

Analysis of Medical Insurance Expenses Using Demographic and Lifestyle Factors in Power BI

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DATA SCIENCE

1338

Count of age

17.76M

Sum of expenses

13.27K

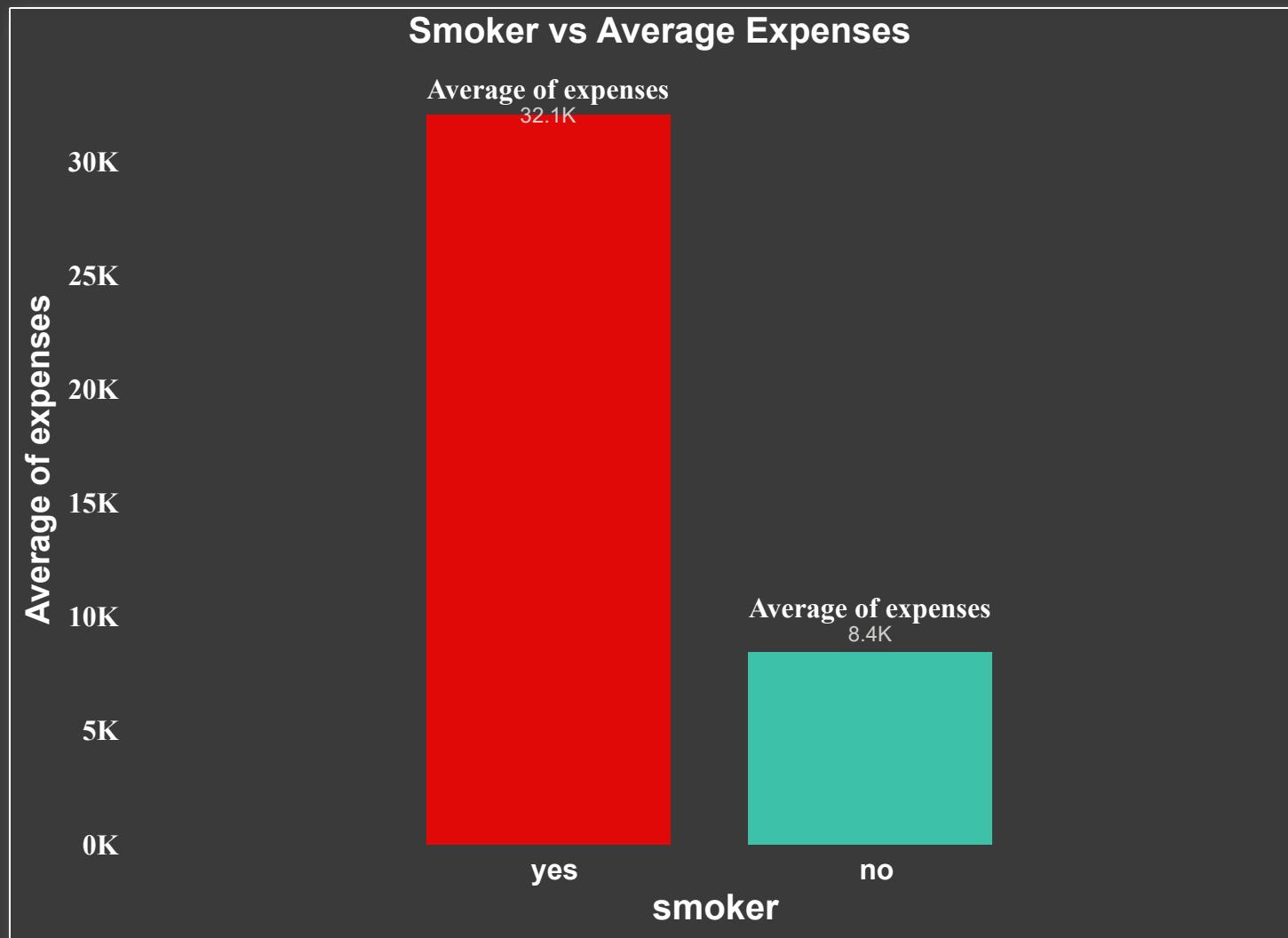
Average of expenses

