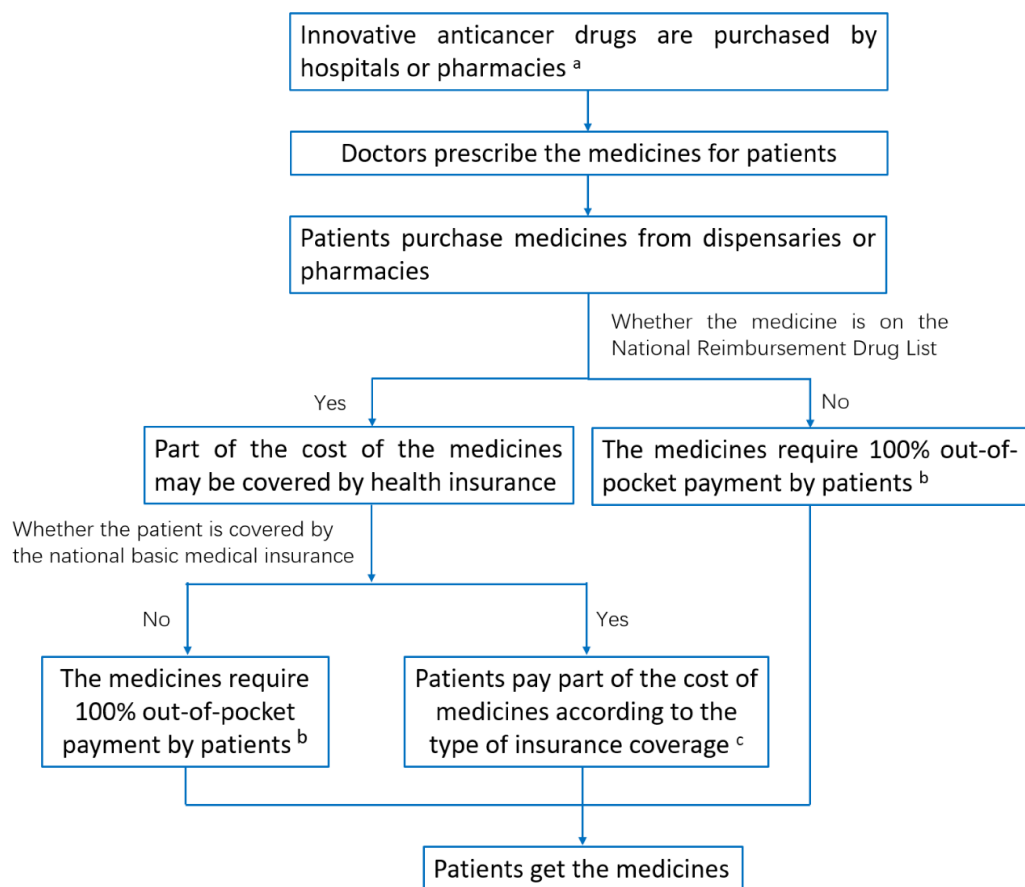


SUPPLEMENTAL FIGURES AND TABLES



Supplementary Figure 1 The procurement and sales process for innovative anticancer drugs in China

Note: ^aHospitals and pharmacies have the right to choose whether to purchase relevant drugs, and the prices of drugs in different hospitals or pharmacies may be different. However, it should be noted that the prices of drugs in public hospitals are generally not higher than those announced by the relevant provincial departments. ^bIf a patient is covered by commercial insurance other than the national basic medical insurance, the cost of the drug may be covered according to his or her specific agreements. ^cThe national basic medical insurance system in China is divided into two categories: medical insurance for urban workers and for urban and rural residents. In addition, medications on the National Reimbursement Drug List (NRDL) are categorized into Class A and Class B. These categories have different reimbursement rates and the reimbursement rate varies in different provincial administrative regions. If innovative anticancer drugs are on the NRDL, they should belong to Class B and their reimbursement ratio generally ranges from 50% to 85%. When purchasing Class B drugs, patients only need to pay part of the drug cost on the spot, and the reimbursement part of the remaining cost is paid by local medical insurance departments to hospitals or pharmacies.

