UTILITY VALUES FOR A COST-EFFECTIVENESS MODEL IN FRANCE: A LITERATURE REVIEW ON PATIENTS UNDERGOING ALLOGENEIC HAEMATOPOIETIC STEM CELL TRANSPLANTATION

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CONTEXT

In France, the submission of an efficiency model to the National Health Authorities (HAS) is mandatory when the industrial claims a significant improvement of medical benefit by its innovative product. Then, the **quality of the data** incorporated into the modelling is crucial and the parameters and assumptions considered must be representative of the patients treated and clinical practice.

Although efficacy and safety data are systematically collected in a clinical trial used as a pivotal trial for the model, this is not always the case for **utility data**.

→ Particular utility values are therefore necessary in order to be aligned with the structure of the model, but above all with the **recommendations of the HAS.** [1]

HAS

Recommendation 16:
" […] The collection and processing of quality of life data with a view to estimating a utility score are subject to the **same methodological rigour** as the collection and processing of **efficacy and safety data**." [1]

A novel cell therapy for patients suffering from haematological malignancies (HM) and eligible for allogeneic transplantation (allo-HSCT) has been developed. The clinical trials demonstrated the efficacy and safety of transplantation of this therapy in patients in the indication, but quality of life was not assessed.

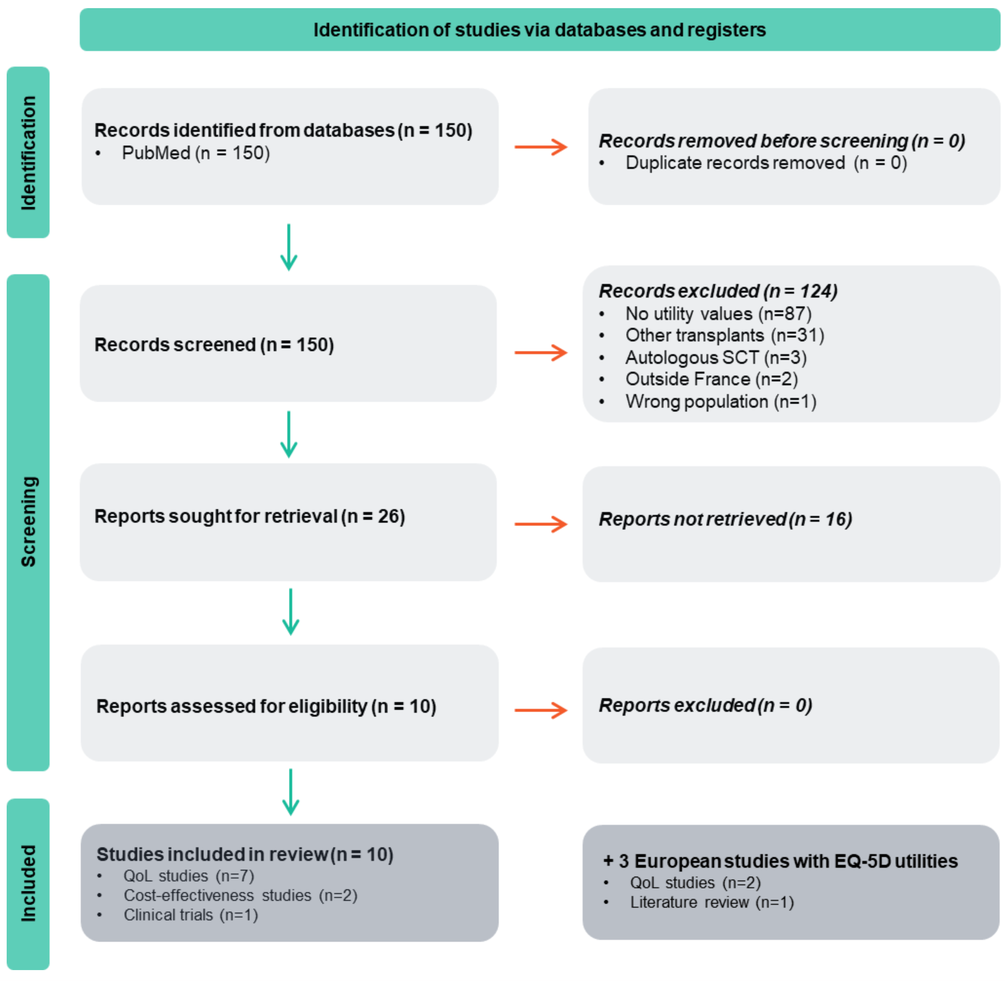
OBJECTIVES

The aim of this study is to identify robust and specific utility data in allogeneic haematopoietic stem cell transplantations (HSCT) for HM and for each health state in the model (Progression Free Survival, Post-Progression Survival, Death).

METHODS

An exhaustive literature review of quality of life data collected from patients with HM eligible for allo-HSCT was conducted for the last 10 years in France and in Europe (see Figure 1), with the main objective of finding primary data and utility decrements.
The results were then discussed by a committee of experts to validate the assumptions/methodologies used to estimate utilities for each health state of the model.

