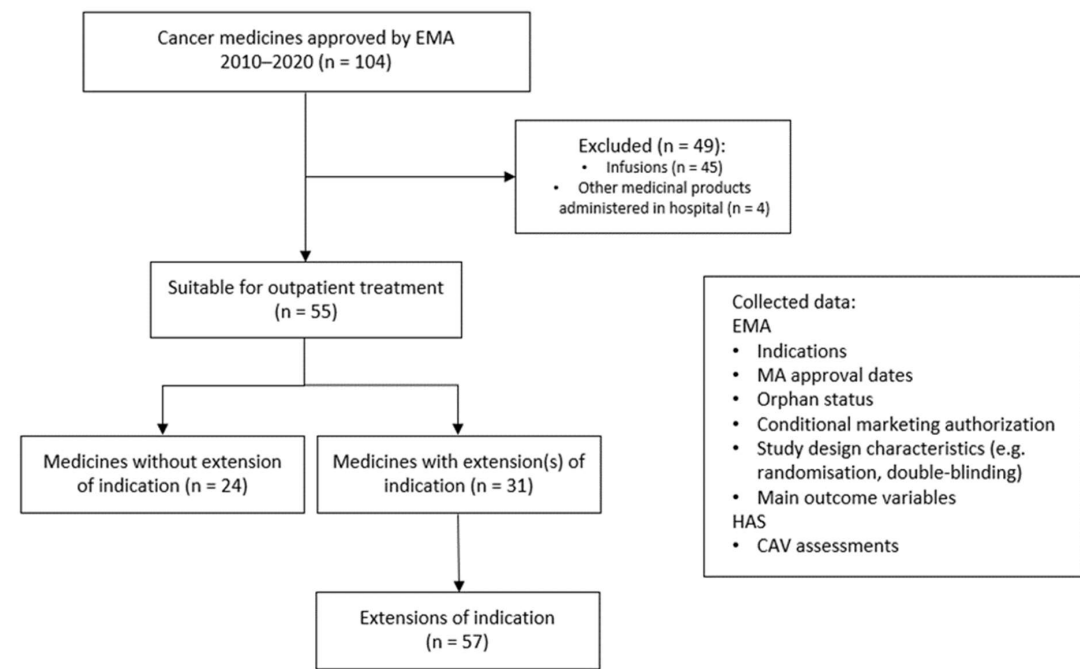




EMA= European Medicines Agency, HAS= Haute Autorité de Santé

Supplementary Figure 1. Flowchart of included medicines and their extensions of indication. Data was collected from HAS and EMA documents [22], [24].

Supplementary Table 1. The different categories of extensions used in this study [25].

Category of extension	Description of category
Treatment line	The medicine was authorised for a different treatment line or stage of the disease (e.g., the first MA* for metastatic disease and the extension for adjuvant setting).
Cancer type	The medicine was authorised for another cancer type (e.g., the first MA for melanoma and the extension of indication for lung cancer)
Patient type	The medicine was authorised for different patients than previously (e.g., the first MA for certain mutation type and the extension for another mutation type).
Combination type	The medicine was authorised to be used as part of a different combination of medicines (e.g., the first MA only as a monotherapy, the extension as a part of certain combination therapy).
Multiple change	At least two previously introduced categories are met.

*MA=marketing authorisation

Supplementary Table 2. Characteristics of the outpatient cancer medicines. Medicines without extension of indication are marked by purple.

