

# Cost of Chronic Myeloid Leukaemia in Türkiye: Results of a Delphi Panel Approach

Güray Saydam,<sup>1</sup> Ahmet Emre Eşkazan,<sup>2</sup> Birol Güvenç,<sup>3</sup> Mehmet Sönmez,<sup>4</sup> Selami Koçak Toprak,<sup>5</sup> Mehtap Tatar,<sup>6</sup> Burçin Kahveci Kaplan,<sup>7</sup> Barış Uçar,<sup>7</sup> Özlem Gür,<sup>7</sup> Ibrahim Haznedaroğlu<sup>8</sup>

<sup>1</sup>Ege University, İzmir, Türkiye; <sup>2</sup>Istanbul University, İstanbul, Türkiye; <sup>3</sup>Çukurova University, Adana, Türkiye; <sup>4</sup>Karadeniz Technical University, Trabzon, Türkiye; <sup>5</sup>Ankara University, Ankara, Türkiye; <sup>6</sup>Polar Health Economics and Policy, Ankara, Türkiye; <sup>7</sup>Novartis, İstanbul, Türkiye; <sup>8</sup>Hacettepe University, Ankara, Türkiye

## KEY FINDINGS & CONCLUSIONS

- Drug expenditures have the highest share in outpatient expenditures for all lines and T315I mutation.
- Cost per patient is the highest for patients with T315I mutation.
- Total annual cost of CP-CML to the SSI is 1,283,203,114 TRY.
- CP-CML expenditures were 0.2% of the total healthcare expenditures. Drug expenditures for CP-CML was 0.7% of the total drug budget of the SSI.

This study is by Novartis Pharma AG  
Poster presented at the ISPOR Europe 2024 Conference on 17-20 November 2024

## INTRODUCTION

Chronic myeloid leukaemia (CML) is a rare type of cancer that is particularly prevalent among the elderly population<sup>[1]</sup>. The prevalence of CML is reported as 0.125 per 10,000<sup>[2]</sup>. Patients with CML are mainly diagnosed in chronic phase and eventually progress to advanced phase, with the latter comprised of the accelerated phase (AP) and the blast crisis phase (BP). The current standard of care for patients with chronic phase CML (CP-CML) is tyrosine kinase inhibitors (TKIs)<sup>[3]</sup>. Patients who do not respond to a TKI are switched to another one, start interferon therapy or chemotherapy or receive stem cell transplantation<sup>[4]</sup>.

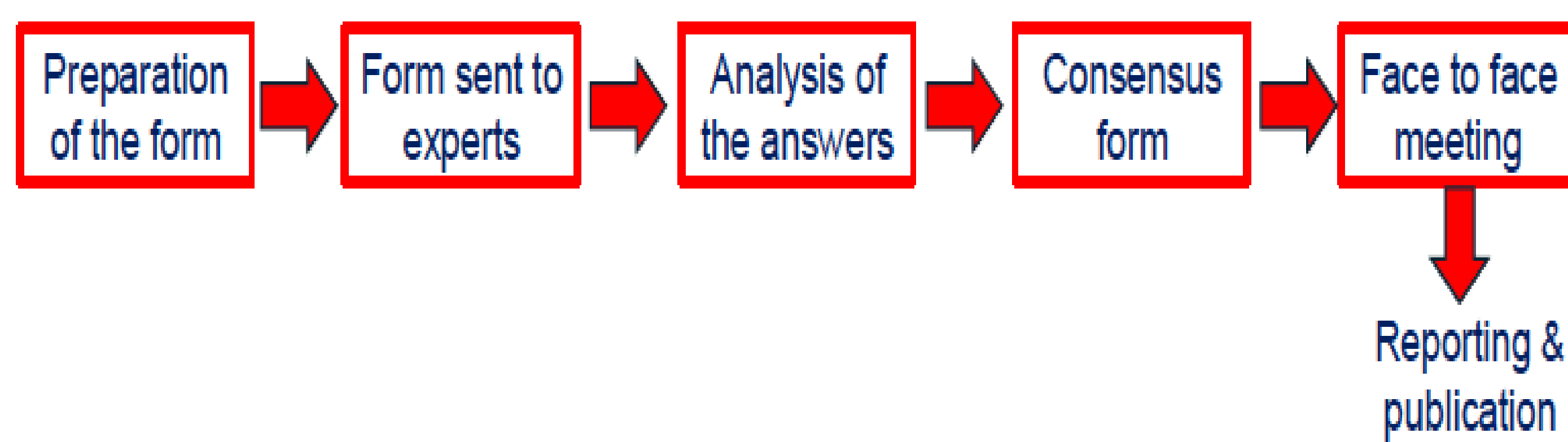
The objective of this study is to estimate the cost of treating CML-CP from the perspective of the Turkish payer organization (Social Security Institution -SSI).