Supplementary Table 1 Characteristics of originator brands of innovative anticancer drugs

	Name	Code	Dosage form and strength	Main indications	Manufacturer	Reimbursement date
1	Zanubrutinib	L01EL03 ^a	80 mg (Cap)	Lymphoma; chronic lymphocytic leukemia	BeiGene (China)	Mar 2021
2	Trametinib	L01EE01 ^a	0.5 mg; 2 mg (Tab)	Melanoma	GlaxoSmithKline (Italy)	Mar 2021
3	Dabrafenib	L01EC02 ^a	50 mg; 75 mg (Cap)	Melanoma	GlaxoSmithKline (UK)	Mar 2021
4	Lenvatinib ^c	L01EX08 ^a	4 mg (Cap)	Liver cancer	Eisai (Japan)	Mar 2021
5	Flumatinib	XL01XE83 ^b	200 mg (Tab)	Chronic myeloid leukemia (CML)	Hansoh (China)	Mar 2021
6	Almonertinib	XL01XE85 ^b	55 mg (Tab)	Non-small cell lung cancer (NSCLC)	Hansoh (China)	Mar 2021
7	Tislelizumab	L01FF09 ^a	100 mg/10 mL (Inj)	Hodgkin lymphoma; urothelial cancer	Boehringer Ingelheim (China)	Mar 2021
8	Toripalimab	XL01XC80 ^b	80 mg/2 mL; 240 mg/6 mL (Inj)	Melanoma	Junshi Biosciences (China)	Mar 2021
9	Camrelizumab	XL01XC81 ^b	200 mg (Inj)	Hodgkin lymphoma; liver cancer; NSCLC; esophageal cancer	Hengrui (China)	Mar 2021
10	Inetetamab	XL01XC76 ^b	50 mg (Inj)	Breast cancer	Shanghai Zhongxin Guojian (China)	Mar 2021
11	Ruxolitinib	L01EJ01 ^a	5 mg (Tab)	Myelofibrosis	Novartis (Schweiz)	Jan 2020
12	Alectinib	L01ED03 ^a	150 mg (Cap)	NSCLC	Roche (Germany)	Jan 2020
13	Fruquintinib	XL01XE95 ^b	1 mg; 5 mg (Cap)	Colorectal cancer	Hutchison Whampoa (China)	Jan 2020
14	Pyrotinib	XL01XE96 ^b	80 mg; 160 mg (Tab)	Breast cancer	Hengrui (China)	Jan 2020
15	Pertuzumab	L01FD02 ^a	420 mg/14 mL (Inj)	Breast cancer	Roche Diagnostics (Switzerland)	Jan 2020
16	Sintilimab	XL01XC78 ^b	100 mg/10 mL (Inj)	Hodgkin lymphoma	Innovent Biologics (China)	Jan 2020
17	Vemurafenib	L01EC01 ^a	240 mg (Tab)	Melanoma	Roche (Switzerland)	Oct 2018
18	Osimertinib	L01EB04 ^a	80 mg (Tab)	NSCLC	AstraZeneca (Sweden)	Oct 2018
19	Anlotinib	XL01XE86 ^b	8 mg; 10 mg; 12 mg (Cap)	Lung cancer; soft tissue sarcoma	Chia-Tai Tianqing (China)	Oct 2018
20	Crizotinib	L01ED01 ^a	200 mg; 250 mg (Cap)	NSCLC	Pfizer (Germany)	Oct 2018
21	Ceritinib	L01ED02 ^a	150 mg (Cap)	NSCLC	Novartis (Schweiz)	Oct 2018
22	Pazopanib	L01EX03 ^a	200 mg (Tab)	Kidney cancer	GlaxoSmithKline (UK)	Oct 2018
23	Axitinib	L01EK01 ^a	1 mg; 5 mg (Tab)	Kidney cancer	Pfizer (Germany)	Oct 2018
24	Regorafenib	L01EX05 ^a	40 mg (Tab)	Liver cancer; colorectal cancer; gastrointestinal stromal tumor	Bayer (Germany)	Oct 2018

25	Nilotinib	L01EA03 ^a	150 mg; 200 mg (Cap)	CML	Novartis (Schweiz)	Oct 2018
26	Ibrutinib ^d	L01EL01 ^a	140 mg (Cap)	Lymphoma; Waldenstrom's macroglobulinemia	Catalent (USA)	Oct 2018
27	Cetuximab	L01FE01 ^a	100 mg/20 mL (Inj)	Colorectal cancer	MERCK (Germany)	Oct 2018
28	Erlotinib ^{c,e}	L01EB02 ^a	100 mg; 150 mg (Tab)	NSCLC	Roche (Italy)	Jul 2017
29	Sorafenib ^c	L01EX02 ^a	200 mg (Tab)	Renal cell carcinoma; liver cancer; thyroid cancer	Bayer (Germany)	Jul 2017
30	Apatinib	XL01XE94 ^b	250 mg; 375 mg; 425 mg (Tab)	Gastric adenocarcinoma; gastroesophageal junction adenocarcinoma	Hengrui (China)	Jul 2017
31	Bevacizumab ^c	L01FG01 ^a	100 mg/4 mL (Inj)	Colorectal cancer; NSCLC	Roche Diagnostics (USA)	Jul 2017
32	Nimotuzumab	XL01XC74 ^b	50 mg/10 mL (Inj)	Nasopharyngeal cancer	Biotech (China)	Jul 2017
33	Trastuzumab ^{c,e}	L01FD01 ^a	440 mg/20 mL (Inj)	Breast cancer; stomach cancer	Roche (Switzerland)	Jul 2017

Note: ^aATC Code from the WHO Collaborating Center for Drug Statistics Methodology.