Medicinal product, active substance, date	First indication	Conditional marketing authorisation ¹	Orphan status ¹	Accelerated assessment	Additional monitoring	Extension(s) of indication according to the type of the extension ² , date	HAS
L01B Antimetabolites							
L01BC Pyrimidine analogues							
Teysuno [®] , tegafur, gimeracil and oteracil, 14.3.2011	gastric cancer	-	Previously yes, now withdrawn	-	-	1. cancer type (colorectal cancer), 24.1.2022	Na Insuf.
Lonsurf [®] , trifluridine and tipiracil, 25.4.2016	colorectal cancer	-	-	-	-	1. cancer type (gastric cancer), 3.9.2019	5 5
L01E Protein kinase inhibitors							
L01EA BCR-ABL tyrosine kinase inhibitors							
Bosulif [®] , bosutinib, 27.3.2013	chronic myelogenous leukaemia	-	Previously yes, now withdrawn	-	-	1. treatment line, 23.4.2018	5 5
Iclusig [®] , ponatinib, 1.7.2013	leukaemia		Yes	Yes	-	-	5/4/3
L01EB Epidermal growth factor receptor (EGFR) tyrosine kinase inhibitors							
Giotrif [®] , afatinib, 25.9.2013	lung cancer	-	-	-	-	1. patient type (mutation), 31.3.2016	5 5
Tagrisso [®] , osimertinib, 2.2.2016	lung cancer	Previously yes, now full authorisation	-	Yes	Yes	1. treatment line, 7.6.2018 2. treatment line + patient type (mutation), 21.5.2021	5 4 3
Vizimpro [®] , dacomitinib, 2.4.2019	lung cancer	-	-	-	Yes	-	5
L01EC B-Raf serine-threonine kinase (BRAF) inhibitors							
Zelboraf [®] , vemurafenib, 17.2.2012	melanoma	-	-	-	-	-	3
Tafinlar [®] , dabrafenib, 26.8.2013	melanoma	-	-	-	-	1. combination type, 25.8.2015 2. cancer type (lung cancer), 29.3.2017 3. treatment line, 27.8.2018	5 Na 5 3
Braftovi [®] , encorafenib, 20.9.2018	melanoma	-	-	-	Yes	1. cancer type (colorectal cancer), 2.6.2020	5 3
L01ED Anaplastic lymphoma kinase (ALK) inhibitors							
Xalkori [®] , crizotinib, 23.10.2012	lung cancer	-	-	-	-	1. treatment line, 23.11.2015 2. patient type (mutation), 25.8.2016 3. patient type (adolescents), 28.10.2022	3 4 5 4
Zykadia [®] , ceritinib, 6.5.2015	lung cancer	Previously yes, now full authorisation	-	-	-	1. treatment line, 23.6.2017	4 4
Alecensa [®] , alectinib, 16.2.2017	lung cancer	-	-	-	-	1. treatment line, 18.12.2017	4 4
Alunbrig [®] , brigatinib, 22.11.2018	lung cancer	-	-	-	-	1. treatment line, 1.4.2020	5 4
Lorviqua [®] , lorlatinib, 6.5.2019	lung cancer	Yes	-	-	Yes	1. treatment line, 27.1.2022	5 4
L01EE Mitogen-activated protein kinase (MEK) inhibitors							

Mekinist [®] , <i>trametinib</i> , 30.6.2014	melanoma	-	-	-	-	1. combination type, 25.8.2015 2. cancer type (lung cancer), 27.3.2017 3. treatment line, 27.8.2018	3 Na 5 3
Cotellic [®] , <i>cobimetinib</i> , 20.11.2015	melanoma	-	-	-		-	3
Mektovi [®] , <i>binimetinib</i> , 20.9.2018	melanoma	-	-	-	Yes	-	5
L01EF Cyclin-dependent kinase (CDK) inhibitors							
Ibrance [®] , <i>palbociclib</i> , 9.11.2016	breast cancer	-	-	-	Yes	-	4
Kisqali [®] , <i>ribociclib</i> , 22.8.2017	breast cancer	-	-	-	Yes	1. combination type, 17.12.2018	3 4
Verzenio [®] , <i>abemaciclib</i> , 27.9.2018	breast cancer	-	-	-	Yes	1.treatment line, 1.4.2022	5/4 5
L01EH Human epidermal growth factor receptor 2 (HER2) tyrosine kinase inhibitors							
Nerlynx [®] , <i>neratinib</i> , 31.8.2018	breast cancer	-	-	-	yes	-	Insuf.
L01EJ Janus-associated kinase (JAK) inhibitors							
Jakavi [®] , <i>ruxolitinib</i> , 23.8.2012	myelofibrosis	-	Previously yes, now withdrawn	-	-	1. cancer type (polysytemia vera), 11.3.2015	3 4
L01EK Vascular endothelial growth factor receptor (VEGFR) tyrosine kinase inhibitors							
Inlyta [®] , <i>axitinib</i> , 3.9.2012	kidney cancer	-	Previously yes, now withdrawn	-	Yes	-	4
Fotivda [®] , <i>tivozanib</i> , 24.8.2017	kidney cancer	-	-	-	Yes	-	Insuf.
L01EL Bruton's tyrosine kinase (BTK) inhibitors							
Imbruvica [®] , <i>ibrutinib</i> , 27.10.2014	mantle cell lymphoma and chronic lymphocytic leukaemia	-	Previously yes, now withdrawn	-	-	1. cancer type (Walderström's macroglobulinaemia), 3.7.2015 2. treatment line, 26.5.2016 3. combination type, 25.8.2016 4. combination type, 2.8.2019 5. combination type, 28.8.2020 6. combination type, 2.8.2022	3 Na 4 Na Insuf. 3 4
Calquence [®] , <i>acalutinib</i> , 5.11.2020	leukaemia		Previously yes, now withdrawn		Yes	-	Na
L01EM Phosphatidylinositol-3-kinase (Pi3K) inhibitors							
Zydelig [®] , <i>Idelalisib</i> , 18.9.2014	follicular lymphoma and chronic lymphocytic leukaemia	-	-	-	Yes	1. combination type, 19.9.2016 2. combination type, 23.4.2018	5/4 Na Na
Piqray [®] , <i>alpelisib</i> , 27.7.2020	breast cancer	-	-	-	Yes	-	Insuf.
L01EX Other protein kinase inhibitors							
Votrient [®] , <i>pazopanib</i> , 14.6.2010	renal cell carcinoma	Yes	Previously yes, now withdrawn	-	-	1. cancer type (soft-tissue sarcoma), 24.8.2012	5 5
Caprelsa [®] , <i>vandetanib</i> , 16.2.2012	thyroid cancer	Yes	-	-	Yes	1. patient type (paediatric patients), 12.12.2016	4 5
Stivarga [®] , <i>regorafenib</i> , 26.8.2013	colorectal cancer	-	-	-	-	1. cancer type (gastrointestinal stromal tumors), 27.10.2014	5 4

