

# SUMMARY OF ECONOMIC EVALUATIONS ON ONCO-HEMATOLOGY IN FRANCE BY THE HAS: WHAT DID WE LEARN?

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## Introduction

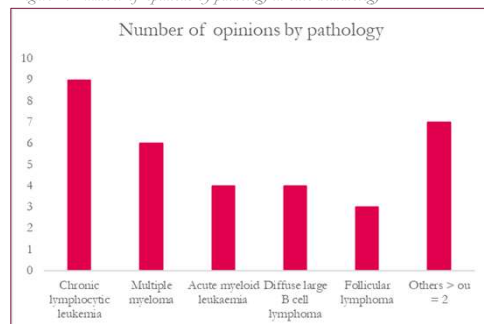
- In France, since October 2013, the French National Authority for Health (HAS) has been assessing the cost-effectiveness of healthcare products and technologies presumed to be innovative and likely to significantly impact Health Insurance expenditure.
- For these products, the Commission for Economic and Public Health Evaluation (CEESP) of HAS, provides an economic opinion of the incremental cost-effectiveness ratio (ICER) validity.
- The first dossier in onco-hematology to be assessed by the CEESP dates from 2015. During the last few years, due to the arrival of innovative therapies such as CAR-T cells therapies, onco-hematology is taking an important place in economic evaluation in France.
- The aim of this article is to review and analyze all the conclusions of the CEESP opinions in onco-hematology.

## Results

### Onco-hematology opinions

- Since 2015, thirty-three opinions in onco-hematology were issued. These opinions were related to ten indications, with 27% of them in chronic lymphatic leukemia and 18% on multiple myeloma (cf. Figure 2).

Figure 2. Number of opinions by pathology in onco-hematology

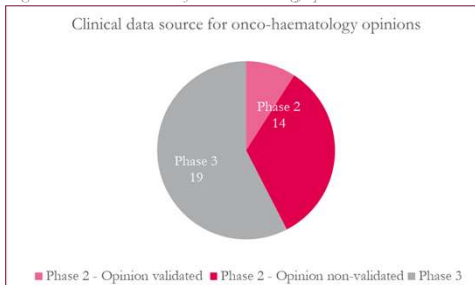


### Clinical data from phase-2 trial

- Innovative therapies and medical needs have led pharmaceutical companies to submit market access applications based on clinical data from phase 2 clinical trials. Fourteen analyses were based on phase-2 trial.
- Phase 2 trials are usually non-comparative. Thus, only one of the 14 analyses provided a direct comparison based on data from the phase-2 trial.

- The use of phase 2 trials has been criticized by the French health authority. The main reasons are related to the lack of robust data, estimation of treatment effect and/or the methodology of indirect comparison (including two-by-two comparison that do not allowed to provide the efficiency frontier).
- Among the fourteen analysis based on phase-2 trial, eleven were non-validated. Of the 3 validated, only one did not mention the uncertainty or modify the analysis submitted.

Figure 3. Clinical data source for onco-haematology opinions



### CAR-T cells

- Innovative therapies in onco-hematology include CAR-T cells.
- Seven opinions concerned CAR-Ts therapy. They all used clinical data from a phase-2 trial. Among them, three were validated by the CEESP.

## Methods

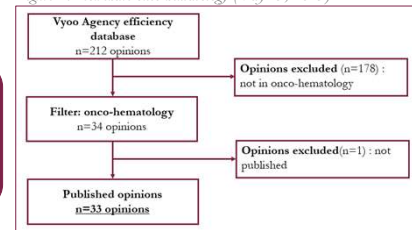
- Using Vyoo Agency efficiency database, all CEESP opinions onco-hematology appraised until May 25, 2023, were reviewed.
- We consider an opinion valid if there are no mention of major uncertainty or objection. As CEESP doctrine has evolved during the last 2 years, uncertainty was not a discriminant criterion before august 2021. So, the ICER as not validated only if CEESP conclusion is clearly stated that is not retained despite an acceptable methodology.

