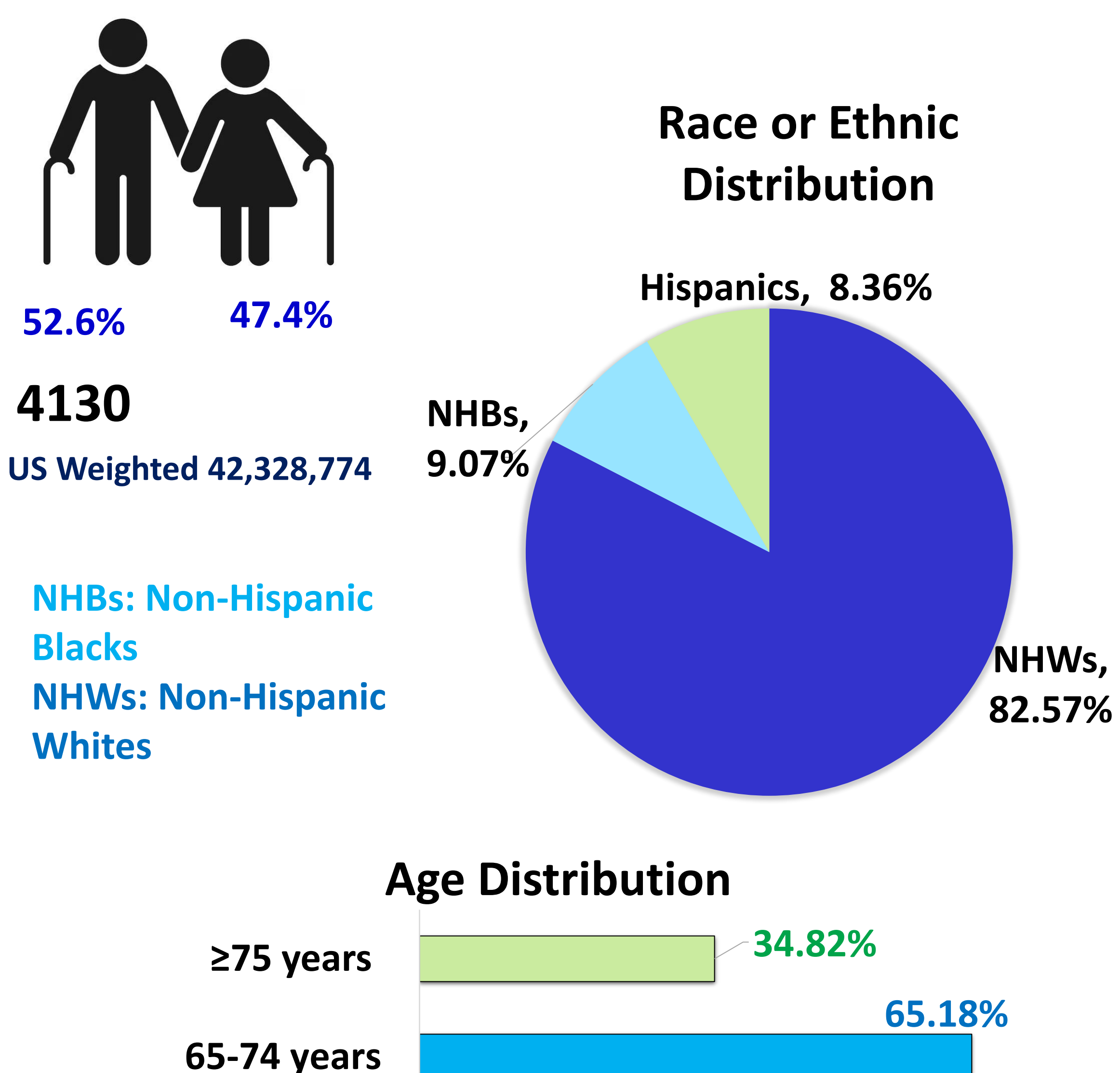


Table 1. Patient Characteristics by Racial/Ethnic groups

Variable	Category	Weighted Frequency (%)				P value
		Total (%) N=	Hispanic (%) n=	NHBs (%) n=	NHWs (%) n=	
Marital Status	Never Married	2,280,879 (5.49)	298,233 (8.66)	486,203 (12.89)	1,496,443 (4.36)	<0.0001
	Widowed/Divorced/Separated	13,651,535 (32.86)	1,171,753 (34.0)	1,747,018 (46.32)	10,732,764 (31.26)	
	Married	25,618,029 (61.66)	1,974,962 (57.32)	1,538,773 (40.79)	22,104,294 (64.38)	
Employment Status	Unemployed	11,983,781 (28.45)	905,667 (25.66)	1,081,393 (28.24)	9,996,721 (28.76)	0.6643
	Employed	30,134,775 (71.55)	2,623,219 (74.34)	2,748,028 (71.76)	24,763,528 (71.24)	
Chronic Conditions	None	7,269,858 (17.83)	477,410 (14.51)	351,305 (10.06)	6,441,143 (18.94)	0.0001
	One Condition	10,974,554 (26.91)	694,279 (21.10)	1,006,321 (28.82)	9,273,954 (27.27)	
