

Objectives

Limited information is available on cost associated with AHSCT and in particular those detailing pre-transplant chemotherapy and post-transplant follow-up care in B-cell ALL. The aim of this study was to estimate the average hospital cost per patient of AHSCT, including pre-AHSCT chemotherapy cost and the 6-month transplant follow-up care cost in B-cell ALL.

Methods

A retrospective study of patients with RR (Relapsed/Refractory) B-cell ALL (Acute Lymphoblastic Leukemia) at ages 3 to 25 was performed from French hospital database (PMSI) 2013 to 2016¹. Hospital stays were selected with the ICD10 code CIM C910 "Acute lymphoblastic leukemia" in position of: Principal Diagnosis (PD) or Related Diagnosis (RD) or Associated Diagnosis between 01/01/2013 and 01/01/2014 excluding stays with a Nelarabine administration². Refractory patients could not be identified in the database. Relapsed patients were defined by 2 criteria:

- (a) at least one complete cycle of chemotherapy prior to transplant
- (b) bone marrow biopsy followed by hospitalization.

For each allograft identified with CCAM (Classification Commune des Actes Médicaux) procedure FEFFL009 "intravenous injection of a cell therapy for transplant", a cost evaluation per stay and patient (€2017) was calculated according to the French health service perspective by detailing: the cost of pre-AHSCT chemotherapy (chemotherapy stays between the biopsy procedure determining relapse and transplantation), cost of transplant and the cost of follow-up in relapsed B-cell ALL (up to 6 month after the end of the transplantation procedure).

Conclusions

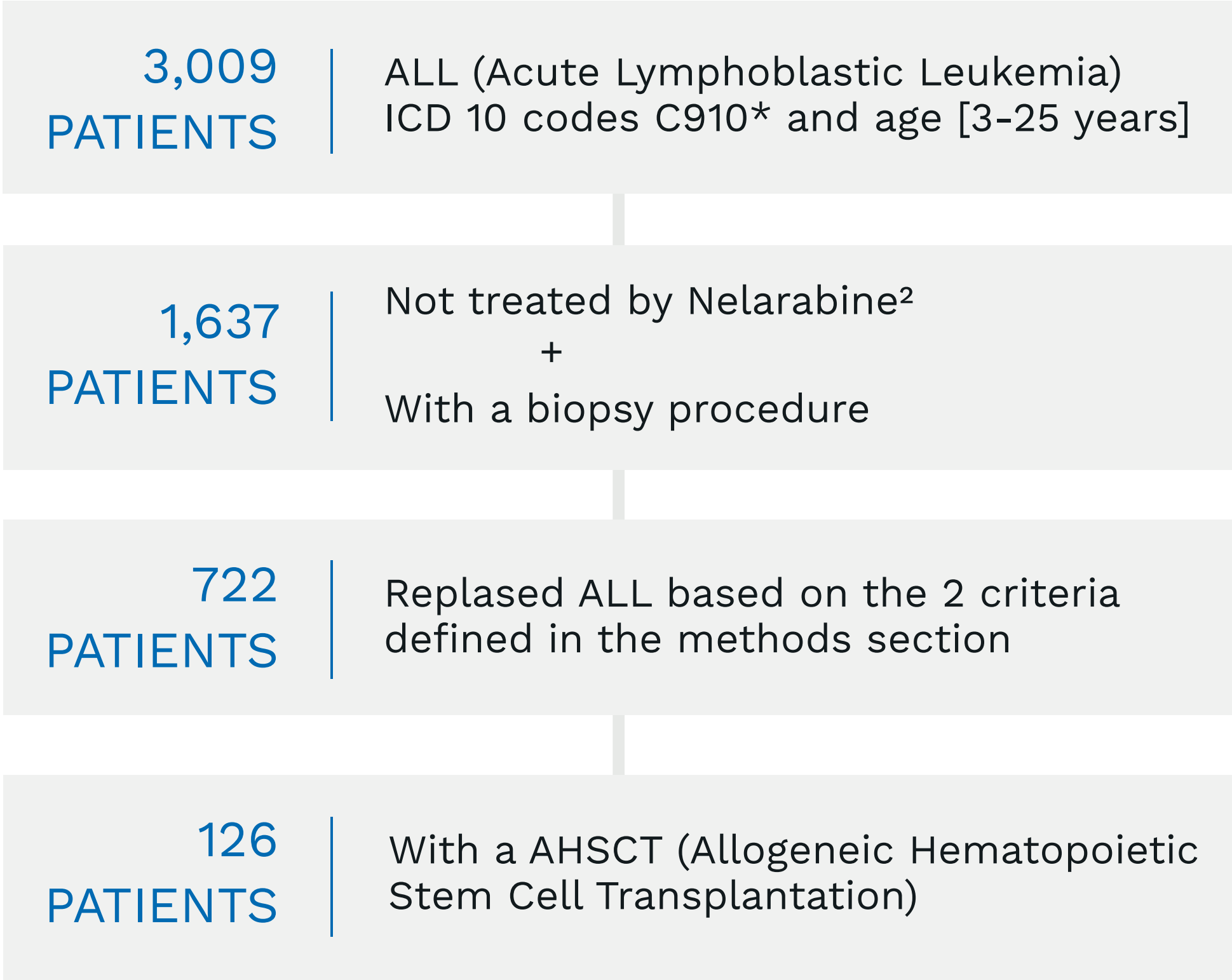
The study showed that the economic burden of AHSCT in relapsed ALL patients based on the hospital cost is significant. The total cost of relapsed ALL patients in 2017 is €31 million from the French National Insurance perspective. The mean allogenic transplant cost per patient is **€96,738 ±33,757**.