						2. cancer type (hepatocellular carcinoma), 2.8.2017	4
Cometriq [®] , cabozantinib, 21.3.2014	medullary thyroid cancer	-	Yes	-	-	-	4
Lenvima [®] , lenvatinib, 28.5.2015	thyroid cancer	-	Previously yes, now withdrawn	Yes	Yes	1. cancer type (liver cancer), 20.8.2018 2. cancer type (endometrial carcinoma), 26.11.2021	4 Insuf. 3
Vargatef [®] , nintedanib, 21.11.2014	lung carcinoma	-	-	-	-	-	Insuf.
Rydapt [®] , midostaurin, 18.9.2017	acute myeloid leukaemia, mastocytosis	-	Yes	-	Yes	-	4/5
Vitrakvi [®] , larotrectinib, 19.9.2019	solid tumours with NTRK gene fusion	Yes	Previously yes, now withdrawn	-	Yes	-	4
Xospata [®] , gilteritinib, 24.10.2019	acute myeloid leukemia	-	Yes	-	Yes	-	4
Rozlytrek [®] , entrectinib, 31.7.2020	solid tumors with NTRK fusion, lung cancer	Yes	-	-	Yes	-	Insuf.
Ayvakyt [®] , avapritinib, 24.9.2020	gastrointestinal stromal tumours	Yes	Yes	-	Yes	1. cancer type (mastocytosis), 24.3.2022	5 4
L01X Other antineoplastic agents							
L01XG Proteasome inhibitors							
Ninlaro [®] , ixazomib, 21.11.2016	multiple myeloma	yes	yes	-	Yes	-	5
L01XH Histone deacetylase (HDAC) inhibitors							
Farydak [®] , panobinostat, 28.8.2015	multiple myeloma	-	Yes	-	Yes	-	5
L01XJ Hedgehog pathway inhibitors							
Erivedge [®] , vismodegib, 12.7.2013	basal cell carcinoma	-	-	-	Yes		4
Odomzo [®] , sonidegib, 14.8.2015	basal cell carcinoma	-	-	-	Yes	-	4
Daurismo [®] , glasdegib, 26.6.2020	acute myeloid leukaemia		Yes	-	Yes	-	Na
L01XK Poly (ADP-ribose) polymerase (PARP) inhibitors							
Lynparza [®] , olaparib, 16.12.2014	ovarian, fallopian tube or primary peritoneal cancer	-	Previously yes, now withdrawn	-	-	1. cancer type (breast cancer), 8.4.2019 2. treatment line, 12.6.2019 3. cancer type (pancreatic cancer), 3.7.2020 4. combination type, 3.11.2020 5. cancer type (prostate cancer), 3.11.2020 6. treatment line (breast cancer), 2.8.2022 7. treatment line + combination (prostate cancer), 16.12.2022	4 5 4 5 4 4 3 4
Zejula [®] , niraparib, 16.11.2017	ovarian, fallopian tube or primary peritoneal cancer	-	Yes	-	Yes	1. treatment line, 27.10.2020	4 4
Rubraca [®] , rucaparib, 24.5.2018	ovarian, fallopian tube or primary peritoneal cancer	Yes	Previously yes, now withdrawn	-	Yes	1. treatment line + patient type (mutation), 23.1.2019	Insuf. 4
Talzenna [®] , talazoparib, 20.6.2019	breast cancer	-	-	-	Yes	-	5
L01XX Other antineoplastic agents							