63.77K

Max of expenses

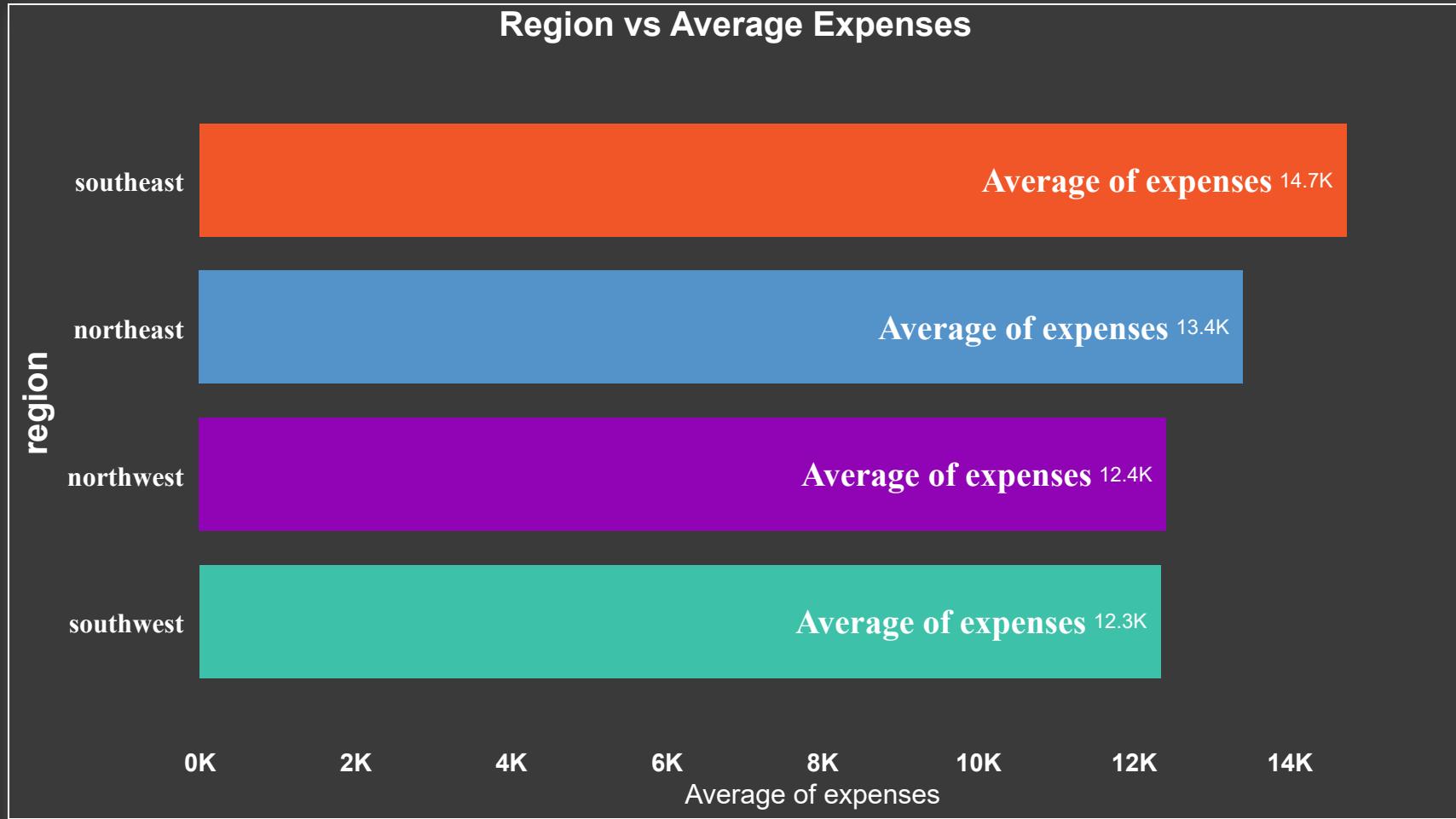
SUMMARY

The dataset contains 1,338 policyholders with total medical expenses of 17.76 million, an average cost of 13.17 thousand per individual and a maximum recorded expense of 63.77 thousand.