DISCUSSIONS

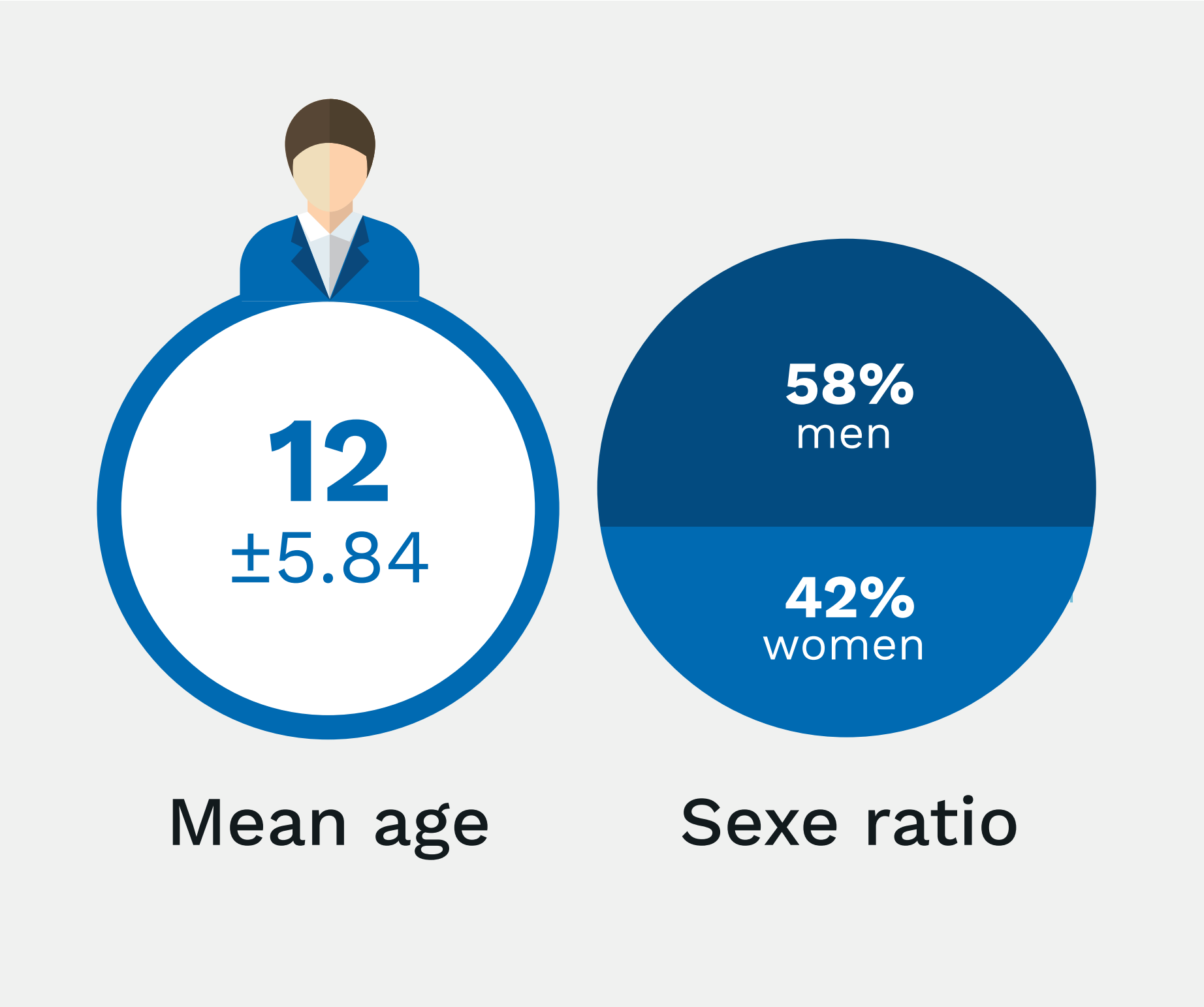
A cost sensitive analysis was performed to ALL patients without RR at age [0-25] years. The burden of ALL was similar (€32 million) as well as the mean allogenic transplant cost per patient: **€94,902 ±38,180**.

