

A US Burden of Disease Projection Model for Non-Obstructive Hypertrophic Cardiomyopathy, 2027-2035

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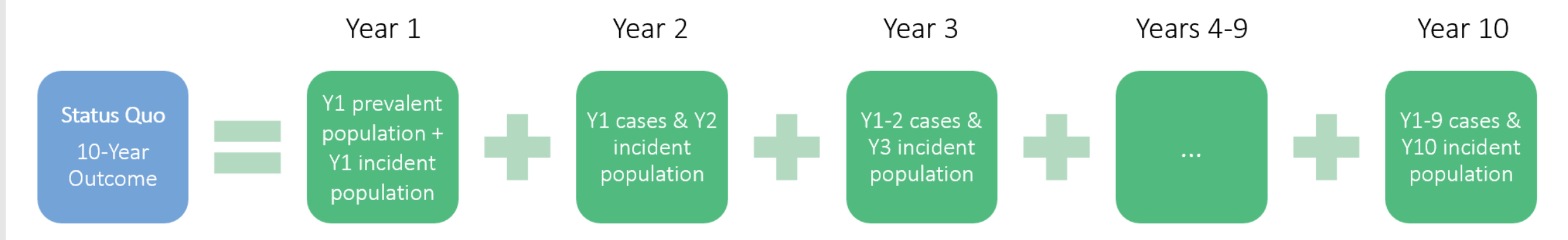
OBJECTIVE

- Hypertrophic cardiomyopathy is one of the most common inherited cardiovascular diseases worldwide, affecting about 1 in 327 individuals in the general population.¹
- Non-obstructive hypertrophic cardiomyopathy (nHCM) is a subset of HCM with an estimated prevalence of 0.05% in the United States (US), and evidence indicates a growing patient population.²
- As the population-wide outcomes associated with nHCM are not well quantified, a disease burden model was designed to project the clinical and economic burden of nHCM.

METHODS

- A Microsoft Excel-based disease burden model was developed to project the nHCM burden for the US population.
- The model considered both current prevalent nHCM cases and future incident cases by applying a previously observed incidence rate to the adult population (Figure 1).³
- Growth in annual nHCM incidence rates were incorporated per recent trends.²

Figure 1. Flow of Patients Through the Model



- Diagnosed nHCM patients accrued costs, experienced healthcare resource utilization, and faced a risk of nHCM death annually from 2027 to 2035.³⁻⁴
- Epidemiologic inputs (prevalence, incidence, incidence growth rate, disease-based age and sex stratification, mortality rate), per-person risk of heart transplantation, and average cost per nHCM patient were based on published estimates.²⁻⁴
- Outcomes included total cases, total heart transplants, all-cause deaths, and nHCM-related direct medical costs, reported annually and cumulatively.
- Parameter uncertainty was explored in one-way sensitivity analysis (OWSA).

METHODS (CONT.)