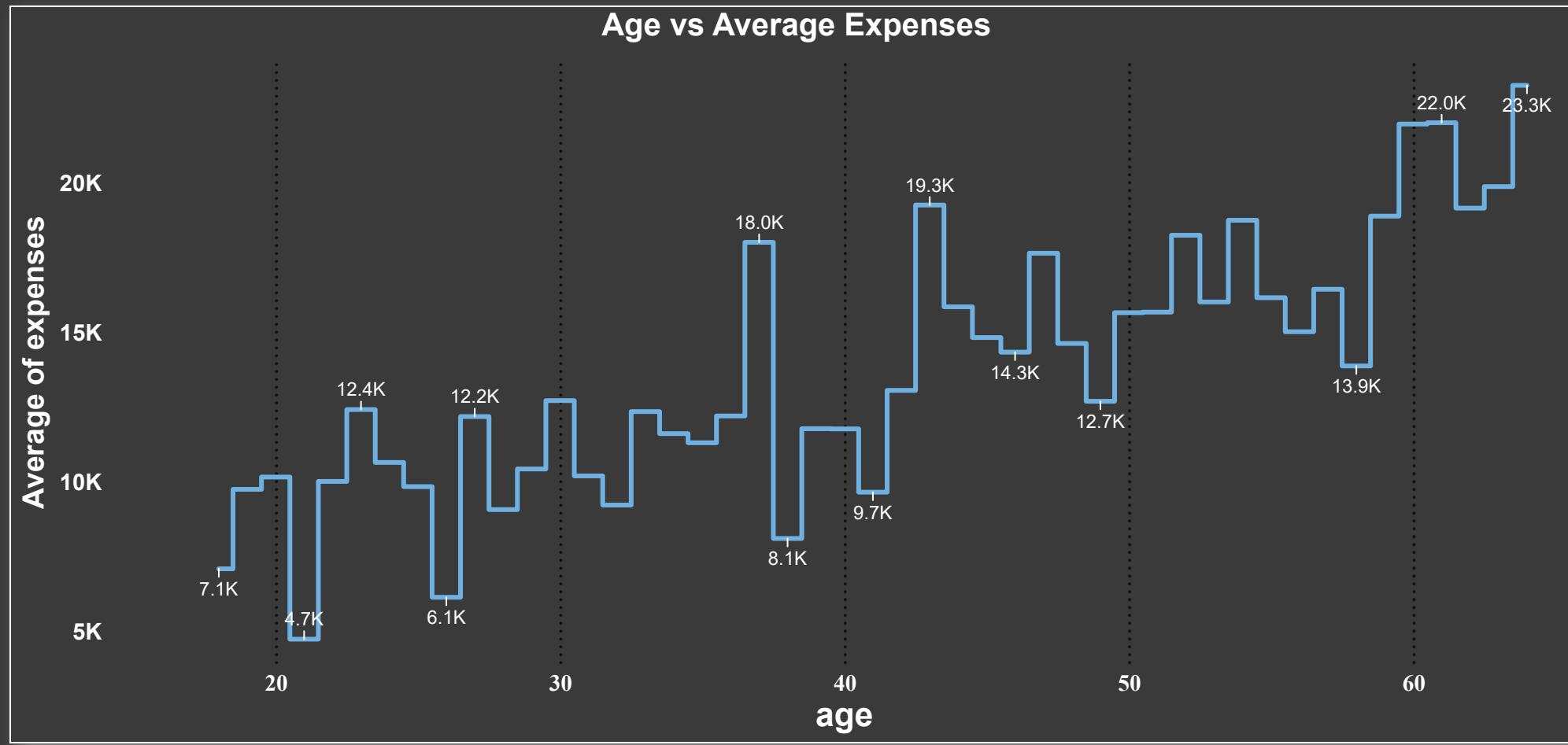
SUMMARY

Smokers have significantly higher medical expenses compared to non-smokers, indicating smoking as a major risk factor.