	Two Conditions	8,531,158 (20.92)	717,864 (22.82)	800,628 (22.93)	7,012,666 (20.62)	
	Three Conditions	6,677,134 (16.37)	842,023 (25.59)	712,707 (20.41)	5,122,404 (15.07)	
	Four Conditions	3,482,675 (8.54)	366,416 (11.14)	226,438 (6.48)	2,889,821 (8.50)	
	Five or More Conditions	3,848,541 (9.44)	192,186 (5.84)	394,452 (11.30)	3,261,903 (9.59)	
Pain Limitation	A Little Bit	11,279,033 (58.53)	694,965 (43.16)	799,704 (57.46)	9,784,364 (60.14)	0.0011
	Moderately	690,712 (3.58)	101,834 (6.32)	41,254 (2.96)	547,624 (3.37)	
	Quite a Bit	4,288,582 (22.25)	435,581 (27.05)	256,098 (18.40)	3,596,903 (22.11)	
	Extremely	3,013,485 (15.64)	377,685 (23.46)	294,800 (21.18)	2,341,000 (14.39)	
Insurance Coverage	Any Private	21,105,841 (49.86)	1,040,822 (29.42)	1,761,066 (45.85)	18,303,953 (52.37)	<0.0001
	Public Only	21,132,259 (49.92)	2,445,842 (69.13)	2,080,022 (54.15)	16,606,395 (47.52)	
	Uninsured	90,674 (0.21)	51,418 (1.45)	0 (0.00)	39,256 (0.11)	