Table 1. Base-case Model Inputs

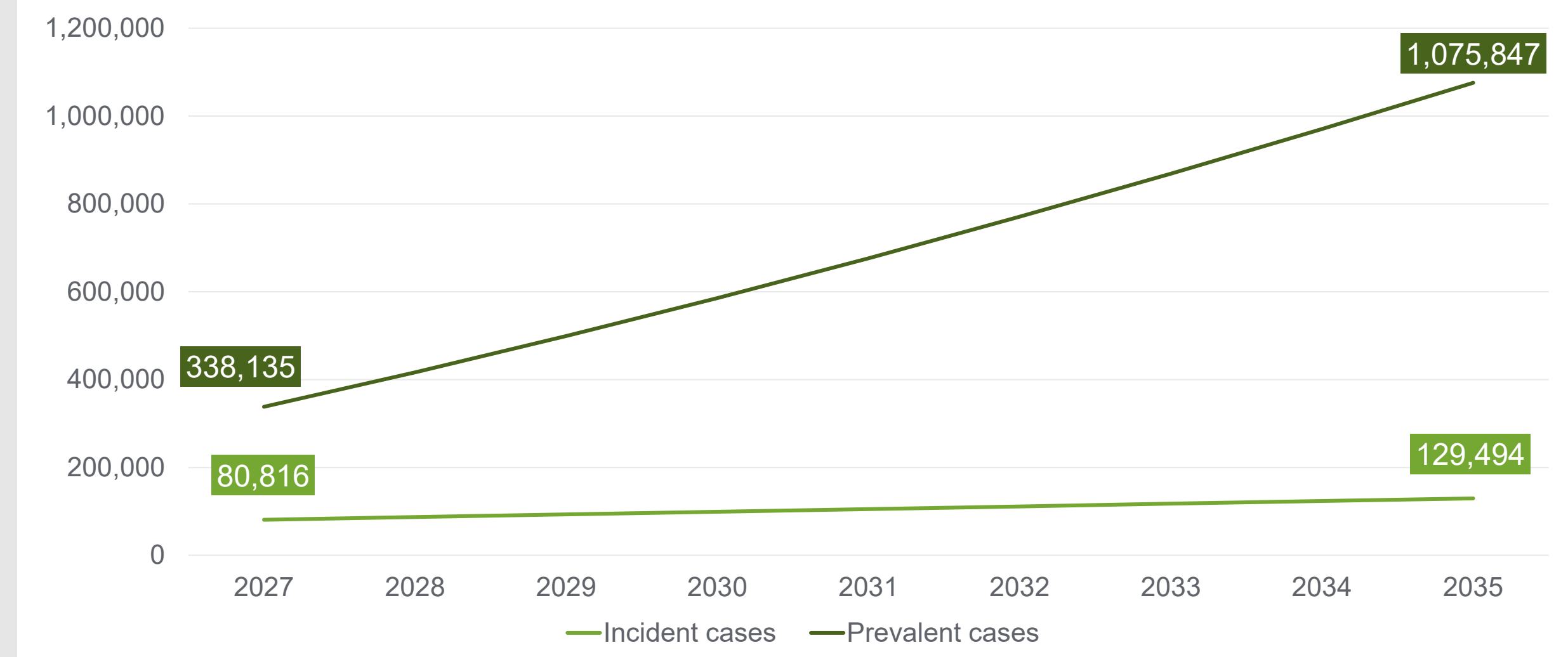
Parameter	Value	Source
Population Size	340,110,988	5
Proportion of Population ≥18	78.5%	
nHCM Prevalence	0.047%	2
nHCM Incidence	0.026%	
Annual Increase in nHCM Incidence	0.002%	3
Age 18-39 y	11.7%	
Age 40-54 y	19.9%	
Age 55-64 y	24.2%	
Age 65+ y	44.2%	
% Male	53.4%	
nHCM Mortality Rate*	2.5%	6
Ambulatory Visit (Annual)	2.23	
ED Visit (Annual)	0.10	3
Inpatient Admission (Annual)	0.13	
Heart Transplant (Annual)	0.008	4
Annual Mean Cost per Patient	\$13,057	

ED: emergency department; nHCM: non-obstructive hypertrophic cardiomyopathy. *nHCM mortality rate reflects the annual rates of death from any cause for patients with nHCM.

RESULTS

- The model projected substantial growth in nHCM burden, with prevalent cases increasing from 338,135 in 2027 to 1,075,847 in 2035 (Figure 2), driven by rising incidence (80,816 to 129,494 new cases annually).

Figure 2. nHCM Cases per Year



RESULTS (CONT.)

- From 2027-2035, the model projected 155,060 deaths (Figure 3) and 48,270 heart transplants (Figure 4) among patients with nHCM.