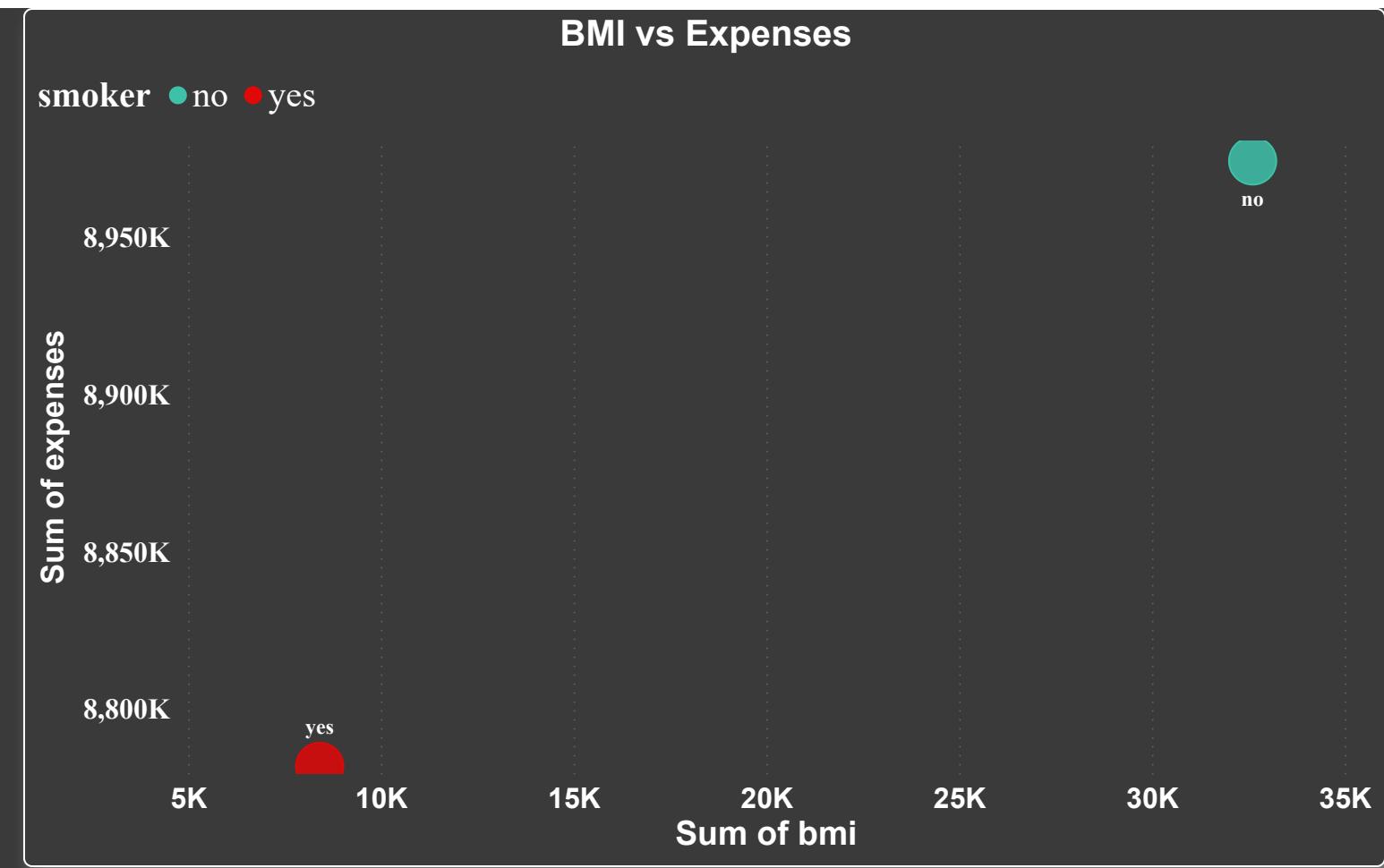
SUMMARY

Medical expenses vary across regions, showing geographical differences in healthcare costs.



