SDA Bocconi

EMPOWERING LIVES THROUGH KNOWLEDGE AND IMAGINATION

GOVERNMENT, HEALTH AND NOT FOR PROFIT DIVISION

QUALE SISTEMA DI VALUTAZIONE DEL VALORE

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Cosa si intende per «Valore»

- Il valore di una terapia viene misurato e descritto principalmente attraverso 3 dimensioni:
  - guadagno in termini di salute del paziente (efficacia e sicurezza) → *outcome*;
  - qualità della vita dell'assistito;
  - eventuale risparmio netto dei costi sanitari e non sanitari.

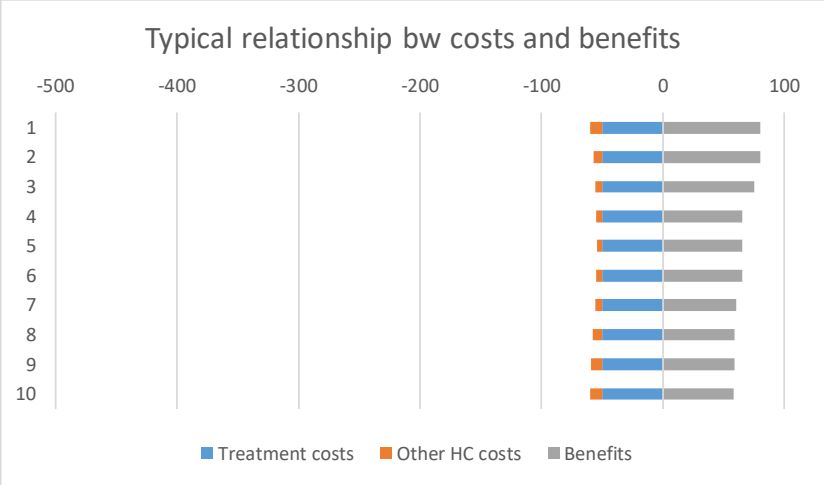
- Per decidere se (e a che prezzo) rimborsare bisogna tenere in considerazione il **valore incrementale**

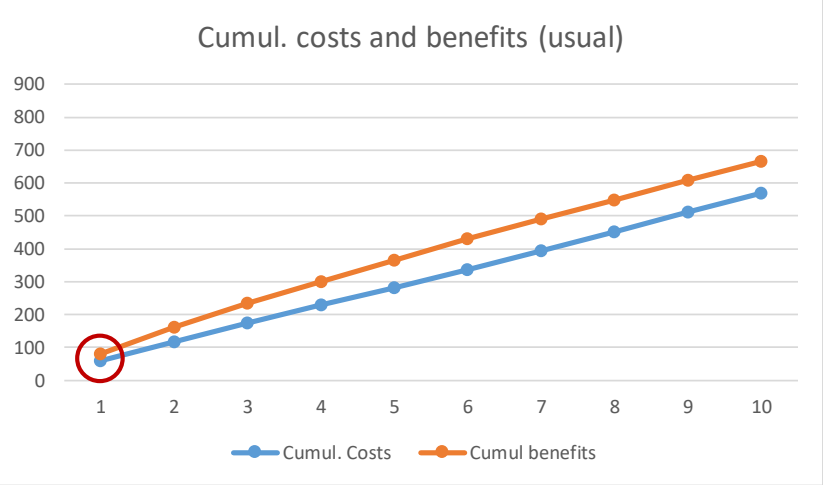
- Gli approcci decisionali «Value-Based» tengono in considerazione, oltre l'*outcome incrementale* di una tecnologia sanitaria, anche il principio di efficienza allocativa delle risorse a disposizione per l'acquisto di beni sanitari

- Rilevare il valore incrementale → **introdurre la tecnologia conviene??**

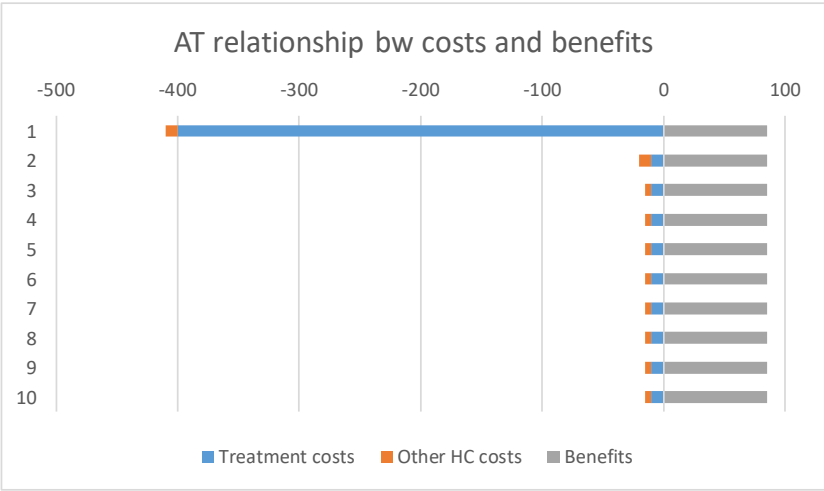
Caratteristiche delle terapie avanzate nel rapporto tra costi e benefici: un cambiamento radicale