## METHODS

A Modified Delphi Panel approach was used to estimate the costs. A Healthcare Resource Use Questionnaire was designed to cover the type, patient percentage and frequency of resources used for outpatient, inpatient and emergency care of CML. The questionnaire was sent to a panel of experts consisting of six haematologists with clear instructions to be filled out independently. The experts were selected by purposeful sampling and they treat almost 20% of the CML patients in Türkiye.

Figure 1 outlines the Delphi Panel stages. Mean values of the answers were calculated and a single form for discussion in the face-to-face meeting was prepared. During the face-to-face meeting, a consensus document was reached for all answers and resources used at all stages of the disease were determined. SSI reimbursement rules for payment and prices were used to estimate the costs. Calculations were based on the SGK reimbursement prices as of 25.12.2023.

Figure 1. Delphi Panel Stages



## RESULTS

CML incidence in Türkiye was reported as 1/100,000 with a prevalence of 8/100,000. The experts concluded that 93% of the patients were in chronic phase, 5% in accelerated phase and 2% in blastic phase. Of the chronic phase patients, 64% are receiving first line therapy, 24% second line therapy and 12% third and further lines therapy. The treatment is given primarily on outpatient basis, in rare occasions, patients are hospitalized or receive intensive care. Hospitalization is seen more among the patients with T315I mutation. Other consensus points by the panel were:

- Patients stay in the chronic phase for 9 years on average.
- In cases of first line treatment failure, 95% of the patients are switched to another TKI. Increasing the dose of current treatment is made for 5%.
- 1% of the patients have T315I mutation

Table 1. Cost of CML Treatment per Patient in Türkiye (TRY)

	Cost (TRY)
Cost of first line treatment	
Outpatient	99,851
Inpatient	291
Total per patient cost of first line treatment	100,142
Cost of second line treatment	
Outpatient	320,060
Inpatient	331
Intensive care	99
Total per patient cost of second line treatment	320,490
Cost of 3+ line treatment	
Outpatient	357,289
Inpatient	383
Intensive care	197
Total per patient cost of 3+ line treatment	357,870
Cost of treatment for patients with T315I mutation	
Outpatient	1,405,281
Inpatient	69,704
Intensive care	197
Total per patient cost of patients with T315I mutation	1,475,182

TRY: Turkish Lira

Expenditures for drugs constituted the major cost item in all lines of outpatient treatment and for patients with T315I mutation (Figure 2).

Number of CML patients in Türkiye were estimated from the consensus of the Delphi Panel (Table 2).

Annual cost of CP-CML to the Turkish SSI is presented in Table 3.

Figure 2. Distribution of Outpatient Expenditures by Treatment Line and T315I Mutation (TRY)