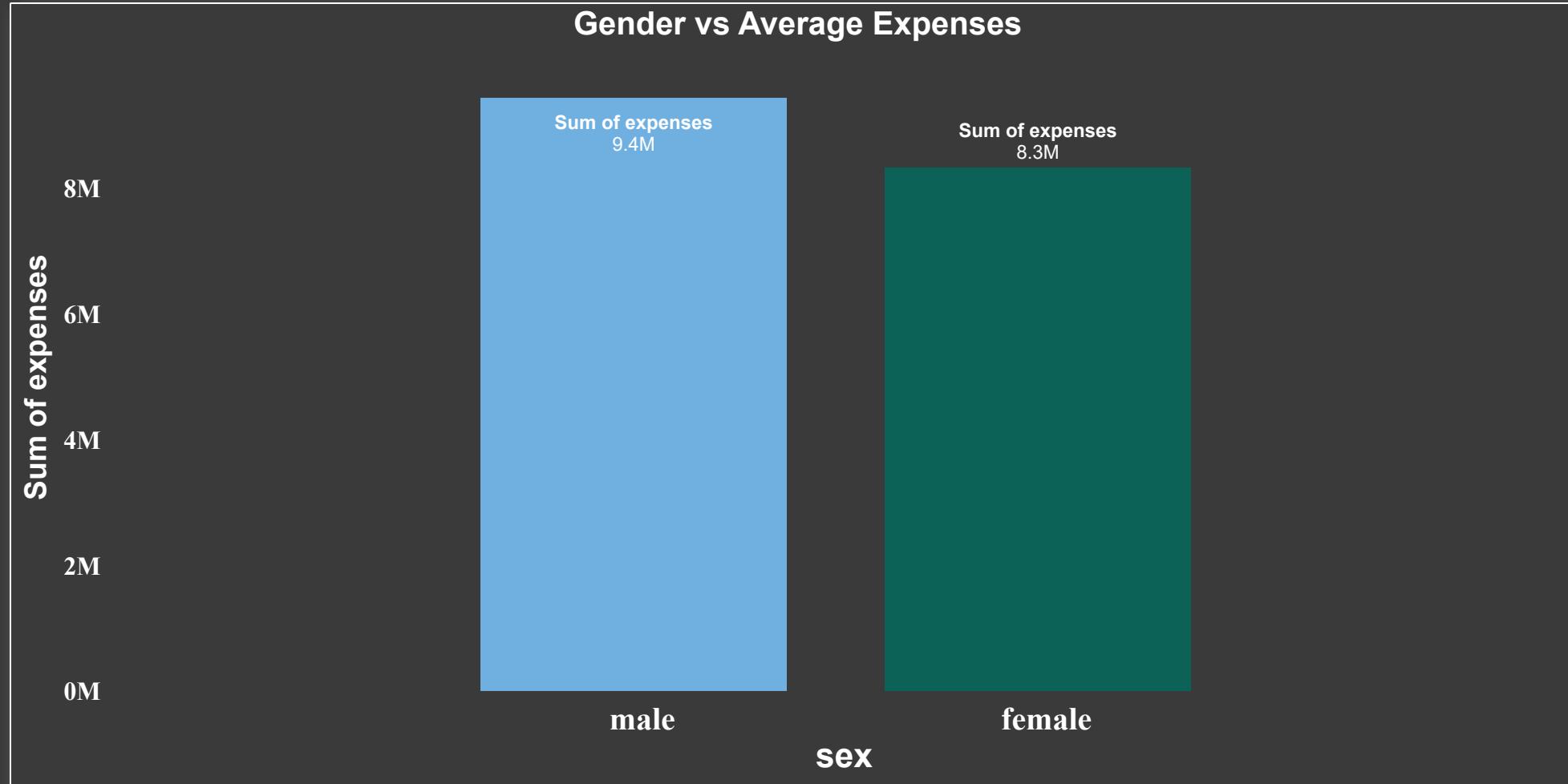
SUMMARY

Medical expenses increase with age, indicating higher healthcare needs among older individuals.



