

Online Resource 3 – Electronic Supplementary Material to:

Use and Outcomes of Cost-Effectiveness Analyses and Additional Considerations in
Pharmaceutical Reimbursement in the Netherlands

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Table S3. Overview of all pharmaceutical-indications with a CEA between 2015 and 2024 (N = 86)

Non-proprietary pharmaceutical name	Indication area	Date	Inpatient or outpatient	Relevant reference value	Methodology CEA sufficient	ICER reported by ZIN as most plausible	Difference with base case ICER manufacturer	Reimbursement advice	Considerations relevant in recommendation
Rifaximine	Hepatic encephalopathy	31/03/2015	Outpatient	€ 50,000	Insufficient	NR, methodology insufficient	N/A	Negative	N/A
Brimonidine	Rosacea	16/09/2015	Outpatient	€ 20,000	Insufficient	NR, methodology insufficient	N/A	Negative	N/A
Nivolumab	NSCLC	08/12/2015	Inpatient	€ 80,000	Sufficient after adaptations	€ 133,848	+ € 71,571	Negotiation	RE, HBI, SREI, AIE, FECGB
Evolocumab	Heterozygotic & homozygotic FH	14/12/2015	Outpatient	€ 50,000	Sufficient after adaptations	€ 33,811	+ € 2,779	Positive	N/A
Evolocumab	FH (SI)	14/12/2015	Outpatient	€ 20,000	Sufficient after adaptations	€ 73,552	+ € 10,495	Negotiation	SSA, HBI
Evolocumab	FH (VHR)	14/12/2015	Outpatient	€ 50,000	Sufficient after adaptations	€ 108,419	+ € 17,946	Negotiation	SSA, HBI
Tolvaptan	ADPKD	21/12/2015	Outpatient	€ 80,000	Insufficient	NR, methodology insufficient	N/A	Negative	N/A
Lumacaftor/ivacaftor	CF	13/05/2016	Outpatient	€ 80,000	Insufficient	NR, methodology insufficient	N/A	Negative	N/A
Basal insulin + GLP-1 agonist	DM2	22/09/2016	Outpatient	€ 20,000	Sufficient	Dominant	N/A	Positive	N/A
Eliglustat	Gaucher disease	29/09/2016	Outpatient	€ 80,000	Sufficient after adaptations	N/A, no incremental QALYs. Incremental costs (+ €2,293,543)	Claimed cost-saving (- € 209,225)	Negotiation	Eliglustat should cost no more than comparator