Direct cost study of Allogeneic Hematopoietic Stem Cell Transplantation (AHSCT) for Relapsed/Refractory **B-Cell Acute Lymphoblastic Leukemia (ALL) patients** from the French hospital perspective

Patient chart Flow



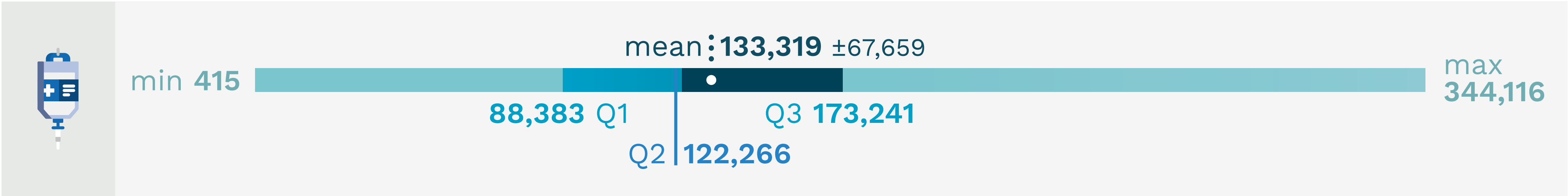
Relapsed ALL with a AHSCT patients characteristics (126 patients)



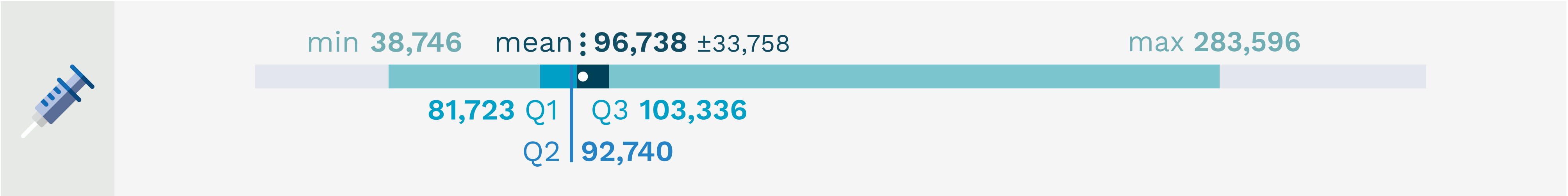
AHSCT Protocol cost split

Allogenic Transplant cost per patient in Euros (€)