Venclyxto [®] , <i>venetoclax</i> , 5.12.2016	chronic lymphocytic leukaemia	Previously yes, now full authorisation	Previously yes, now withdrawn	-	Yes	1. treatment line + combination type, 29.10.2018 2. treatment line + combination type, 9.3.2020 3. cancer type (acute myeloid leukaemia), 22.4.2021	5 4 3 4
L02B Hormone antagonists and related agents							
L02BB Anti-androgens							
Xtandi [®] , <i>enzalutamide</i> , 21.6.2013	prostate cancer	-	-	-	-	1. treatment line, 28.11.2014 2. treatment line, 23.10.2018 3. treatment line, 30.4.2021	3 4 3 3
Erleada [®] , <i>apalutamide</i> , 14.1.2019	prostate cancer	-	-	-	Yes	1. treatment line, 27.1.2020	3 3
Nubeqa [®] , <i>darolutamide</i> , 27.3.2020	prostate cancer	-	-	-	Yes	-	3
L02BX Other hormone antagonists and related agents							
Zytiga [®] , <i>abiraterone</i> , 5.9.2011	prostate cancer	-	-	Yes	-	1. treatment line, 18.12.2012 2. treatment line, 15.11.2017	3 4 3
L04A Immunosuppressants							
L04AX Other immunosuppressants							
Imnovid [®] , <i>pomalidomide</i> , 5.8.2013	multiple myeloma	-	Yes	-	Yes	1. treatment line + new combination, 13.5.2019	5 5

¹ In some stage of the product life cycle

²Types of extensions: *Cancer type* = authorised for new cancer type, *Treatment line* = authorised for a different treatment line or for a different stage of the disease, e.g. after a surgery, *Patient type* = authorised for different patients than previously, *Combination type* = authorised to be used as a part of different combination of medicines

HAS= Haute Autorité de Santé

Na= No assessment. HAS has not evaluated the medicine or indication.

Insuf. = The actual clinical benefit is insufficient

3 = moderate clinical added value (CAV), 4 = minor CAV, 5 = no improvement CAV.

Supplementary Table 3a. Assessment of cancer medicines with extension of indication by JBI (Joanna Briggs Institute) criteria.

Medicinal product, <i>active substance</i> , (ATC-code)						
	Study	Setting	Randomisation and concealment of allocation (1–2)	Double-blinding (4–6)	Similarity of the compared groups (3,7,8)	Validity and reliability of the outcome assessment (9-12)
Lonsurf <i>Trifluridine and tipiracil</i> (L01BC59)						
Original MA	TPU-TAS-102-301	Randomised, double-blinded, placebo-controlled, phase III	●	●	●	●
1. ext	TAS-102-302	Randomised, double-blinded, placebo-controlled, phase III	●	●	●	●
Bosulif <i>Bosutinib</i> (L01EA04)						
Original MA	200-WW	Open, non-controlled, phase I-II	●	●	●	●
1. ext	AV001	Randomised, open, active-controlled, phase III	●	●	●	●
Giotrif <i>Afatinib</i> (L01EB03)						
Original MA	LUX-Lung 3	Randomised, open, active-controlled, phase III	●	●	●	●
1. ext	LUX-Lung 8	Randomised, open, active-controlled, phase III	●	●	●	●
Tagrisso, <i>Osimertinib</i> (L01EB04)						
Original MA	201 & 210	Open, non-controlled, phase I-II (both)	● ●	● ●	● ●	● ●
1. ext	2014-002694-11	Randomised, double-blinded, active-controlled, phase III	●	●	●	●
2. ext	D5164C00001/ Adaura	Randomised, double-blinded, placebo-controlled, phase III	●	●	●	●
Tafinlar <i>Dabrafenib</i> (L01EC02)						
Original MA	BRF11368	Randomised, open, active-controlled, phase III	●	●	●	●
1. ext	MEK115306	Randomised, double-blinded, active-controlled, phase III	● ●	● ●	● ●	● ●
	MEK116513	Randomised, open, active-controlled, phase III				

