

TDM-based tailored dosing of durvalumab in lung cancer patients - a comprehensive population pharmacokinetic-pharmacoeconomic evaluation. *Clinical Pharmacokinetics*.

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SUPPLEMENTAL TABLES

Table S1 Characteristics of the full population (N = 1000)

		Categorical variables N (%)	Continuous variables median [min, max]
Gender	Female	505 (50.5%)	
	Male	495 (49.5%)	
Age (years)			63.14 [50, 80]
Height (cm)			167.45 [143.5, 198]
Total bodyweight (kg)			64.0 [40.6, 89.4]
ECOG PS	0	750 (75.0%)	
	1	250 (25.0%)	
Albumin (g/L)			39.27 [27.2, 55.3]
Creatinine clearance (mL/min)			86.43 [43.2, 179.1]
Tumor size (mm)			50.09 [8.14, 305.24]
sPD-L1 (pg/mL)			138.34 [10.42, 1478.7]
Anti-drug antibodies (µg/mL)			0
ECOG PS Eastern Cooperative Oncology Group Performance Status, sPD-L1 soluble programmed death ligand 1			

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Table S2 Substantiated costs per patient

Component	Costs in reference			Year	CPI correction (June '24) [24]	Costs in PE-analysis	Additional information & Considerations	References
Drug								
120 mg vial	€ 608,99			2024		€ 609		[11]
500 mg vial	€ 2537.22					€ 2537.25		
Outpatient infusion								
Durvalumab administration	€ 310			2019	+ 22.4 %	€ 379.45		[12]
Routine check								
Clinician check	€ 120			2022	+ 6.9 %	€ 128.50		[12]
Laboratory check	OLVG	RHMCD	RUMC			€ 42.20	Only routine laboratory checks prior each durvalumab infusion, in line with the drug label are included. Sampling will be conducted through the central blood collection clinic, which will incur added costs proportional to the order rate.	[13]
Order rate (incl. sampling)	€ 14.50	€ 14.47	€ 4.99					[14]
Urea	€ 1.90	€ 1.91	€ 2.81					Internal communication with Diagnostics Laboratory of RUMC
Sodium	€ 2.05	€ 2.07	€ 2.81					
Potassium	€ 2.03	€ 2.05	€ 2.81					
General blood count + diff.	€ 2.14	€ 6.65						
Hemoglobin	Incl.	Incl.	€ 2.84					
Hematocrit	Incl.	Incl.	Incl.					
RDW	Incl.	Incl.	Incl.					
MCHC	Incl.	Incl.	Incl.					
MCH	Incl.	Incl.	Incl.					
MCV	€ 2.23	Incl.	€ 4.99					
Erythrocytes	€ 2.22	Incl.	€ 3.84					
Leukocytes	€ 2.20	€ 2.22	€ 0.07					
Automatic diff.	€ 2.25	€ 2.27	€ 2.81					

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Thrombocytes	€ 2.23	€ 2.26	€ 2.81		
Alkaline phosphatase	€ 2.36	€ 2.38	€ 2.81		
AST	€ 2.25	€ 2.27	€ 2.81		
ALT	€ 1.84	€ 1.86	€ 2.81		
LDH	€ 1.87	€ 1.89	€ 2.81		
Total bilirubin	€ 42.07	€ 42.30	€ 42.02		
Albumin		Average			
Total		€ 42.19			

TDM					€ 57.50	Sampling will be conducted at the polyclinic daycare prior the durvalumab infusion. Therefore, there are no added costs to the order rate.	[13] [14] Internal communication with Diagnostics Laboratory of RUMC [15-19, 21]
Order rate (excl. sampling)	OLVG € 7.55	RHMDC € 7.56	RUMC € 4.99	2024			
	Average € 6.70						
ELISA kit	Abbexa € 812.50 Abnova € 1.118 BioVision € 1546	Abcam € 1.635 ABSystem € 1.128 PGenix € 1.300		2024			
	Average € 31.41					Costs per patient are calculated based on a filled 96-well plate, comprising 7 wells for control samples, 1 for a blank sample, and 1 for each patient sample, all in duplicate, which allows for the quantification of 40 unique patient samples per plate.	
Clinical pharmaceutical analyst	UMC € 2.30	Non-UMC € 2.45				Working-hours (3 in total) derived from instruction manuals of the ELISA kits and divided by the total number of unique patient samples per plate.	[20, 22]
	Average € 2.37						

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Clinical pharmacist	UMC € 15.59	Non-UMC € 18.48 Average € 17.04	2024		The required time per patient was estimated to be 15 minutes, based on common daily practice for interpretation and consultation of TDM-outcomes. [20, 23]
Note. CPI = Consumer price index, PE = Pharmacoeconomic, RHMDc = Reinier Haga Medisch Diagnostisch Centrum RUMC = Radboud University Medical Centre, UMC = University Medical Centre.					

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Table S3 Costs per treatment component

Component	A. Per mean treatment duration of 8 months				B. Per maximum treatment duration of 12 months			
	10 mg/kg per 2 weeks	1500 mg per 4 weeks	TDM-based dose	TDM-based interval	10 mg/kg per 2 weeks	1500 mg per 4 weeks	TDM-based dose	TDM-based interval
TDM testing	€ 0	€ 0	€ 115	€ 115	€ 0	€ 0	€ 115	€ 115
Routine laboratory checks	€ 717	€ 338	€ 338	€ 297	€ 1,097	€ 548	€ 548	€ 467
Routine clinician checks	€ 2,185	€ 1,028	€ 1,028	€ 905	€ 3,331	€ 1,671	€ 1,671	€ 1,424
Outpatient daycare	€ 6,830	€ 3,415	€ 3,415	€ 3,051	€ 9,866	€ 4,933	€ 4,933	€ 4,205
Durvalumab wasted	€ 5,042	€ 0	€ 0	€ 0	€ 7,283	€ 0	€ 0	€ 0
Durvalumab administered	€ 63,274	€ 68,512	€ 57,129	€ 58,531	€ 91,395	€ 98,962	€ 77,763	€ 77,529
Total	€ 78,048	€ 73,293	€ 62,025	€ 62,899	€ 112,982	€ 106,114	€ 85,030	€ 83,740