Figure 3. Annual Deaths

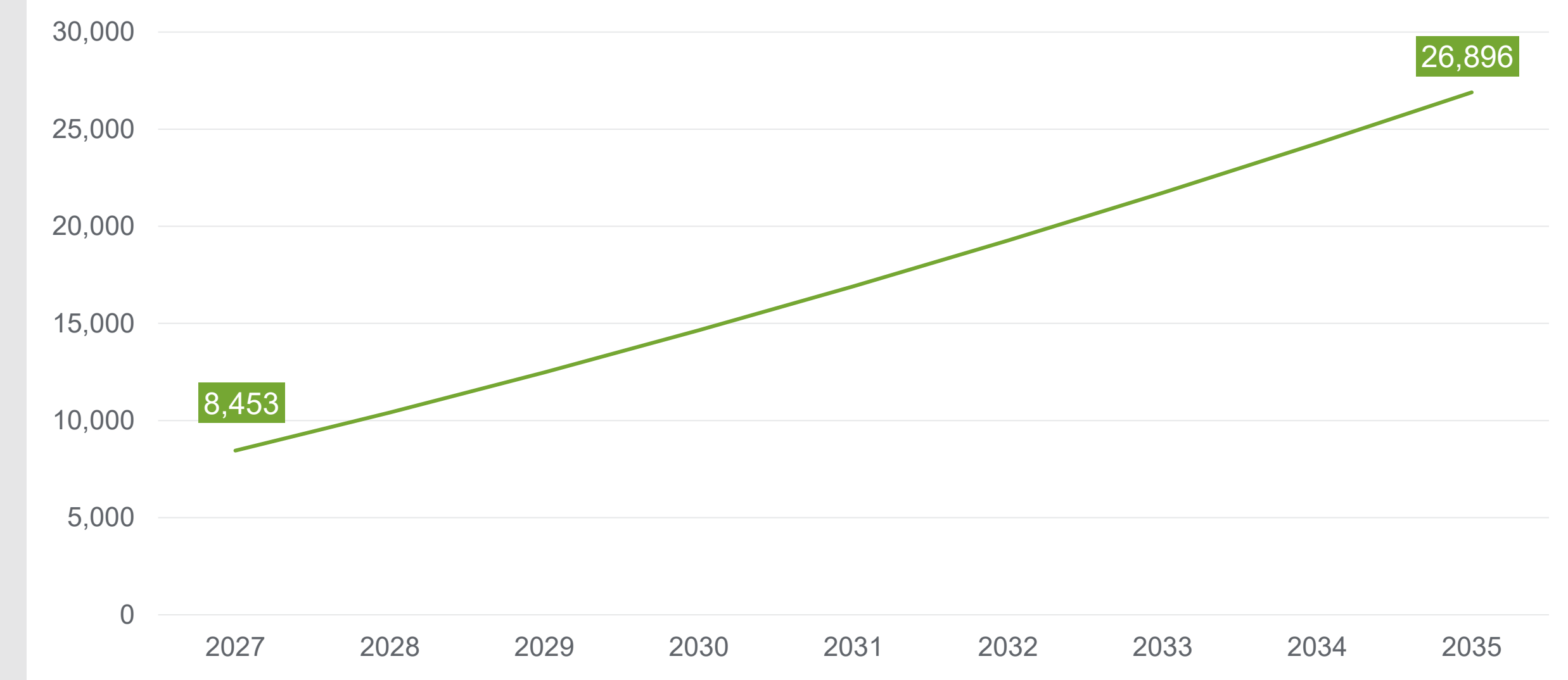