Tolvaptan†	ADPKD	05/12/2016	Outpatient	€ 80,000	Sufficient	€ 67,705‡	N/A	Positive	N/A
Pembrolizumab	NSCLC	14/12/2016	Inpatient	€ 80,000	Sufficient	€ 112,953	N/A	Negotiation	DBCM, CPCEC, HBI, AIE
Lumacaftor/ivacaftor†	CF	15/12/2016	Outpatient	€ 80,000	Sufficient	€ 402,883	N/A	Negotiation	DBCM, HBI
Palbociclib + letrozol	Breast cancer (1st line)	11/04/2017	Inpatient	€ 80,000	Sufficient	€ 160,166	N/A	Negotiation	DBCM, UNC, HBI
Palbociclib + fulvestrant	Breast cancer (2nd line)	11/04/2017	Inpatient	€ 80,000	Sufficient	€ 173,186	N/A	Negotiation	DBCM, UNC, HBI
Daratumumab + bortezomib	Multiple myeloma	28/11/2017	Inpatient	€ 80,000	Sufficient after adaptations	€ 83,286*	+ € 24,416	Negotiation	SSA, UNC, HBI
Daratumumab + lenalidomide	Multiple myeloma	28/11/2017	Inpatient	€ 80,000	Sufficient after adaptations	€ 233,904*	+ € 65,241	Negotiation	SSA, UNC, HBI
Nusinersen	SMA type 1	07/02/2018	Inpatient	€ 80,000	Sufficient after adaptations	€ 600,000	+ € 97,711	Negotiation	RE, UNC, HBI
Nusinersen	SMA type 2 & 3	07/02/2018	Inpatient	€ 80,000	Sufficient after adaptations	€ 1,700,000	+ € 640,731	Negotiation	RE, UNC, HBI
Osimertinib	NSCLC	07/11/2018	Inpatient	€ 80,000	Sufficient after adaptations	€ 197,427*	+ € 80,476	Negotiation	SSA, UNC, HBI
Rivaroxaban	Atherothrombosis	04/03/2019	Outpatient	€ 20,000	Sufficient	€ 6,954	N/A	Positive	N/A
Axicabtagene ciloleucel	Lymphoma	07/03/2019	Inpatient	€ 80,000	Insufficient	NR, methodology insufficient	N/A	Negotiation	SSA, UNC
Durvalumab	NSCLC	01/04/2019	Inpatient	€ 80,000	Sufficient	€ 35,752	N/A	Negotiation	HBI, AIE
Venetoclax + rituximab	CLL	08/05/2019	Inpatient	€ 80,000	Sufficient after adaptations	€ 65,332	+ € 14,828	Negotiation	SSA, UNC, HBI, SREI
Ipilimumab + nivolumab	Renal cell cancer	29/05/2019	Inpatient	€ 80,000	Sufficient	€ 60,397	N/A	Negotiation	UNC, CPCEC, FECGB, COM

Dabrafenib + trametinib	Melanoma	28/08/2019	Inpatient	€ 50,000	Insufficient	NR, methodology insufficient	N/A	Negative	N/A
Voretigene neparvovec	Retinal dystrophy	17/02/2020	Inpatient	€ 50,000	Insufficient	NR, methodology insufficient	N/A	Negotiation	UNC
Olaparib	Ovarian cancer	19/03/2020	Inpatient	€ 50,000	Sufficient	€ 10,688	N/A	Positive	N/A
Dabrafenib + trametinib†	Melanoma	04/06/2020	Inpatient	€ 50,000	Sufficient after adaptations	€ 18,574*	+ € 5,447	Negotiation	SSA, UNC, SREI, FECGB, COM
Ibrutinib†	CLL	03/07/2020	Inpatient	€ 50,000	Sufficient after adaptations	€ 127,038*	+ € 37,404	Negotiation	RE, UNC, SREI, AIE, FECGB
Ibrutinib†	CLL	03/07/2020	Inpatient	€ 50,000	Sufficient after adaptations	€ 159,063*	+ € 3,149	Negotiation	RE, UNC, SREI, AIE, FECGB
Tezacaftor/ivacaftor + ivacaftor	CF	11/08/2020	Outpatient	€ 80,000	Sufficient	€ 376,070	N/A	Negotiation	DBCM, UNC, HBI, SREI
Avelumab + axitinib	Renal cell cancer	21/09/2020	Inpatient	€ 80,000	Sufficient after adaptations	€ 116,169	+ € 18,014	Negative	N/A
Osimertinib†	Lung cancer	21/09/2020	Inpatient	€ 80,000	Sufficient	€ 134,757	N/A	Negotiation	DBCM
Trastuzumab-emtansine	Breast cancer	24/09/2020	Inpatient	€ 20,000	Sufficient after adaptations	€ 2,374*	+ € 2,178	Negotiation	UNC, CPCEC, SREI
Venetoclax + obinutuzumab	CLL	16/11/2020	Inpatient	€ 50,000	Sufficient	Dominant	N/A	Negotiation	UNC, CPCEC, SREI, COM
Tafamidis	ATTR	03/12/2020	Outpatient	€ 80,000	Insufficient	NR, methodology insufficient	N/A	Negative	N/A
Polatuzumab vedotin	Lymphoma	10/12/2020	Inpatient	€ 80,000	Sufficient	€ 48,477	N/A	Negotiation	UNC, AIE
Givosiran	AHP	02/02/2021	Outpatient	€ 50,000	Sufficient	€ 199,836	N/A	Negotiation	DBCM, UNC, CPCEC