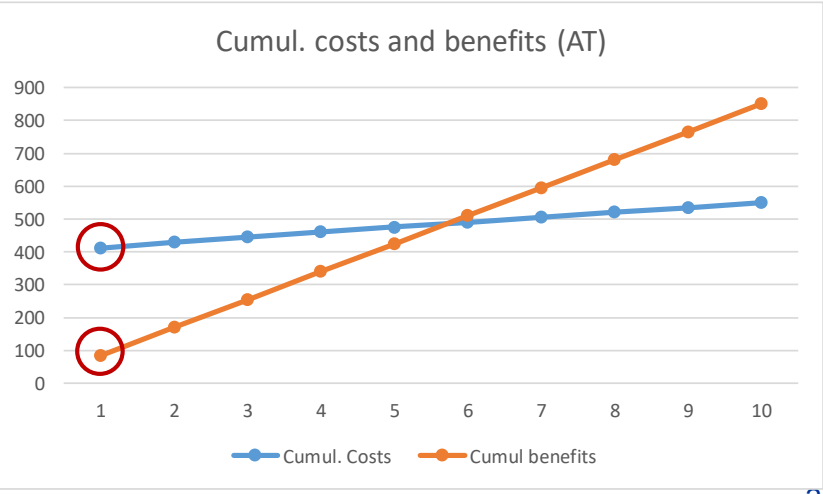
TERAPIE CONVENZIONALI





TERAPIE AVANZATE (es. CAR-T)





Caratteristiche delle terapie avanzate nel rapporto tra costi e benefici: un cambiamento radicale

- Le terapie CAR-T saranno caratterizzate da un elevato costo iniziale «upfront»
- Costi per paziente al primo anno alti: alti costi unitari fanno «più effetto» di alti volumi (e costi unitari più contenuti)
- I benefici derivanti saranno quantificabili nel lungo periodo (rischio di incertezza sugli effetti: efficacia, sicurezza e durabilità) → investimento futuro
- L'incertezza dei benefici emerge anche al momento dell'accesso → raccomandazione da parte del decisore
- I Sistemi Sanitari, ad oggi, sono abituati a valutare l'introduzione di terapie con un andamento parallelo tra costi e benefici

Attuale status su accesso delle CAR-T nei principali Paesi EU

ATMP	AIC (EU)				
tisagenlecleucel	2018	Istruttoria CPR (Maggio 2019)	DLBCL / ALL (Cancer Drugs Fund)	ATU (ASMR III/IV)	Beneficio non quantificabile
axicabtagene ciloleucel	2018	Istruttoria CPR (Maggio 2019)	DLBCL / PMBCL (Cancer Drugs Fund per entrambe)	ATU (ASMR III)	Beneficio non quantificabile

NICE National Institute for Health and Care Excellence

Tisagenlecleucel for treating relapsed or refractory diffuse large B-cell lymphoma after 2 or more systemic therapies

Technology appraisal guidance [TA567] Published date: 13 March 2019

Collecting more data on progression-free survival, overall survival and immunoglobulin usage will reduce the uncertainty in the evidence. Therefore, tisagenlecleucel is recommended for use in the Cancer Drugs Fund.

NICE accredited
www.nice.org.uk/accreditation

ATU: estensione di rimborso per massimo due anni da fase off-label; ASMR: valore terapeutico aggiunto, SMR: valore terapeutico assoluto

Esempi di valutazione economica delle CAR-T

J Natl Cancer Inst. 2018 Dec 14. doi: 10.1093/jnci/djy193. [Epub ahead of print]

Cost-Effectiveness of Chimeric Antigen Receptor T-Cell Therapy in Pediatric Relapsed/Refractory B-Cell Acute Lymphoblastic Leukemia.

Sarkar RR[1,2], Gloude NJ[1,3], Schiff D[1,3], Murphy JD[1,2].

Author information

Abstract

BACKGROUND: Chimeric antigen receptor T-cell (CAR-T) therapy is a promising new class of cancer therapy but has a high up-front cost. We evaluated the cost-effectiveness of CAR-T therapy among pediatric patients with relapsed/refractory B-cell acute lymphoblastic leukemia (B-ALL).

METHODS: We built a microsimulation model for pediatric patients with relapsed/refractory B-ALL receiving either CAR-T therapy or standard of care. Outcomes included costs, quality of life (health utility), complications, and survival. We measured cost-effectiveness with the incremental cost-effectiveness ratio (ICER), with ICERs under $100 000 per quality-adjusted life-year (QALY) considered cost effective. One-way and probabilistic sensitivity analyses were used to test model uncertainty.

RESULTS: Compared to standard of care, CAR-T therapy increased overall cost by $528 200 and improved effectiveness by 8.18 QALYs, resulting in an ICER of $64 600/QALY. The model was sensitive to assumptions about long-term CAR-T survival, the complete remission rate of CAR-T patients, and the health utility of long-term survivors. The base model assumed a 76.0% one-year survival with CAR-T, although if this decreased to 57.8%, then CAR-T was no longer cost effective. If the complete remission rate of CAR-T recipients decreased from 81% to 56.2%, or if the health utility of disease-free survivors decreased from 0.94 to 0.66, then CAR-T was no longer cost effective. Probabilistic sensitivity analysis found that CAR-T was cost effective in 94.8% of iterations at a willingness to pay of $100 000/QALY.

