

The Economic Burden of Obesity in 4 South-Eastern European Countries: A Micro-Costing Study

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Chronic kidney disease (CKD) and cardiovascular diseases (CVDs) were generally the costliest ORCs across all 4 countries, where annual cost burden per ORC exceeded USD 1,500.

Aim

- To provide an assessment of the economic burden of obesity to the public payer across a comprehensive spectrum of obesity-related comorbidities (ORCs) for four countries within the South-East Europe (SEE) region (i.e., Czech Republic, Greece, Hungary, and Romania) where obesity rates have surged past 20%.
- To understand the variations in key cost drivers for key and costly ORCs in these four countries, namely chronic kidney disease and heart failure.

Key results

- Individuals with any ORC incurred average annual healthcare costs ranging from USD 592 for hypertension (HTN) in Czech Republic to USD 16,258 for heart failure (HF) in Greece.
- Chronic kidney disease (CKD) and cardiovascular comorbidities (i.e., HF, angina, and atrial fibrillation) were consistently the costliest comorbidities across all 4 countries; costs were mainly driven by disease severity and subsequent increased resource use, mainly for inpatient care.
- HTN, asthma, and hyperlipidaemia were the least costly ORCs across all 4 countries, incurring approximately one-tenth to one-fifth of the costs of the most expensive comorbidities due to simpler treatment algorithms, and fewer demands on costly inpatient and specialist care services that are inherent to disease management.
- CKD: Annual cost incurred in Greece is at least 3 times the cost estimated in Hungary, Romania and the Czech Republic, attributed to higher cost

Methods

- A retrospective micro-costing analysis from the public payer’s perspective was conducted to estimate all fixed and variable healthcare costs incurred by the average patient with an ORC in each country.
- Detailed healthcare resource utilization and unit costs were obtained from local public sector physician specialists and hospital administrator surveys, respectively.
- Survey data and cost estimate outputs were validated by an expert steering committee comprising local physician specialists from each country and a health economist.

- of treatments, adverse events, and complications – associated with higher utilization rates and unit costs.
- HF: Annual cost incurred in Greece is at least 2.5 times the cost compared to the other 3 countries, attributed to higher cost of treatments, complications and inpatient procedures – associated with higher prescribing rates of guideline-directed medical therapy, higher unit costs and higher resource utilization.