Elexacaftor/tezacaftor/ivacaftor + ivacaftor	CF (Homozygotic F508del mutation)	29/04/2021	Outpatient	€ 50,000	Sufficient	€ 210,695	N/A	Negotiation	DBCM, UNC, CPCEC, HBI, SREI, AIE
Elexacaftor/tezacaftor/ivacaftor + ivacaftor	CF (heterozygotic F508del mutation)	29/04/2021	Outpatient	€ 80,000	Sufficient	€ 283,991	N/A	Negotiation	DBCM, UNC, CPCEC, HBI, SREI, AIE
Onasemnogene abeparvovec	SMA	06/05/2021	Inpatient	€ 80,000	Sufficient after adaptations	€ 263,389	Manufacturer claimed dominant	Negotiation	RE, UNC, CPCEC
Dapagliflozine	Chronic HF	12/05/2021	Outpatient	€ 50,000	Sufficient	€ 19,162 [†]	N/A	Positive	N/A
SGLT-2 inhibitors	CVD & DM2	22/06/2021	Outpatient	€ 50,000	Sufficient	€ 3,304	N/A	Positive	N/A
Niraparib	Ovarian cancer (no BRCA1/2)	24/06/2021	Inpatient	€ 80,000	Sufficient	€ 18,927	N/A	Positive	N/A
Betibeglogene autotemcel	Beta thalassemia	21/07/2021	Inpatient	€ 50,000	Sufficient after adaptations	€ 90,000	+ € 14,129	Negotiation	RE, UNC, AIE
Avelumab	Urothelial cancer	21/07/2021	Inpatient	€ 80,000	Sufficient	€ 112,705	N/A	Negotiation	DBCM, SREI
Axicabtagene ciloleucel [†]	DLBCL & PMBCL	26/07/2021	Inpatient	€ 80,000	Sufficient	€ 83,184	N/A	Negotiation	DBCM, SSA, HBI, AIE
Tafamidis [†]	ATTR	11/08/2021	Outpatient	€ 80,000	Sufficient	€ 151,050	N/A	Negotiation	DBCM, HBI, SREI, FECGB
CGRP-inhibitors	Migraine	17/09/2021	Outpatient	€ 50,000	Sufficient	Dominant	N/A	Positive	N/A
Venetoclax	AML	10/11/2021	Inpatient	€ 80,000	Sufficient	€ 74,031	N/A	Negotiation	SREI
Osimertinib	NSCLC	15/11/2021	Inpatient	€ 50,000	Sufficient	€ 14,884	N/A	Negotiation	UNC, SREI