## Steps of data extraction

**Filter :** Onco-hematology restriction, published opinions, no time filter

**Thirty-three usable CEESP's assessment in onco-hematology referenced in Vyoo Agency database\***  
One opinion in onco-hematology has not been published

Figure 1. Flowchart onco-hematology (May 25, 2023)



- Other opinions have all a major objection, or a major global uncertainty related to the lack of robust data, estimation of treatment effect and/or the methodology of indirect comparison.

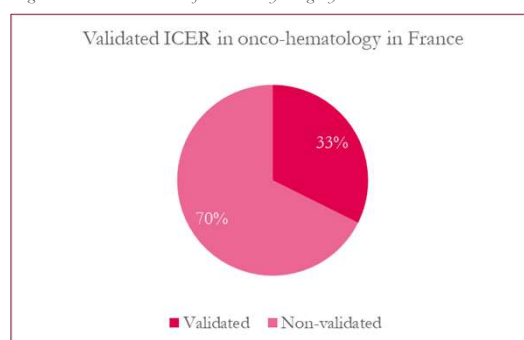
Table 1. CAR-T cell opinions in onco-hematologia

	Comparison used for efficacy	Validated	Objections	Major objection related to clinical data
Kymriah	Indirect comparison	Non-validated	1 4 3	Yes
Kymriah	Indirect comparison	Non-validated	2 3 2	Yes
Yescarta	Indirect comparison	Validated	1 4 0	No, but on the CEESP analysis
Tecartus	Indirect comparison	Non-validated	7 9 0	No, but major global uncertainty
Abecma	Indirect comparison	Validated	1 3 0	No, but important uncertainty
Carvykti	Indirect comparison	Non-validated	5 4 1	Yes
Kymriah	Indirect comparison	Validated	3 4 0	No

### ICER

- Among validated ICER, results range from 7,392€/QALY to 568,465€/QALY.
- The two highest ICERs are not CAR-Ts therapy.
- The three validated CAR-Ts therapy have ICERs of 114,509€/QALY (Yescarta), 295,406€/QALY (Kymriah in follicular lymphoma) and 379,317€/QALY (Abecma).

Figure 4. Validated ICER referenced in Vyoo Agency database



## Conclusion

- CEESP has delivered 33 economic opinions referenced in Vyoo Agency database in onco-hematology. Onco-hematology is characterized by a low proportion of validated economic opinions and an important variability of the results. Among the 33 economic opinions in onco-hematology, only eleven have a validated ICER (33%). These can be related to the specific methodological and clinical background of this area. Indeed, the duration of the simulation, treatment and extrapolation effects for one-shot therapy, using clinical data from phase-2 trial and the inclusion of all the comparators (single-arm trials) complicate the modelling.
- There is a difference when it comes to evaluating treatments for solid cancers. For solid cancers, around 63% of ICERs are validated, twice as many as for treatments in onco-hematology. This difference can be explained by the fact that many efficacy data for solid cancers comes mainly from comparative phase 3 studies. Given the pathologies involved, these studies provide more mature data, for example in terms of overall survival.
- The therapeutic area of onco-hematology has raised challenges for economic evaluation. The economic evaluation is likely to provide relevant information through opinions validated by the CEESP. It is therefore interesting to question the solutions likely to increase the rate of validated reviews.

## References

- Vyoo Agency efficiency database. Online subscription only : <https://efficiency.vyoo-agency.com/>
- CEESP Doctrine. [https://www.has-sante.fr/upload/docs/application/pdf/2021-09/doctrine\\_de\\_la\\_ceesp.pdf](https://www.has-sante.fr/upload/docs/application/pdf/2021-09/doctrine_de_la_ceesp.pdf).

\* Some opinions relating to two indications are referenced as two separate opinions in Vyoo Agency database.