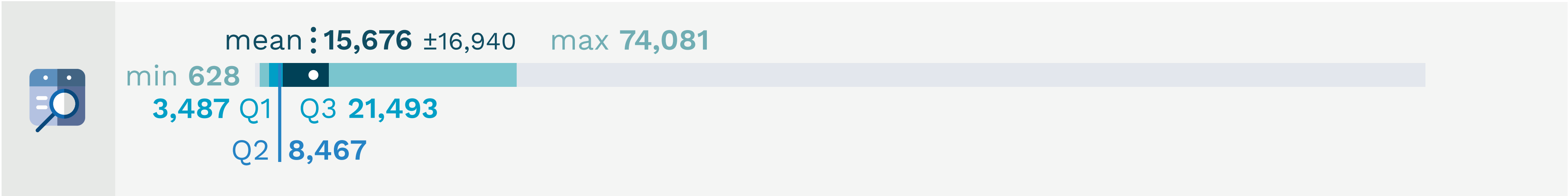
The pre AHSCT chemotherapy cost



Patient Transplant Cost

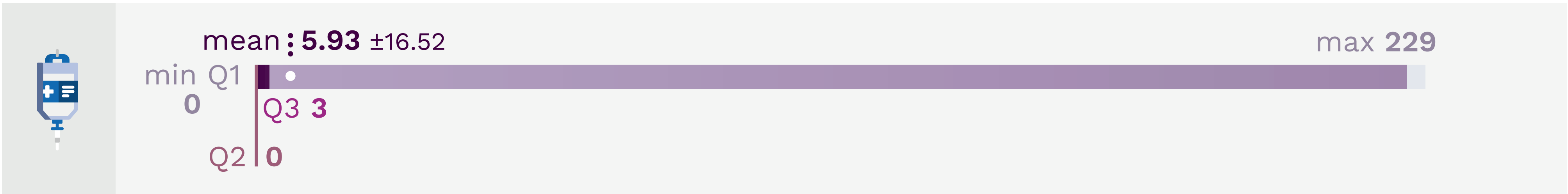


The follow-up cost up to 6 month after the transplantation procedure

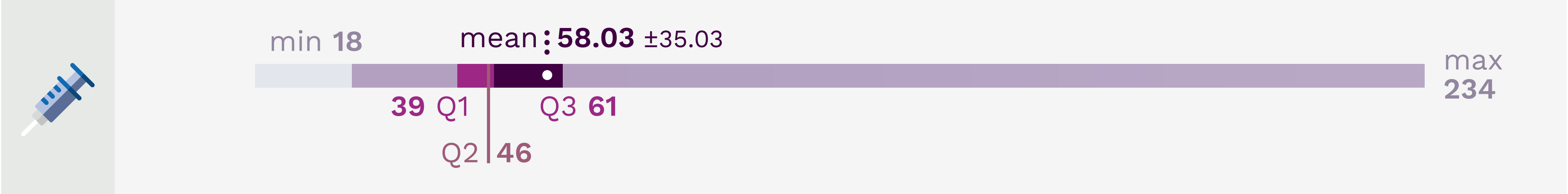


Length of stay in days

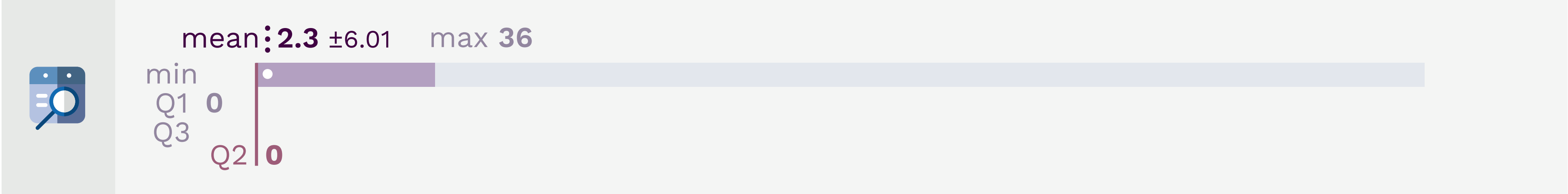
The pre AHSCT chemotherapy cost



Patient Transplant Cost



The follow-up cost up to 6 month after the transplantation procedure



¹ Age limits were selected according to the ELIANA study report
² Exclusion of patients treated by Nelarabine, drug indicated in T cell ALL disease