Ipilimumab + nivolumab	Mesothelioma (non-epithelioid)	17/12/2021	Inpatient	€ 80,000	Sufficient	€ 69,047	N/A	Negotiation	SREI, AIE
Tucatinib + trastuzumab + capecitabine	Breast cancer	17/01/2022	Inpatient	€ 80,000	Sufficient	€ 208,439	N/A	Negotiation	DBCM, AIE
Dapagliflozine	CKD	28/03/2022	Outpatient	€ 20,000	Sufficient	Dominant	N/A	Positive	N/A
Avacopan	GPA & MPA	20/04/2022	Outpatient	€ 20,000	Insufficient	NR, methodology insufficient	N/A	Negative	N/A
Cannabidiol	LGS	04/07/2022	Outpatient	€ 80,000	Sufficient after adaptations	€ 108,877	+ € 38,316	Negotiation	SSA, UNC, AIE
Cannabidiol	DS	04/07/2022	Outpatient	€ 80,000	Sufficient after adaptations	€ 109,769	+ € 72,221	Negotiation	SSA, AIE
Bempedoïnezuur	Hypercholesterolemia and dyslipodimia (SI)	05/07/2022	Outpatient	€ 20,000	Sufficient	€ 12,437	N/A	Negotiation	SSA, UNC
Bempedoïnezuur	Hypercholesterolemia and dyslipodimia (ST)	05/07/2022	Outpatient	€ 50,000	Sufficient	€ 46,342	N/A	Negotiation	SSA, UNC
Sacituzumab govitecan	Breast cancer	15/07/2022	Inpatient	€ 80,000	Sufficient after adaptations	€ 219,080*	+ € 22,151	Negotiation	DBCM, SSA, UNC, AIE, FECGB
Risdiplam	SMA type 1	15/07/2022	Outpatient	€ 80,000	Sufficient	€ 362,300	N/A	Negotiation	DBCM, UNC, COM
Risdiplam	SMA type 2 & 3	15/07/2022	Outpatient	€ 80,000	Sufficient	€ 416,741	N/A	Negotiation	DBCM, UNC, COM
Brexucabtagene autoleucel	Mantle cell lymphoma	09/09/2022	Inpatient	€ 80,000	Insufficient	NR, methodology insufficient	N/A	Negative	N/A
Pegcetacoplan	PNH	16/09/2022	Outpatient	€ 20,000	Sufficient after adaptations	Could not be reported, confidential price comparator too influential	Manufacturer claimed dominant against comparator	Negotiation	RE, CPCEC, AIE, FECGB

Atidarsagene autotemcel	Metachromatic leukodystrophy	27/09/2022	Inpatient	€ 80,000	Sufficient after adaptations	€ 327,423 [§]	+ € 219,646	Negotiation	RE, UNC, DSAC
Ciltacabtagene autoleucl	Multiple myeloma	20/10/2022	Inpatient	€ 80,000	Insufficient	NR, methodology insufficient	N/A	Negative	N/A
Empagliflozine	Chronic HF	31/01/2023	Outpatient	€ 50,000	Sufficient	€ 8,863	N/A	Positive	N/A
Trastuzumab/deruxtecan	Breast cancer	15/02/2023	Inpatient	€ 80,000	Sufficient after adaptations	€ 167,116	+ € 20,820	Negotiation	SSA, UNC, HBI, FECGB
Evolocumab and alirocumab	Hypercholesterolemia	17/04/2023	Outpatient	€ 20,000	Sufficient	€ 69,026	N/A	Negotiation	DBCM, SREI
Brexucabtagene autoleucl†	Mantelcell lymphoma	17/04/2023	Inpatient	€ 80,000	Sufficient after adaptations	€ 201,686	+ € 10,693	Negotiation	RE
Avacopan†	GPA & MPA	15/06/2023	Outpatient	€ 20,000	Sufficient after adaptations	€ 460,735*	+ € 95,121	Negotiation	UNC, HBI, AIE, FECGB
Lenvatinib + pembrolizumab	Endometrial cancer	06/07/2023	Inpatient	€ 80,000	Sufficient after adaptations	€ 197,645	+ € 85,881	Negotiation	RE, SREI, AIE, FECGB
CRGP-inhibitors	Migraine	11/07/2023	Outpatient	€ 20,000	Insufficient	NR, methodology insufficient	N/A	Negative	N/A
Deucravacitinib	Psoriasis	27/03/2024	Inpatient	€ 20,000	Sufficient after adaptations	€ 56,085*	+ € 24,420	Negotiation	RE, CPCEC, FECGB
Mavacamten	HOCM	16/04/2024	Outpatient	€ 50,000	Sufficient	€ 15,019	N/A	Positive	N/A
Selumetinib	Neurofibromatosis	25/04/2024	Inpatient	€ 50,000	Sufficient after adaptations	€ 251,547*	+ € 80,773	Negotiation	RE, UNC
Axicabtagene ciloleucl	Lymphoma	26/06/2024	Inpatient	€ 50,000	Sufficient after adaptations	€ 65,910	+ € 5,066	Negotiation	RE, UNC, SREI, AIE, FECGB
Olipudase alfa	Niemann-Pick disease (children)	05/07/2024	Inpatient	€ 80,000	Sufficient	€ 1,070,000	N/A	Negotiation	DBCM
Olipudase alfa	Niemann-Pick disease (adults)	05/07/2024	Inpatient	€ 80,000	Sufficient	€ 1,600,000	N/A	Negotiation	DBCM