2. ext	BRF113928	Open, non-controlled, phase II	●	●	●	●
3. ext	BRF115532	Randomised, double-blinded, placebo-controlled, phase III	●	●	●	●
Braftovi, Encorafenib (L01EC03)						
Original MA	CMEK162B2301	Randomised, open, active-controlled, phase III	●	●	●	●
1. ext	ARRAY-818-302	Randomised, open, active-controlled, phase III	●	●	●	●
Xalkori, Crizotinib (L01ED01)						
Original MA	A8081001	Open, non-controlled, phase I-II	●	●	●	●
1. ext	A8081014	Randomised, open, active-controlled, phase III	●	●	●	●
2. ext	A8081001	Open, non-controlled, phase I-II	●	●	●	●
3.ext	ADVL0912	Open, non-controlled, phase I-II	●	●	●	●
Zykadia, Ceritinib (L01ED02)						
Original MA	CLDK378X2101	Open, non-controlled, phase I-II	●	●	●	●
1. ext	ASCEND-4/A2301	Randomised, open, active-controlled, phase III	●	●	●	●
Alecensa Alectinib (L01ED03)						
Original MA	NP28761, NP28673	Open, non-controlled, phase I-II Open, non-controlled, phase I-II	● ●	● ●	● ●	● ●
1. ext	BO28984	Randomised, open, active-controlled, phase III	●	●	●	●
Alunbrig Brigatinib (L01ED04)						
Original MA	AP26113-13-201	Randomised, open, non-controlled, phase II*	●	●	●	●
1. ext	AP26113-13-301	Randomised, open, active-controlled, phase III	●	●	●	●
Lorviqua, Lorlatinib (L01ED05)						

Original MA	PF-06463922	Open, non-controlled, phase I-II				
1. ext	B7461006	Randomised, open, active-controlled, phase III				
Mekinist, Trametinib (L01EE01)						
Original MA	MEK114267	Randomised, open, active-controlled, phase III				
1. ext	MEK115306 MEK116513	Randomised, double-blinded, active-controlled, phase III Randomised, open, active-controlled, phase III				
2. ext	BRF113928	Open, non-controlled, phase I-II				
3. ext	BRF115532	Randomised, double-blinded, placebo-controlled, phase III				
Kisqali Ribociclib (L01EF02)						
Original MA	MONALEESA-2	Randomised, double-blinded, placebo-controlled, phase III				
1. ext	MONALEESA-7 MONALEESA-3	Randomised, double-blinded, placebo-controlled, phase III Randomised, double-blinded, placebo-controlled, phase III				
Verzenio abemaciclib (L01EF03)						
Original MA	MONARCH 3 MONARCH 2	Randomised, double-blinded, placebo-controlled, phase III, Randomised, double-blinded, placebo-controlled, phase III				
1. ext	monarchE	Randomised, open, active-controlled, phase III				
Jakavi Ruxolitinib (L01EJ01)						
Original MA	352 351	Randomised, open, active-controlled, phase III Randomised, double-blinded, placebo-controlled, phase III				
1. ext	B2301	Randomised, open, active-controlled, phase III				
Imbruvica Ibrutinib (L01EL01)						