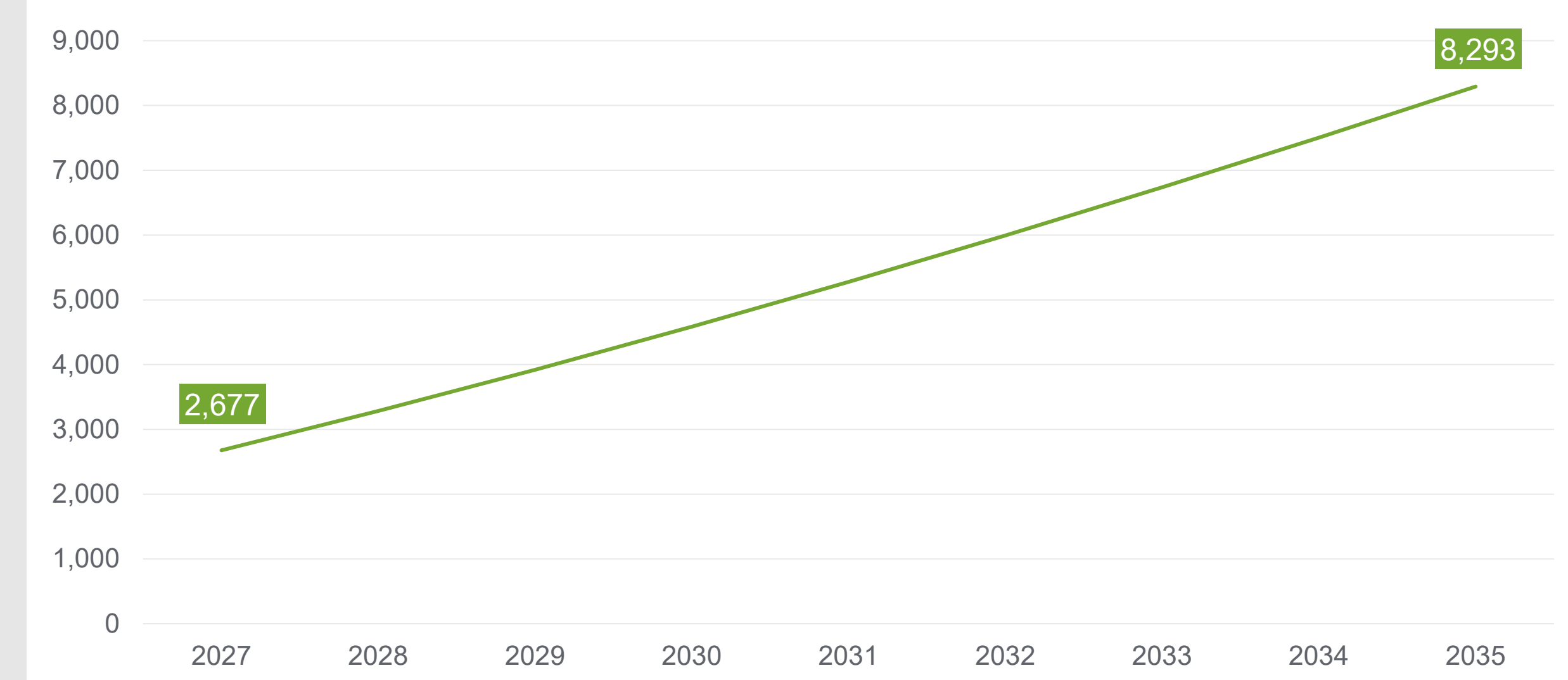


