Estimating the Costs of Cell and Gene Therapy Products: A Systematic Review

EE792

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BACKGROUND

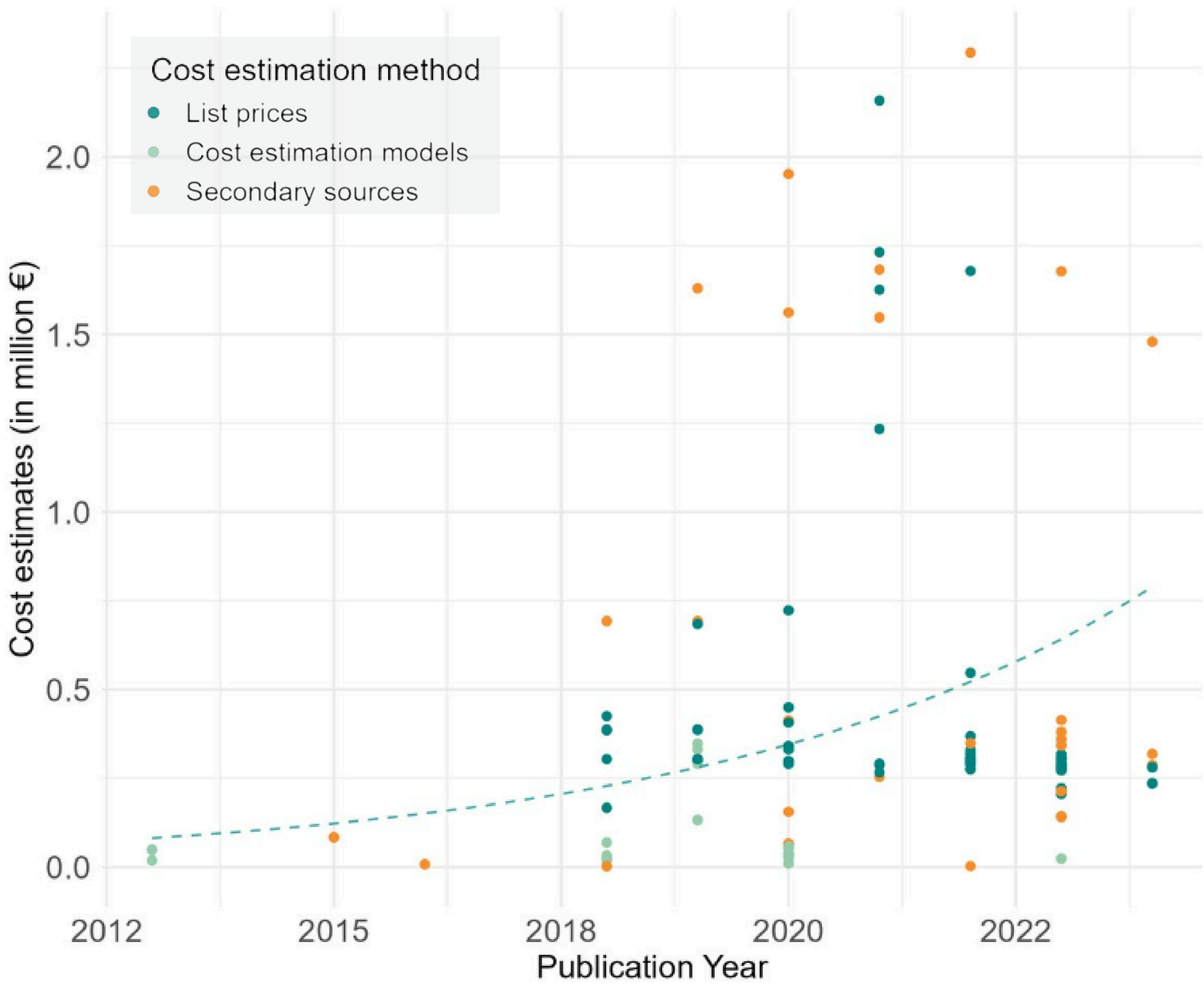
- Hopes for advanced therapies to revolutionize medical interventions and treat once-incurable diseases.
- Access limitations due to often-high costs.
- This review aims to compare methods used in estimating the costs of cell and gene therapy products.

METHODS

- Systematic review in PubMed, EMBASE, and Web of Science.
- 81 studies eligible out of 5890 articles initially identified.
- Hierarchical regression to analyze cost estimates

RESULTS

- Identified 129 product cost estimates
- Three main methods:
  - List prices for the actual or a similar product (n=69),
  - Cost estimation models (n=37),
  - Secondary sources (n=23).
- Product costs estimated using list prices were about four times (p=0.003) higher than costs estimated using models.
- Cost estimates from North America were about 60 percent higher than those from Europe (p=0.019).
- Estimated costs of gene therapies were about ten times higher (p≤0.001) than cell therapies and about four times higher (p≤0.001) than CAR T-Cell therapies.



Estimation method	n (%)	Median	Min	Max
List prices	69 (53.5%)	300,000	170,000	2,200,000
Cost estimation models	23 (17.8%)	38,000	9,600	350,000
Secondary sources	37 (28.7%)	320,000	1,500	2,300,000

CONCLUSION

- The results of this review indicate a heterogeneity in methods and a wide range of cost estimates.
- The appropriate costing method varies with the stage of product development, with products in early development having more uncertainty compared to those already on the market.

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