Original MA	PCYC-1112-CA PCYC-1104-CA	Randomised, open, active-controlled, phase III Open, non-controlled, phase II				
1. ext	PCYC-1118E	Open, non-controlled, phase II				
2. ext	PCYC-1115-CA	Randomised, open, active-controlled, phase III				
3. ext	PCI-2765CLL3001	Randomised, double-blinded, placebo-controlled, phase III				
4. ext	1127	Randomised, double-blinded, placebo-controlled, phase III				
5. ext	E1912	Randomised, open, active-controlled, phase III				
6.ext	CLL3011	Randomised, open, active-controlled, phase III				
Zydelig <i>Idelalisib</i> (L01EM01)						
Original MA	GS-US-312-0116 & 101-09	Randomised, double-blinded, placebo-controlled, phase III Open, non-controlled, phase II				
1. ext	GS-US-312-0119	Randomised, open, active-controlled, phase III				
2. ext	GS-US-312-0115	Randomised, double-blinded, placebo-controlled, phase III				
Votrient <i>Pazopanib</i> (L01EX03)						
Original MA	VEG105192	Randomised, double-blinded, placebo-controlled, phase III				
1. ext	VEG110727	Randomised, double-blinded, placebo-controlled, phase III				
Caprelsa <i>Vandetanib</i> (L01EX04)						
Original MA	D4200C00058	Randomised, double-blinded, placebo-controlled, phase III				
1. ext	IRUSZACT0098	Open, non-controlled, phase II				
Stivarga, <i>Regorafenib</i> (L01EX05)						
Original MA	14387	Randomised, double-blinded, placebo-controlled, phase III				
1. ext	14874	Randomised, double-blinded, placebo-controlled, phase III				

2. ext	15982	Randomised, double-blinded, placebo-controlled, phase III				
Lenvima, Lenvatinibi (L01EX08)						
Original MA	E7080-G000-303	Randomised, double-blinded, placebo-controlled, phase III				
1. ext	E7080-G000-304	Randomised, open, active-controlled, phase III				
2. ext	E7080-G000-309	Randomised, open, active-controlled, phase III				
Ayvakyt Avapritinib (L01EX18)						
Original MA	BLU-285-1101	Open, non-controlled, phase I-II				
1. ext	BLU-285-2202	Open, non-controlled, phase I-II				
Lynparza, Olaparib (L01EK01)						
Original MA	D0810C00019	Randomised, double-blinded, placebo-controlled, phase III				
1. ext	D0819C00003	Randomised, open, active-controlled, phase III				
2. ext	D0818C00001	Randomised, double-blinded, placebo-controlled, phase III				
3. ext	D081FC00001	Randomised, double-blinded, placebo-controlled, phase III				
4. ext	D0817C00003	Randomised, double-blinded, placebo-controlled, phase III				
5. ext	D081DC00007	Randomised, open, active-controlled, phase III				
6. ext	D081CC00006	Randomised, double-blinded, placebo-controlled, phase III				
7. ext	D081SC00001	Randomised, double-blinded, placebo-controlled, phase III				
Zejula Niraparib (L01XK02)						
Original MA	PR-30-5011-C	Randomised, double-blinded, placebo-controlled, phase III				
1. ext	PR-30-5017-C	Randomised, double-blinded, placebo-controlled, phase III				
Rubraca Rucaparib (L01XK03)						

Original MA	CO-338-010	Open, non-controlled, phase I-II	 	 	 	 
	CO-338-017	Open, non-controlled, phase I-II				
1. ext	CO-338-014	Randomised, double-blinded, placebo-controlled, phase III				
Venclyxto, Venetoclax (L01XX52)						
Original MA	M13-982	Open, non-controlled, phase I-II				
1. ext	MURANO	Randomised, open, active-controlled, phase III				
2. ext	BO25323	Randomised, open, active-controlled, phase III				
3. ext	M15-656	Randomised, double-blinded, placebo-controlled, phase III (both)	 	 	 	 
	M16-043					
Xtandi, Enzalutamide (L02BB04)						
Original MA	MDV3100	Randomised, double-blinded, placebo-controlled, phase III				
1. ext	MDV3100-03	Randomised, double-blinded, placebo-controlled, phase III				
2. ext	MDV3100 14	Randomised, double-blinded, placebo-controlled, phase III				
3. ext	9785-CL-0335	Randomised, double-blinded, placebo-controlled, phase III				
Erleada, Apalutamide (L02BB05)						
Original MA	ARN-509-003 (SPARTAN	Randomised, double-blinded, placebo-controlled, phase III				
1. ext	PCR3002 (TITAN)	Randomised, double-blinded, placebo-controlled, phase III				
Zytiga Abiraterone (L02BX03)						
Original MA	COU-AA-301	Randomised, double-blinded, placebo-controlled, phase III				
1. ext	COU-AA-302	Randomised, double-blinded, placebo-controlled, phase III				

2. ext	212082PCR3011	Randomised, double-blinded, placebo-controlled, phase III				
Imnovid Pomalidomide (L04AX06)						
Original MA	CC-4047-MM-003	Randomised, open, active-controlled, phase III				
1. ext	MM-007	Randomised, open, active-controlled, phase III				
Teysono, Tegafur, gimeracil and oteracil (L01BC53)						
Original MA	S-1301/FLAGS	Randomised, open, active-controlled, phase III				
1. ext	-	Exploratory and retrospective Meta-analysis				

* Dose comparison,
MA= Marketing authorization,
ext. = Extension of indication

Supplementary Table 3b. Assessment of cancer medicines without extension of indication by JBI (Joanna Briggs Institute) criteria.