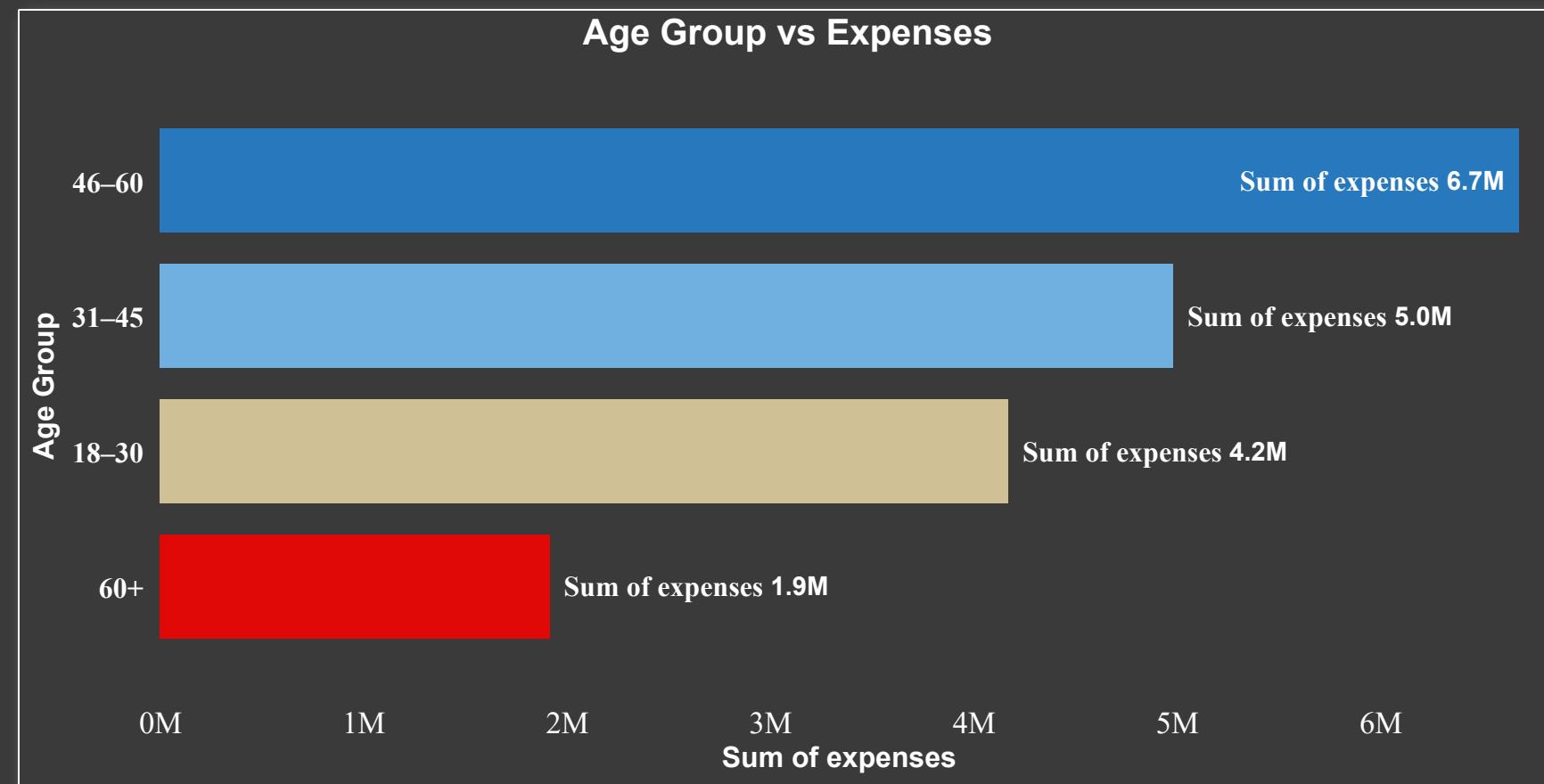
SUMMARY

Individuals with higher BMI, especially smokers, tend to have increased medical expenses.



SUMMARY

The difference in medical expenses between males and females is relatively small compared to lifestyle factors.



SUMMARY

Older age groups show higher medical expenses, highlighting increased health risks with aging.