^bMedicine classification and codes in National Reimbursement Drug List (NRDL) of nationally negotiated medicines in 2020.

^cMedicine also had generic brands after 2020.

^dMedicine on the WHO Model List of Essential Medicines for 2021 and 2023.

^eMedicine on the WHO Model List of Essential Medicines for 2019, 2021 and 2023.

Supplementary Table 2 Availability of national negotiated innovative anticancer medicines in the investigated hospitals

Type	No.	Name	All Hospitals (%)			Tertiary General Hospital (%)			Secondary General Hospital (%)		
			2020	2021	2022	2020	2021	2022	2020	2021	2022
OBs	1	Zanubrutinib	0.53	21.26	28.46	0.80	29.24	37.00	0.00	5.35	11.45
	2	Trametinib	0.08	4.47	6.42	0.13	6.08	8.43	0.00	1.25	2.42
	3	Dabrafenib	0.14	4.39	6.12	0.21	6.08	8.14	0.00	1.00	2.09
	4	Lenvatinib	2.18	28.30	32.29	2.98	34.86	39.56	0.59	15.22	17.81
	5	Flumatinib	0.70	18.52	23.55	0.88	25.00	30.91	0.33	5.60	8.86
	6	Almonertinib	0.78	23.46	31.93	1.09	29.95	38.97	0.17	10.54	17.89
	7	Tislelizumab	2.60	30.14	52.60	3.65	36.91	60.40	0.50	16.64	37.04
	8	Toripalimab	4.97	24.55	32.51	6.17	29.28	39.39	2.59	15.13	18.81
	9	Camrelizumab	10.20	52.71	51.37	13.72	62.67	61.24	3.18	32.86	31.69
	10	Inetetamab	0.00	6.96	13.74	0.00	9.40	17.58	0.00	2.09	6.10
	11	Ruxolitinib	17.88	24.36	26.37	24.66	33.22	35.15	4.35	6.69	8.86
	12	Alectinib	20.87	29.25	31.20	27.35	37.25	37.92	7.94	13.29	17.81
	13	Fruquintinib	16.62	25.61	29.33	22.11	33.05	36.41	5.69	10.79	15.22
	14	Pyrotinib	28.55	35.81	36.37	36.28	45.55	45.64	13.13	16.39	17.89
	15	Pertuzumab	37.18	48.77	51.87	46.43	59.23	61.41	18.73	27.93	32.86
	16	Sintilimab	25.70	35.59	52.15	31.84	44.25	60.53	13.46	18.31	35.45

	17	Vemurafenib	6.28	5.36	3.04	8.89	6.96	3.78	1.09	2.17	1.59
	18	Osimertinib	51.98	60.45	59.05	63.09	71.27	68.58	29.85	38.88	40.05
	19	Anlotinib	51.51	56.34	55.20	62.71	66.74	64.26	29.18	35.62	37.12
	20	Crizotinib	32.12	33.52	30.17	41.44	41.86	37.29	13.55	16.89	15.97
	21	Ceritinib	11.48	12.23	10.34	16.19	17.45	13.51	2.09	1.84	4.01
	22	Pazopanib	15.42	16.68	15.50	21.73	22.94	20.85	2.84	4.18	4.85
	23	Axitinib	17.18	20.78	21.90	23.41	28.27	28.78	4.77	5.85	8.19
	24	Regorafenib	28.72	31.79	31.06	38.00	41.19	39.43	10.20	13.04	14.38
	25	Nilotinib	22.40	23.99	22.21	31.12	33.05	30.29	5.02	5.94	6.10
	26	Ibrutinib	26.70	28.32	22.63	35.78	37.88	30.45	8.61	9.28	7.02
	27	Cetuximab	38.02	42.23	43.77	49.41	53.10	53.98	15.30	20.57	23.41
	28	Erlotinib	21.59	18.63	13.30	28.57	24.17	16.70	7.61	7.61	6.35
	29	Sorafenib	35.14	27.10	11.73	44.17	33.98	14.35	17.14	13.38	10.12
	30	Apatinib	44.39	43.91	39.66	52.98	53.52	47.48	27.26	24.75	24.08
	31	Bevacizumab	55.36	48.83	39.64	66.53	59.56	49.04	33.11	27.43	20.90
	32	Nimotuzumab	18.69	21.17	20.92	25.50	28.94	28.78	5.10	5.69	5.27
	33	Trastuzumab	59.08	60.34	57.13	70.43	70.13	65.69	36.45	40.80	40.05
GBs	34	Lenvatinib	0.00	3.13	28.97	0.00	3.69	33.10	0.00	2.01	20.74
	35	Erlotinib	6.20	9.49	9.47	7.47	11.08	10.36	3.67	6.35	7.69
	36	Sorafenib	1.09	27.04	32.40	1.30	34.02	40.14	0.67	13.13	16.98
	37	Bevacizumab	33.88	66.23	71.87	41.28	77.23	80.41	19.15	43.31	54.85
	38	Trastuzumab	2.07	24.33	36.34	2.77	30.50	43.50	0.67	12.04	22.07