FIGURE 1: PRISMA diagram (France and Europe)



RESULTS

- The research focusing on France identified **10 studies** and has been complemented by a European review of the EQ-5D utilities (**3 additional studies**). 5 out of 7 French quality of life studies included more than 100 patients and **only 1 of them contained EQ-5D data**. Tremblay's cost-effectiveness study was selected as the main source because it contained **state-specific EQ-5D utility values**.

- The estimated **EQ-5D utility** in allo-HSCT identified in the literature is derived from a **mapping of European QLQ-C30 data**. It varies between **0.5** and **0.75** depending on the patient's health state following transplanta-tion (Tremblay, 2020) [2]. This utility can be considered similar for all haematological malignancies. However, experts confirmed that there is no comparison between utility of allograft and autograft patients due to **disutility associated with graft-versus-host disease (GVHD)**, commonly reported with allograft, which is quite significant and varies between **-0.08** and **-0.2**.

This review provides **initial estimates of utility data** for the various health states (see Table 1). Data differentiated by treatment can also be estimated using the disutility values associated with GVHD. However, **the results do not include disutility data associated with infectious complications**, which will be taken into account in the model.

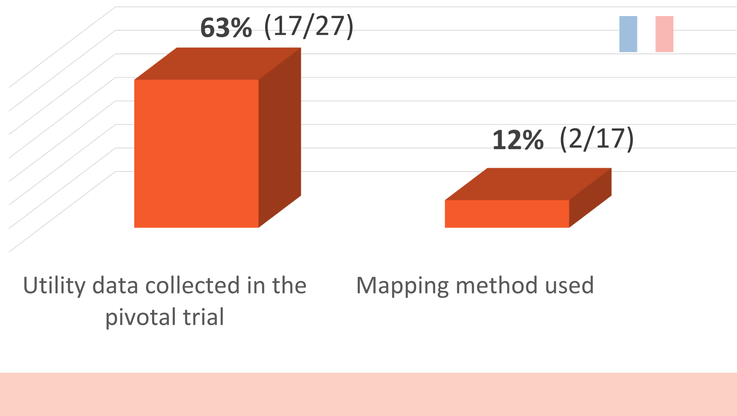
TABLE 1: Synthesis of collected utility values

Health state of the model	Detailed health states	Utility value	Source
Progression Free Survival	**HSCT treatment**	**0.613**	**Tremblay 2020, France [2] / Forsythe 2018, Europe [3]**
	HSCT recovery	**0.743**	**Tremblay 2020**
	HSCT recovery: 6-12 mois	0.810	Forsythe 2018
	Post-HSCT: >12 months	0.826	Forsythe 2018
	Post-HSCT	0.74	Forsythe 2018
	Post-HSCT recovery	0.759	Tremblay 2020
	Post-HSCT with GVHD	**0.691 / 0.67**	**Forsythe 2018**
	Post-HSCT without GVHD	**0.864**	**Forsythe 2018**
	Post-HSCT remission	0.71	Forsythe 2018
	Post-HSCT remission: > 60 years	0.61	Forsythe 2018
	Alive and good health	0.979	Labopin 2014, France [4]
	Alive with GVHD	0.9	Labopin 2014
Post-Progression Survival	**Relapse (AML)**	**0.53**	**Tremblay 2020 / Forsythe 2018**
	Relapse (MDS)	0.50	Forsythe 2018
	Relapse HSCT	0.5	Labopin 2014
	Relapse HSCT	0.78	Leunis 2014, Europe [5]

DISCUSSION

- **The most relevant data are mainly secondary data** (Tremblay 2020, Forsythe 2018), requiring adjustments to adapt to the constraints of the indication (all HM) and the model. However, they do provide an initial benchmark of values, particularly in terms of disutility associated with GVHD.
- An analysis of the latest efficiency opinions published by the HAS shows that of the 27 efficiency opinions published between January 2023 and April 2024, **more than a third did not collect utility data within the clinical trial** (see Figure 2).
  In addition, **only 2 opinions mention the use of mapping** to estimate EQ-5D-5L data that can be used in the cost-utility model.

FIGURE 2: Analysis of HAS efficiency opinions published between January 2023 to April 2024 (N=27)



CONCLUSION

The primary point to be considered when estimating utility values is the **homogeneity of sources**, in order to guarantee consistency in utility variations according to the health state and/or the treatment considered. This makes the data more acceptable to the HAS and **prevents the incremental cost-effectiveness ratio calculated for the treatment from being invalidated**.

COI :
- *The study was sponsored by ExCellThera.*
- *BAFFERT S., BENBOUALIA K. and ALAOUI E. are employees at CEMKA, a French consulting firms in the field of evaluation of products, programs and organizations in Health.*
- *PROULX J. is an employee at ExCellThera.*

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