Figure 5. Mean Annual Expenditures Across Racial/Ethnic Groups

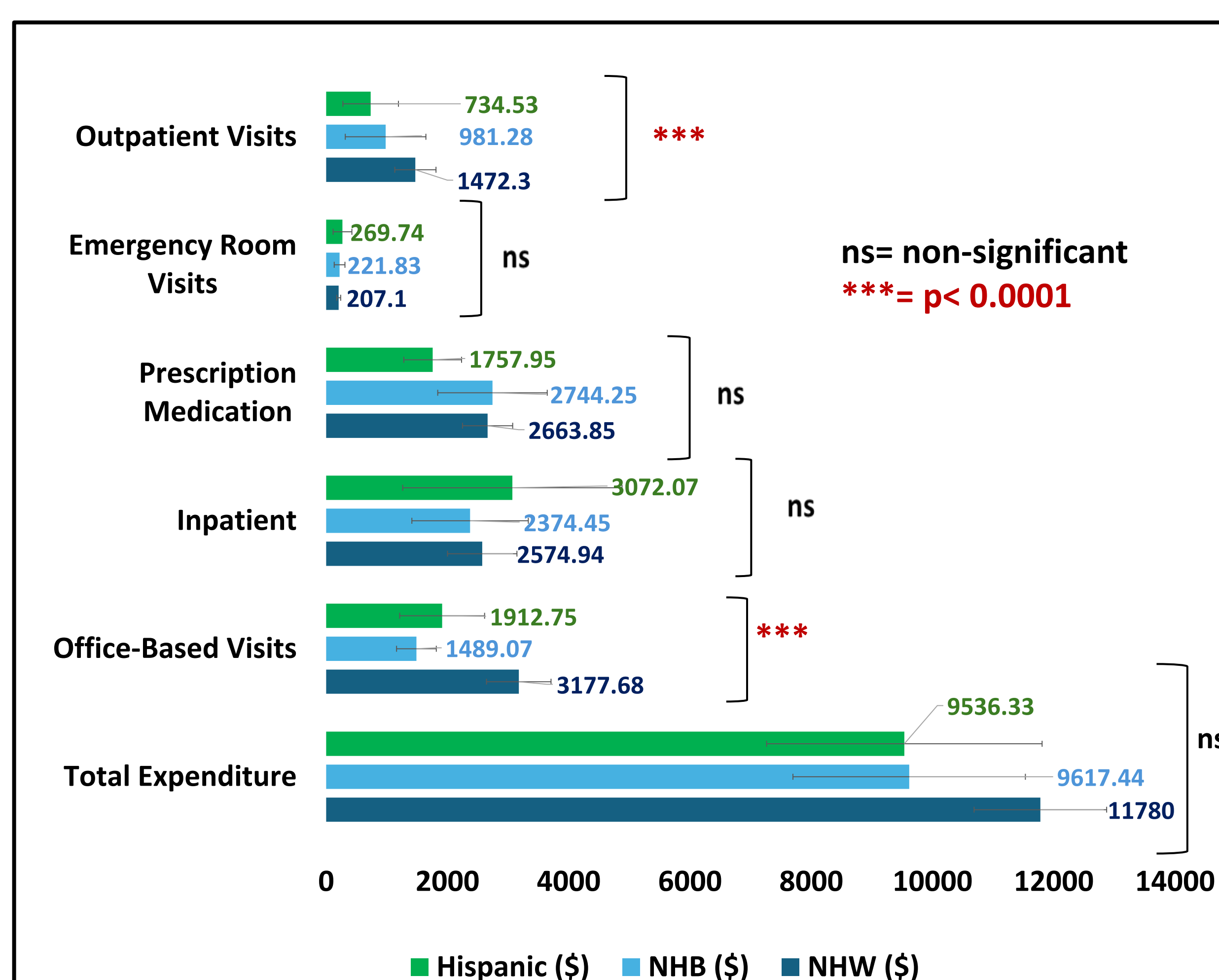


Figure 6. Adjusted Analysis Indicating the Differences in Expenditure Categories across Racial/Ethnic Groups

