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Health Economics Article Series | Summary 1 of 6

The annual economic burden of patent foramen ovale-associated stroke in the United States

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An in-depth analysis of stroke data reveals the significant patient- and budget-related impacts around the treatment of cryptogenic stroke (which occurs without a clear underlying cause), including screening, diagnosis and device selection.

Current challenge

Stroke is the 2nd leading cause of death worldwide

25%–40%

of ischemic strokes are classified as cryptogenic, with patent foramen ovale (PFO) as a potential underlying cause

44,000–71,000

new and recurrent PFO-associated strokes occur annually

Up to 2,900 PFO-associated strokes are fatal

$56.5B

In the U.S., the **economic burden of stroke** between 2018 and 2019 was **estimated at $56.5 billion**, corresponding to 0.26% of the gross domestic product in that year.

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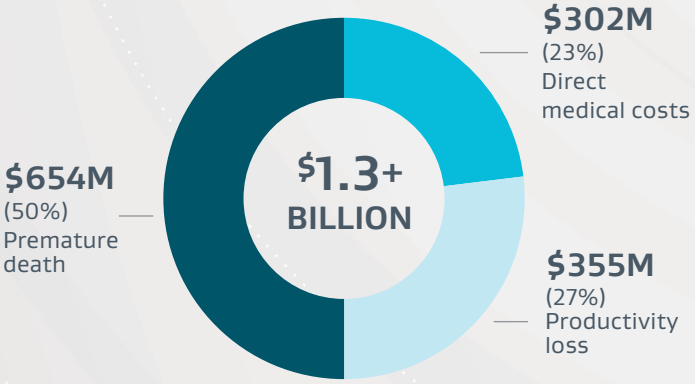
Together, improving life

Early intervention and PFO closure could significantly reduce both clinical and economic burden

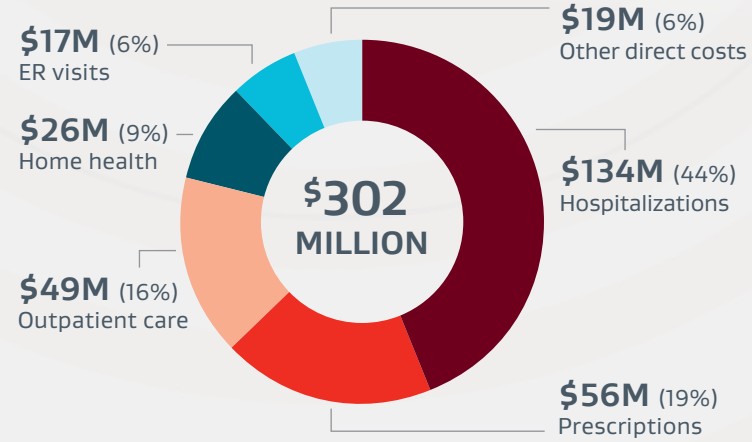
Study results[f]

The total direct and indirect costs of PFO-associated strokes in the U.S. were estimated at $1.3 billion annually, with $1.0 billion from new strokes and $302 million from recurrent strokes.

Societal total annual direct and indirect costs



Payer total annual direct medical costs



Conclusions

Recurrent strokes account for 25% of total societal costs, and in-patient hospitalization is the largest driver of direct medical costs.

Recurrent PFO-associated stroke is a costly, preventable condition. These findings provide a powerful case for increased screening and treatment.

By changing the way we look at PFO screening, diagnosis and treatment, we have the opportunity to reduce PFO-associated stroke costs and improve patient outcomes.

Discover the potential impact of PFO diagnosis and treatment. Access the full publication.

[f] The data presented utilized a top-down, prevalence-based approach. This estimate applies national stroke incidence and cost data to calculate the annual economic burden of PFO-associated stroke. The societal perspective includes both direct and indirect medical costs. The payer perspective focused solely on direct health care costs.

References

1. Volpi JJ, Kasner SE, Neervoort J, *et al*. The annual economic burden of patent foramen ovale-associated stroke in the United States. *Journal of Stroke & Cerebrovascular Diseases: The Official Journal of National Stroke Association* 2025;34(6):108319.

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