Sacituzumab govitecan†	Breast cancer	09/07/2024	Inpatient	€ 80,000	Sufficient	€ 154,502	N/A	Negotiation	DBCM, AIE
Dostarlimab	Endometrial cancer	10/07/2024	Inpatient	€ 80,000	Sufficient after adaptations	€ 58,573*	+ € 25,645	Negotiation	RE, AIE
Teclistamab	Multiple myeloma	10/07/2024	Inpatient	€ 80,000	Insufficient	NR, methodology insufficient	N/A	Negative	N/A
Semaglutide	Obesity (without DM2)	12/07/2024	Outpatient	€ 20,000	Insufficient	NR, methodology insufficient	N/A	Negative	N/A
Semaglutide	Obesity (with DM2)	12/07/2024	Outpatient	€ 20,000	Insufficient	NR, methodology insufficient	N/A	Negative	N/A
Tebentafusp	Uveamelanoma	29/08/2024	Inpatient	€ 80,000	Sufficient after adaptations	€ 474,822	+ € 253,883	Negotiation	SSA, AIE

Note. *Midpoint of reported ICER range.

†Re-assessment of a drug-indication that was assessed earlier.

‡ICER reported for Dutch cohort specifically.

§ICER reported for combined cohort of subgroups of metachromatic leukodystrophy.

¶ICER reported using data from the Dutch CHECK-HF registry.

ADPKD = autosomal dominant polycystic kidney disease; AHP = acute hepatic porphyria; AIE = anticipated indication expansion; AML = acute myeloid leukemia; ATTR = transthyretin amyloidosis; BRCA1/2 = breast cancer 1/2 mutation; CEA = cost-effectiveness analysis; CF = cystic fibrosis; CKD = chronic kidney disease; COM = competition with other treatments of assumed similar effectiveness; CPCEC = confidential price or unfavourable cost-effectiveness of the comparator; CLL = chronic lymphatic lymphoma; CVD = cardiovascular disease; DBCM = deterministic base case incremental cost-effectiveness ratio as reported by the manufacturer; DLBCL = diffuse large B-cell lymphoma; DS = Dravet syndrome; DSAC = alternative classifications of disease severity; FECGB = future entry of competitors, generics or biosimilars; FH = familial hypercholesterolemia; GPA = granulomatosis with polyangiitis; HBI = high budget impact; HF = heart failure; HOCM = hypertrophic obstructive cardiomyopathy; ICER = incremental cost-effectiveness ratio; LGS = Lennox-Gastautsyndrome; MPA = microscopic polyangiitis; N/A = non-applicable; NR = not reported; PNH = paroxysmal nocturnal hemoglobinuria; QALY = quality-adjusted life-year; NSCLC = non-small cell lung cancer; PMBCL = primary mediastinal B-cell lymphoma; RE = incremental cost-effectiveness ratio re-estimated by ZIN using alternative inputs; SI = statin-intolerant; SMA = spinal muscular atrophy; SREI = Substantial revenue from earlier indications of the same pharmaceutical; SSA = scenario- or sensitivity analysis incremental cost-effectiveness ratio provided in the dossier; ST = statin-tolerant; UNC = uncertainty in costs or effects; VHR = very high risk population; ZIN = National Health Care Institute.