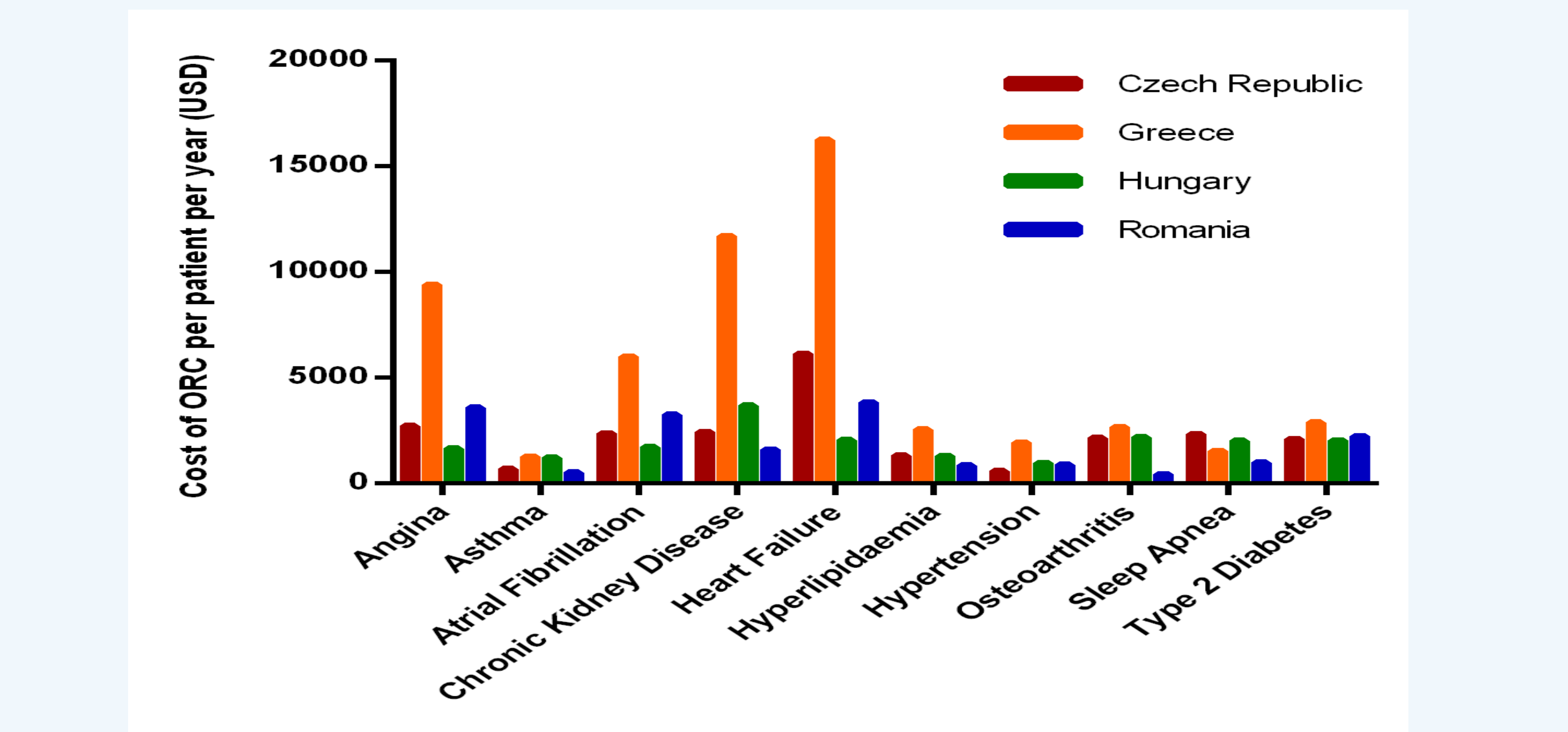
Table 1: Estimated annual healthcare cost (USD; 2022) of ORCs in adults with obesity across the four countries

	Czech Republic	Greece	Hungary	Romania
Angina	2,717	9,410	1,666	3,597
Asthma	691	1,272	1,219	527
Atrial Fibrillation	2,370	6,004	1,723	3,258
Chronic Kidney Disease	2,438	11,708	3,684	1,616
Heart Failure	6,144	16,258	2,051	3,848
Hyperlipidaemia	1,318	2,558	1,311	859
Hypertension	592	1,946	979	897
Osteoarthritis	2,155	2,681	2,188	449
Sleep Apnea	2,342	1,540	2,032	987
Type 2 Diabetes	2,105	2,888	2,042	2,248

Limitations

- Our micro-costing cost estimation approach relies on respondent inputs and expert validation. In the absence of reliable registry data in these countries, our cost estimates provide a general understanding of economic burden, while subject to a degree of uncertainty.
- Single ORC analysis: A patient with obesity is likely to experience more than one ORC on average in their lifetime, where additional costs or care synergies may need to be considered to accurately reflect actual burden.
- Out-of-pocket costs and indirect costs associated with loss of productivity were not included.

Figure 1: Graphical representation of the estimated annual healthcare cost (USD; 2022) of ORCs in adults with obesity across the four countries



Conclusion

- Our results confirm that obesity and its comorbidities result in a significant financial burden to the health systems in these four countries, and immense cost savings that can be potentially realised by preventing or delaying ORC occurrence.
- By quantifying the burden of obesity on health from the public healthcare perspective, our study aims to support policy efforts towards health education and promotion in combating obesity in the region.

References:
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