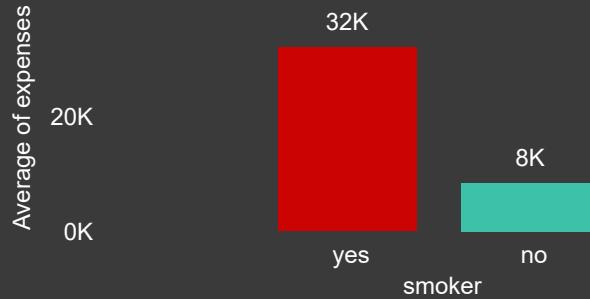
Medical Insurance Expense Analysis Dashboard

Interactive Healthcare Cost Intelligence System

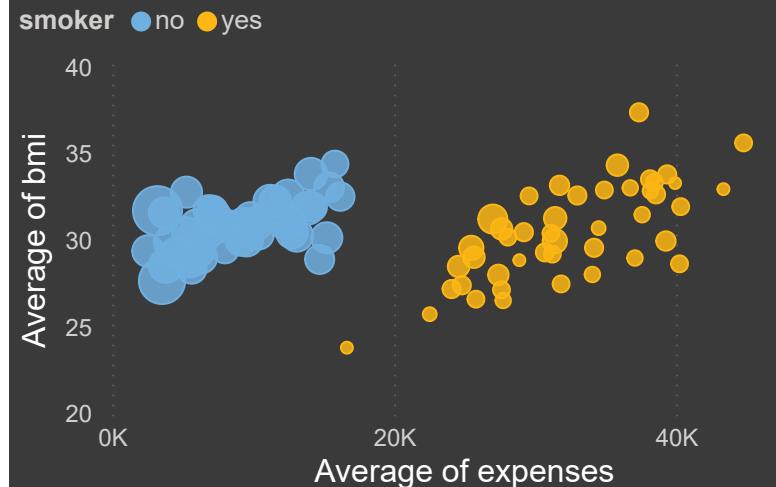
region, sex, smoker, Age Group ▾



Avg expenses by smoker



BMI vs Expenses



1338

Count of age

17.76M

Sum of expenses

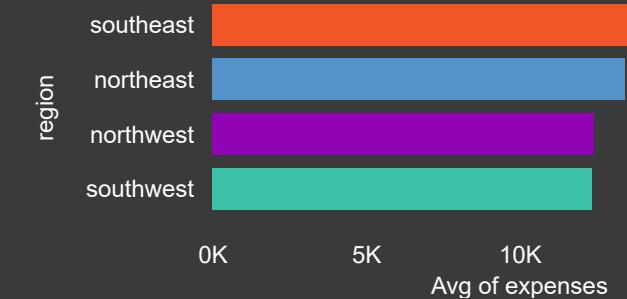
13.27K

Average of expenses

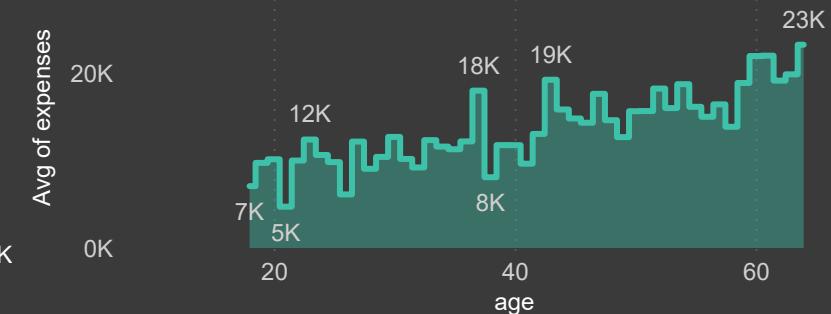
63.77K

Max of expenses

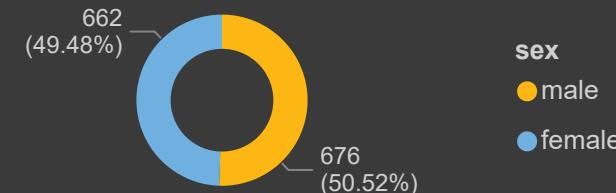
Avg of expenses by region



Avg of expenses by age



Count of smoker by sex



Age Group	no	yes	Total
18–30	1,557,345.72	2,615,167.49	4,172,513.21
31–45	2,224,574.24	2,758,523.32	4,983,097.56
46–60	4,131,845.33	2,551,621.22	6,683,466.55
60+	1,060,296.34	856,451.53	1,916,747.87
Total	8,974,061.63	8,781,763.56	17,755,825.19

Average of expenses by sex



The dashboard follows a multi-layer analytical architecture consisting of executive summary, risk analysis, and customer detail views. Advanced Power BI features were implemented to support interactive and data-driven healthcare decision making.