Hospitalizations for Post-Chemotherapy Red Blood Cell Transfusions in France, 2017–2020

Désaméricq G[1], Densari Z[2], Thomé B[3], Freyer G[4]

[1]Amgen SAS, Boulogne Billancourt cedex, France, [2]Amgen SAS, Boulogne-Billancourt, France, [3]Median Conseil, Pau, France, [4]Institut de Cancérologie des Hospices Civils de Lyon, Lyon, France

Key Takeaways

- **In 2020, a hospitalization for RBC transfusion involved 27,819 patients, representing a hospitalization rate of 15.2% among newly diagnosed cancer patients treated with chemotherapy. A total of 2319 in-hospital all-causes deaths occurred, corresponding to an overall mortality rate of 8.3%. A total of 51,234 stays were generated, with an average duration of 5.9 ± 11.6 days. The average cost of a stay per patient was €946.**
- **For the period 2017-2020: the number of hospitalizations and costs for RBC transfusion among cancer patients treated with chemotherapy is still rising. Post-chemotherapy RBC transfusion were not impacted by COVID-19.**
- **Trends varied according to the type of cancer.**

27,819 patients in 2020
+ 700 *vs 2017*

2319 in-hospital deaths in 2020
= *vs 2017*

51,324 stays in 2020
+ 1564 *vs 2017*

24 millions € in 2020
+ 2 millions *vs 2017*

Background & Objective

- Anemia is a severe complication of chemotherapy administration.
- Treatment of anemia increases hemoglobin levels, reduces the need for red blood cell (RBC) transfusions and improves patients' quality of life.
- The objective of this study was to estimate the clinical and economic impact of hospitalizations for red blood cell transfusions (RBCT) among cancer patients treated with chemotherapy.

Methods

- Patients diagnosed with incident cancers and treated by intravenous chemotherapy were identified from a French nationwide hospitalization database (PMSI-MCO 2017–2020).
- An algorithm was developed to select from the PMSI database new patients treated with chemotherapy between December 2017 and November 2020 (first year of treatment) who were hospitalized for RBCT between December 2017 and December 2020, with a maximum of one month between the two stays. Patients with bone marrow transplantation, stem cell transplantation, radiation therapy, leukemia and myelodysplastic syndrome were excluded.
  - Selected chemotherapy stays in 2017-2020:

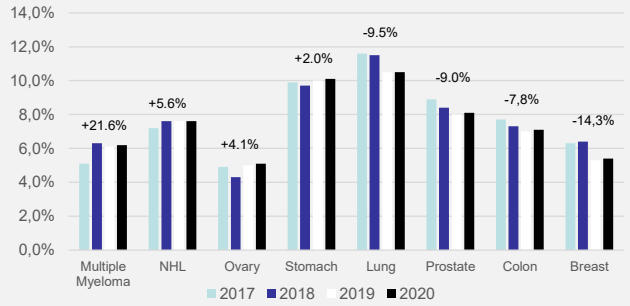
	Primary Diagonsis	Related Diagnosis	Significant Associated Diagnosis
1	Z51.1 ; Z51.2 ; Z29.2	primary or secondary malignant tumor	
2	Z51.1 ; Z51.2 ; Z29.2		primary or secondary malignant tumor
3	primary or secondary malignant tumor		Z51.1 or Z51.2

  - Red blood cell transfusion: Z51.3 or medical procedures codes FELF001-4; FELF006-7 ; FELF011
- All clinical and economic data were collected from the database. Incidence proportion of patients receiving a RBC transfusion, inpatient mortality, health care resources use, and cost were calculated overall and by cancer type. All costs were valuated as production costs (ENC 2018).

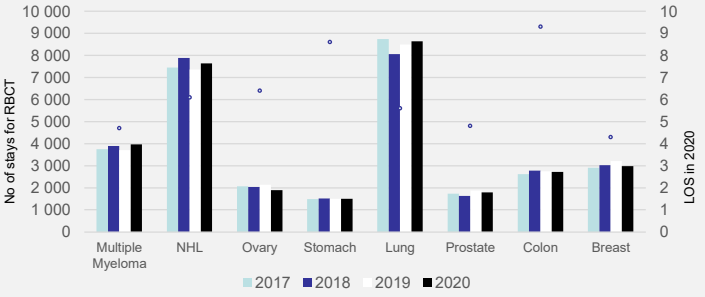
Patients receiving a RBCT

	2017	2018	2019	2020	Δ 2017-2020
No of new chemotherapy patients	176 520	177 784	182 172	182 695	+3.5%
No of patients receiving a RBCT	27 119	27 045	27 602	27 819	+2.6%
Multiple Myeloma	1 801	1 825	1 847	1 874	+4.0%
Non-Hodgkin Lymphoma (NHL)	3 211	3 292	3 142	3 159	-1.6%
Ovary	1 234	1 178	1 269	1 146	-7.1%
Stomach	930	969	949	940	+1.1%
Lung	5 303	4 968	5 132	5 242	-1.2%
Prostate	912	856	932	935	+2.5%
Colon	1 863	1 930	1 955	1 939	+4.1%
Breast	1 745	1 820	1 910	1 852	+6.1%

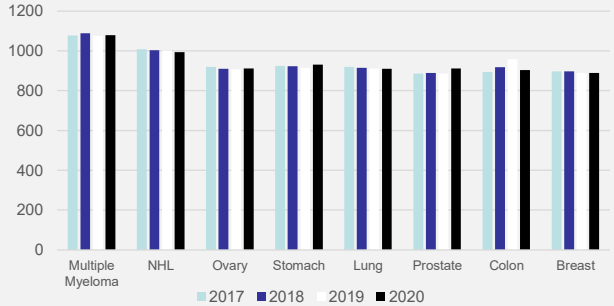
Inpatient mortality rates



Health care resources use



Average cost per stay (€)



Disclosures & Funding Statement

DG: Amgen employee and stockholder. **DZ:** Amgen employee. **TB: declares no conflict of interest. FG: declares speaker fees from Amgen.**

This study was sponsored by Amgen SAS.

Presented at: ISPOR Europe 2022; 6 - 9 November