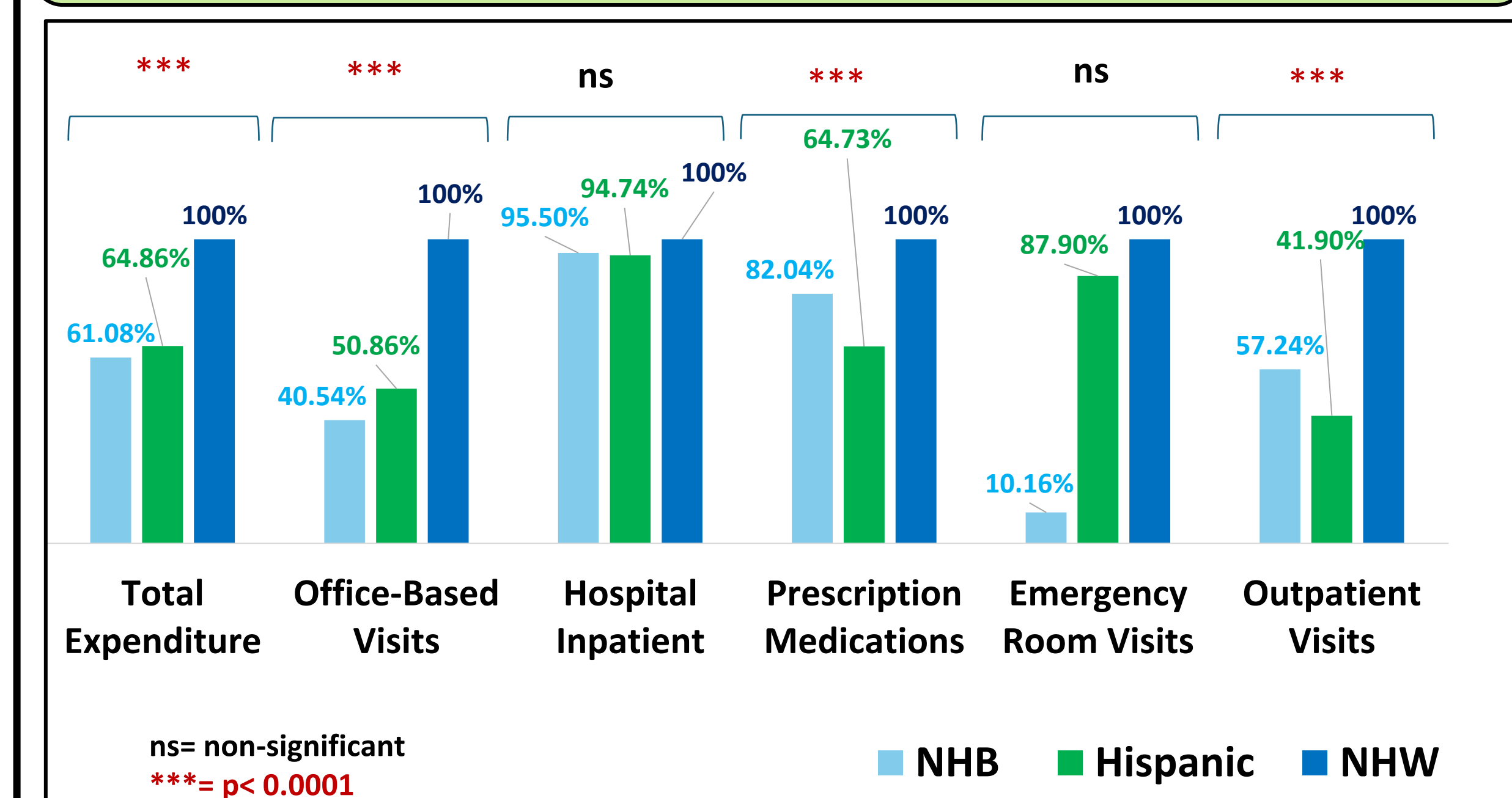


Table 2. Adjusted Change in Health Care Expenditures as a Percentage of White Patients' Expenditures Among NHB and Hispanic Patients with Joint Pain

Predictor	Category	Percentage Change in Expenditure (%)	p-value
Age Category	65-74	Reference	
	75 and Above	112.98	0.03
Insurance Coverage	Public Only	Reference	
	Any Private	127.76	<0.0001
Perceived Health Status	Poor	Reference	
	Excellent	34.61	0.33
Number of Chronic Condition	0 Condition	Reference	
	1 Condition	136.89	0.001
	2 Conditions	196.40	<0.0001
	3 Conditions	208.34	<0.0001
	4 Conditions	342.47	<0.0001
	5 and Above	479.22	<0.0001

CONCLUSIONS

- Racial and ethnic disparities in healthcare expenditures among older U.S. adults with joint pain reveal significantly lower spending among Hispanics and Non-Hispanic Blacks, especially in prescription medications, office-based visits, and outpatient services. These findings underscore the urgent need to promote equitable access to healthcare services.
- Individuals aged 75 and above, those with private insurance, and those reporting better perceived health had significantly higher expenditures.
- Additionally, total expenditures increased substantially with the number of chronic conditions, with those having multiple conditions incurring the highest costs compared to individuals without any chronic conditions.

REFERENCES

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- Hamed S, Bradby H, Ahlberg BM, Thapar-Björkert S. Racism in healthcare: a scoping review. *BMC Public Health.* 2022;22:988.
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