Medicinal product, <i>active substance</i> , (ATC-code)						
	Study	Setting	Randomization and concealment of allocation (1–2)	Double-blinding (4–6)	Similarity of the compared groups (3,7,8)	Validity and reliability of the outcome assessment (9-12)
Calquence, Acalabrutinib (L01XE51)						
Original MA	ACE-CL-007, ACE-CL-309	Randomised, open, active-controlled, phase III (both)				
Daurismo, glasdegib (L01XX63)						
Original MA	B1371003	Randomised, open, active-controlled, phase III				
Nubega, darolutamide (L02BB)						
Original MA	ARAMIS 17712	Randomised, double-blinded, placebo-controlled, phase III				
Piqray Alpelisib (L01XE)						
Original MA	C2301 (SOLAR-1)	Randomised, double-blinded, placebo-controlled, phase III				
Rozlytrek, Entrectinib (L01EX14)						
Original MA	GO40782, STARTRK-2)	Open, non-controlled, phase I-II (basket study)				
Talzenna, Talazoparib (L01E)						
Original MA	673-301 (EMBRACA)	Randomised, open, active-controlled, phase III				
Vitrakvi, Larotrectinib (L01E)						
Original MA	LOXO-TRK-15002 (NAVIGATE)	Open, non-controlled, phase I-II (basket study)				
Vizimpro, Dacomitib, (L01EB07)						
Original MA	ARCHER 1050	Randomised, open, active-controlled, phase III				

Xospata, gilteritinib, (L01EX13)						
Original MA	ADMIRAL (2215-CL-0301)	Randomised, open, active-controlled, phase III				
Mektovi, binimetinib, (L01EE03)						
Original MA	COLUMBUS CMEK162B2301	Randomised, open, active-controlled, phase III				
Nerlynx, neratinib , (L01EH02)						
Original MA	3144A2-3004-WW	Randomised, double-blinded, placebo-controlled, phase III				
Fotivda, tivozanib, (L01EK03)						
Original MA	AV-951-09-301	Randomised, open, active-controlled, phase III				
Rydapt, midostaurin, (L01XE)						
Original MA	RATIFY (A2301)	Randomised, double-blinded, placebo-controlled, phase III				
Ibrance, palbociclib (L01XE)						
Original MA	1023 (PALOMA-3) 1008 (PALOMA-2)	Randomised, double-blinded, placebo-controlled, phase III				
Ninlaro, ixazomib (L01XG03)						
Original MA	C16010	Randomised, double-blinded, placebo-controlled, phase III				
Cotellic, cobimetinib (L01XE38)						
Original MA	GO28141/coBRI	Randomised, double-blinded, placebo-controlled, phase III				
Farydak, panobinostat (L01XH03)						
Original MA	CLBH589D2308 (Panorama I)	Randomised, double-blinded, placebo-controlled, phase III				

Odomzo, sonidegib (L01XJ02)						
Original MA	A2201 (BOLT)	Randomised, double-blinded, non-comparative, phase II	●	●	●	●
Cometriq, cabozantinib (L01XE)						
Original MA	XL184-301	Randomised, double-blinded, placebo-controlled, phase III	●	●	●	●
Vargatef, nintedanib (L01XE3)						
Original MA	XL184-301	Randomised, double-blinded, placebo-controlled, phase III	●	●	●	●
Erivedge, vismodegib (L01XX43)						
Original MA	SHH4476g	Open, non-controlled, phase-II (basket study)	●	●	●	●
Iclusig, ponatinib (L01EA05)						
Original MA	AP24534-10-201	Open, non-controlled, phase-II	●	●	●	●
Inlyta, axitinib (L01EK01)						
Original MA	A4061032	Randomised, open, active-controlled, phase III	●	●	●	●
Zelboraf, vemurafenib (L01XE15)						
Original MA	NO25026 (BRIM 3)	Randomised, open, active-controlled, phase III	●	●	●	●

MA= Marketing authorisation,
ext. = Extension of indication