Figure 4. Total Heart Transplants



- Direct medical costs were projected to increase from \$4.2 billion in 2027 to over \$10.4 billion in 2035 (Figure 5), totaling more than \$66 billion over the study period.

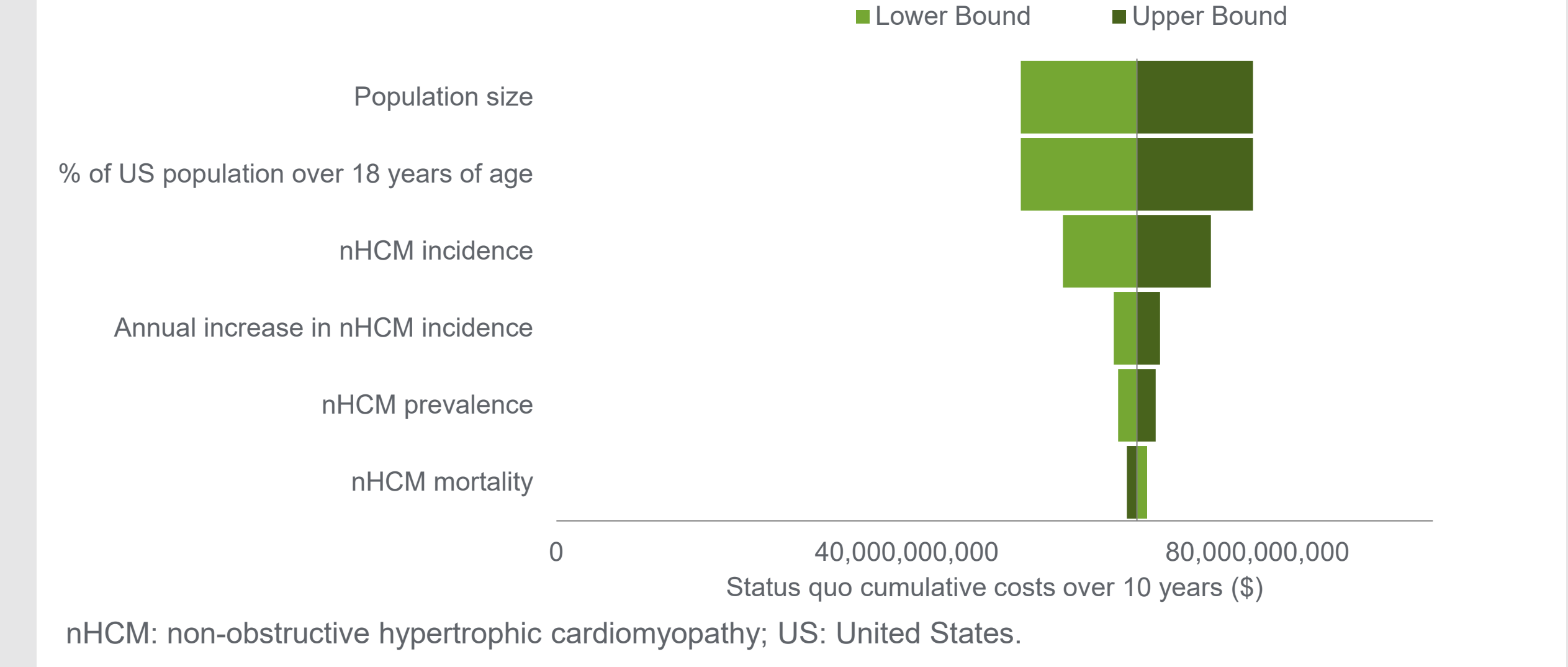
Figure 5. Direct Medical Costs



RESULTS (CONT.)

- In OWSA, cumulative costs over the study period were most sensitive to the size of the patient population and the nHCM incidence and mortality inputs (Figure 6).

Figure 6. Cumulative Costs Over 10 Years



LIMITATIONS

- A key limitation of this model is the limited data available to inform inputs, which may affect estimate precision.
- Cost projections are driven by assumed increases in nHCM diagnoses; if the condition is underdiagnosed, the true burden may be underestimated.

CONCLUSIONS

- Results indicate nHCM imposes a substantial and rising clinical and economic burden, driven by increasing incidence.
- The high disease burden underscores the urgent need for improved therapeutic options; emerging drugs in development may address this gap pending demonstration of efficacy and regulatory approval.

References

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- US Census Bureau. 2026.
- Cytokinetics data-on-file from Optum.

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Disclosures

PG, MB, SS: Employees of and own stock in Cytokinetics, Incorporated. JO, MS, LC, JL: Employees of Stratevi LLC.