CONCLUSION: CAR-T therapy may represent a cost-effective option for pediatric relapsed/refractory B-ALL, although longer follow-up of CAR-T survivors is required to confirm validity of these findings.

PMID: 30551196 DOI: 10.1093/jnci/djy193

Esempi di valutazione economica delle CAR-T

Cost Effectiveness of Chimeric Antigen Receptor T-Cell Therapy in Multiply Relapsed or Refractory Adult Large B-Cell Lymphoma.

Lin JK[1,2], Muffly LS[3], Spinner MA[3], Barnes JI[1,2], Owens DK[1,2], Goldhaber-Fiebert JD[2].

Author information

Abstract

PURPOSE: Two anti-CD19 chimeric antigen receptor T-cell (CAR-T) therapies are approved for diffuse large B-cell lymphoma, axicabtagene ciloleucel (axi-cel) and tisagenlecleucel; each costs $373,000. We evaluated their cost effectiveness.

METHODS: We used a decision analytic Markov model informed by recent multicenter, single-arm trials to evaluate axi-cel and tisagenlecleucel in multiply relapsed/refractory, adult, diffuse large B-cell lymphoma from a US health payer perspective over a lifetime horizon. Under a range of plausible long-term effectiveness assumptions, each therapy was compared with salvage chemoimmunotherapy regimens and stem-cell transplantation. Main outcomes were undiscounted life years, discounted lifetime costs, discounted quality-adjusted life years (QALYs), and incremental cost-effectiveness ratio (3% annual discount rate). Sensitivity analyses explored uncertainty.

RESULTS: In an optimistic scenario, assuming a 40% 5-year progression-free survival (PFS), axi-cel increased life expectancy by 8.2 years at $129,000/QALY gained (95% uncertainty interval, $90,000 to $219,000). At a 30% 5-year PFS, improvements in life expectancy were more modest (6.4 years) and expensive ($159,000/QALY gained [95% uncertainty interval, $105,000 to $284,000]). In an optimistic scenario, assuming a 35% 5-year PFS, tisagenlecleucel increased life expectancy by 4.6 years at $168,000/QALY gained (95% uncertainty interval, $105,000 to $414,000/QALY). At a 25% 5-year PFS, improvements in life expectancy were smaller (3.4 years) and more expensive ($223,000/QALY gained [95% uncertainty interval, $123,000 to $1,170,000/QALY]). Administering CAR-T to all indicated patients would increase US health care costs by approximately $10 billion over 5 years. Price reductions to $250,000 and $200,000, respectively, or payment only for initial complete response (at current prices) would allow axi-cel and tisagenlecleucel to cost less than $150,000/QALY, even at 25% PFS.

CONCLUSION: At 2018 prices, it is possible that both CAR-T therapies meet a less than $150,000/QALY threshold. This depends on long-term outcomes compared with chemoimmunotherapy and stem-cell transplantation, which are uncertain. Widespread adoption would substantially increase non-Hodgkin lymphoma health care costs. Price reductions or payment for initial response would improve cost effectiveness, even with modest long-term outcomes.

Come considerare l'adozione di un farmaco un investimento: prospettive future, la NBA

- L'efficienza allocativa è solitamente valutata attraverso l'ACE che mette in relazione il rapporto di costo-efficacia (€/QALYs) con la WTP per unita di beneficio guadagnato → **orizzonte temporale *lifetime*, popolazione a confini chiusi (dati da RCT)**

- Considerare una nuova terapia (es. CAR-T) come un investimento richiede di mettere in relazione i costi da sostenere (impatto sul budget) per il suo utilizzo con il beneficio clinico che ne deriva (valorizzato - €) → reale contropartita dell'impatto economico

- Se i costi risultano almeno pari (o superiori) al beneficio clinico valorizzato la terapia è conveniente per il sistema.

- **La Net Benefit Analysis è una tecnica di valutazione economica in grado di considerare l'introduzione di un nuovo farmaco come un investimento sintetizzando in un'unica analisi le caratteristiche della BIA e dell'ACE**

Conclusioni e proposte per il futuro

- Ad oggi i Sistemi Sanitari non sono preparati a valutare le nuove tecnologie farmaceutiche come un investimento

- Investire nella costante produzione di evidenze (cliniche, economiche, organizzative, preferenze del paziente etc..) per l'identificazione del valore delle terapie CAR-T

- Utilizzare metodi di analisi innovativi e metodologicamente solidi in grado di considerare il beneficio clinico come la vera «contropartita» dell'investimento economico →NBA

- Promuovere il dialogo tra i diversi SHs (istituzioni, clinici, imprese, pazienti etc..) all'interno di «*think tank*» impegnati nella ricerca di soluzioni di valore a beneficio del sistema e dei pazienti.

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