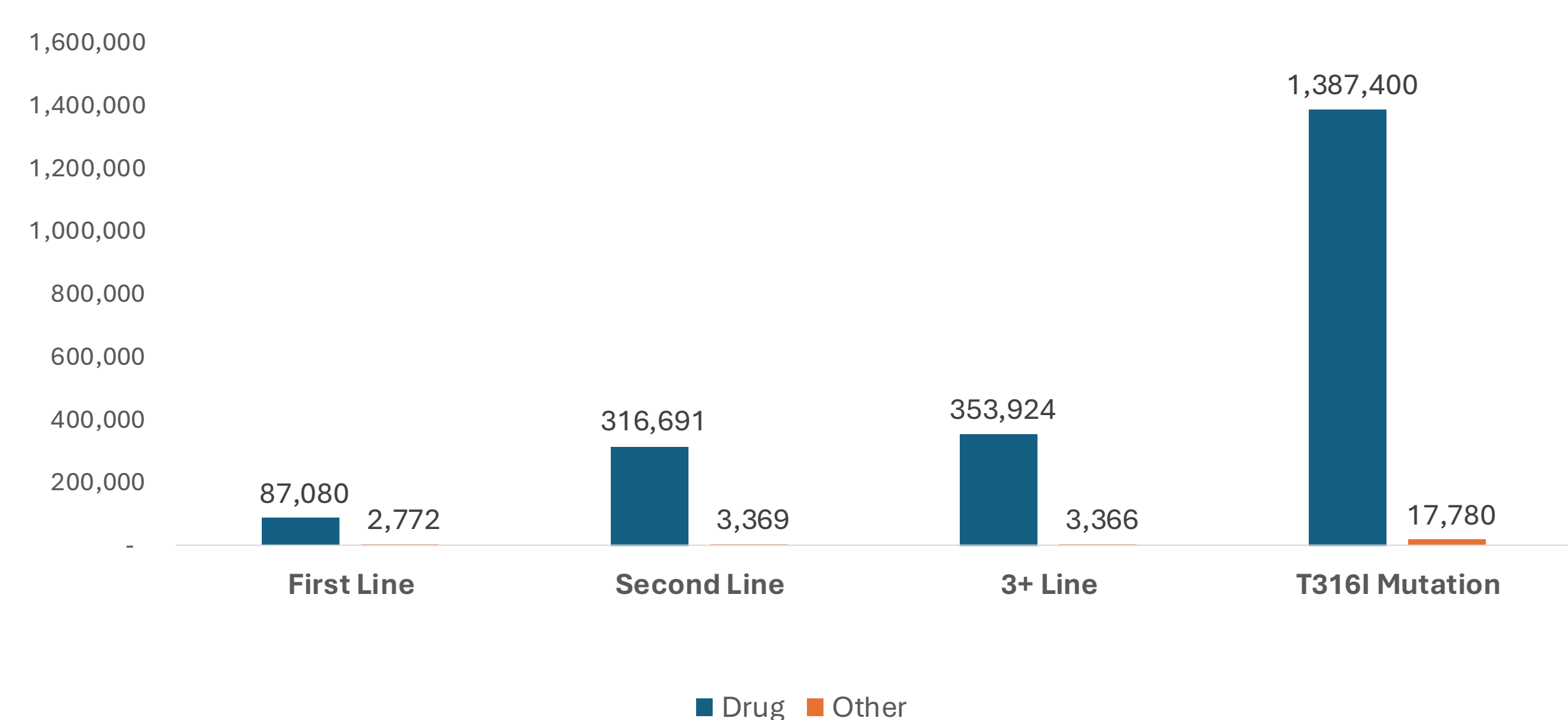


Table 2. Cost of CML Treatment per Patient in Türkiye

Population (2023)	86,907,000
CML prevalence	0.00008
Number of CML patients	6,593
Number of patients by phase	
Chronic	6,466
Accelerated	348
Blastic	139
Number of CP-CML patients by treatment line	
First line	4,094
Second line	1,535
3+ line	768
Number of patients with T315I mutation	70

CML: Chronic Myeloid Leukemia, CP: Chronic Phase

Table 3. Annual Cost of CP-CML to the SSI

	Number of Patients	Cost per Patient	Cost (TRY)
Diagnosis	869	4,613	4,008,610
First line	4,094	100,142	409,951,456
Second line	1,535	320,490	491,992,501
3+ line	768	357,870	274,687,634
T315I mutation	70	1,475,181	102,562,912
<b>Total</b>			<b>1,283,203,114</b>

TRY: Turkish Lira

## CONCLUSION

According to SSI data<sup>[5]</sup> total health expenditure of the institution for 2023 was 553,143 million TRY. From our estimations, CP-CML expenditures were 0.2% of the total healthcare expenditures. Drug expenditures for CP-CML was 0.7% of the total drug budget of the SSI.

## References

- Hehlmann R et al (2007). Chronic myeloid leukemia. Lancet, 370(9584): 342-350. doi: 10.1016/S0140-6736(07)61165-9.
- Orphanet Report Series. Prevalence of rare diseases: Bibliographic data – January 2021 Europe: Inserm [Internet]. 2021. Available from: [http://www.orpha.net/orphacom/cahiers/docs/GB/Prevalence\\_of\\_rare\\_diseases\\_by\\_diseases.pdf](http://www.orpha.net/orphacom/cahiers/docs/GB/Prevalence_of_rare_diseases_by_diseases.pdf)
- National Comprehensive Cancer Network. Clinical Practice Guidelines in Oncology - Chronic Myeloid Leukemia (Version 1.2020 - August 26).
- Hochhaus A, Breccia M, Saglio G, García-Gutiérrez V, Réa D, Janssen J, et al. Expert opinion—management of chronic myeloid leukemia after resistance to second-generation tyrosine kinase inhibitors. Leukemia. 2020;34(6):1495–502.
- Sosyal Güvenlik Kurumu. Sosyal Güvenlik Kurumu Faaliyet Raporu 2023. Ankara; 2024.

## Disclosures

Mehtap Tatar has received consultancy fees from Novartis Türkiye



Scan to obtain:

- Poster
- Plain language summary
- Slides
- Supplementary material

<http://novartis.medicalcongressposters.com/Default.aspx?doc=xxxxx>  
Copies of this poster obtained through Quick Response (QR) code are for personal use only and may not be reproduced without permission of the authors.