Note: The availability >50% were bolded. GBs, generic brands; OBs, originator brands.

Supplementary Table 3 Quarterly availability of innovative anticancer medicines in all investigated hospitals from 2020 to 2022.

Type	No.	Name	2020 (%)				2021 (%)				2022 (%)			
			Q1st	Q2nd	Q3rd	Q4th	Q1st	Q2nd	Q3rd	Q4th	Q1st	Q2nd	Q3rd	Q4th
OBs	1	Zanubrutinib	0.00	0.00	0.78	1.34	10.84	22.57	25.14	26.48	29.16	27.93	29.72	27.04
	2	Trametinib	0.00	0.00	0.22	0.11	2.01	4.92	5.70	5.25	6.15	6.48	6.82	6.26
	3	Dabrafenib	0.00	0.11	0.34	0.11	2.23	4.92	5.36	5.03	6.15	6.15	6.26	5.92
	4	Lenvatinib	1.23	2.01	2.46	3.02	14.86	28.38	33.41	36.54	35.31	33.41	31.96	28.49
	5	Flumatinib	0.11	0.56	0.67	1.45	10.17	18.66	22.01	23.24	22.35	23.35	24.92	23.58
	6	Almonertinib	0.00	0.22	0.89	2.01	11.96	24.80	27.37	29.72	30.73	34.19	33.30	29.50
	7	Tislelizumab	0.22	1.34	3.02	5.81	16.31	28.49	35.53	40.22	51.62	52.63	53.41	52.74
	8	Toripalimab	2.79	3.80	5.36	7.93	14.30	27.15	29.27	27.49	31.40	32.40	33.63	32.63
	9	Camrelizumab	6.37	9.50	10.73	14.19	41.34	56.65	57.09	55.75	55.53	51.62	50.39	47.93
	10	Inetetamab	0.00	0.00	0.00	0.00	1.68	6.70	9.27	10.17	12.74	13.07	14.86	14.30
	11	Ruxolitinib	9.61	17.99	21.68	22.23	23.35	23.35	25.14	25.59	26.48	26.59	26.93	25.47
	12	Alectinib	12.74	21.12	24.80	24.80	27.93	28.60	30.17	30.28	32.07	30.61	32.07	30.06

13	Fruquintinib	9.16	16.31	18.99	22.01	23.80	24.80	26.93	26.93	30.50	28.72	30.06	28.04	
14	Pyrotinib	20.34	28.04	33.63	32.18	34.08	35.20	36.87	37.09	39.55	36.20	36.09	33.63	
15	Pertuzumab	26.03	36.87	42.46	43.35	46.37	47.82	49.39	51.51	52.29	50.84	51.96	52.40	
16	Sintilimab	14.97	24.58	30.17	33.07	32.96	33.41	36.76	39.22	50.61	52.51	53.85	51.62	
17	Vemurafenib	6.59	6.37	6.26	5.92	7.04	5.92	5.14	3.35	4.02	3.13	3.13	1.90	
18	Osimertinib	47.71	52.51	54.64	53.07	60.34	60.00	61.01	60.45	61.23	59.66	58.99	56.31	
19	Anlotinib	49.83	51.51	52.40	52.29	56.09	56.87	56.87	55.53	57.43	56.20	55.20	51.96	
20	Crizotinib	31.40	32.07	32.51	32.51	34.64	33.52	33.97	31.96	32.74	30.39	29.83	27.71	
21	Ceritinib	11.51	11.51	11.84	11.06	13.74	12.40	12.18	10.61	11.17	10.39	10.73	9.05	
22	Pazopanib	13.74	15.20	16.31	16.42	15.87	16.76	16.98	17.09	16.54	16.76	15.53	13.18	
23	Axitinib	15.64	17.43	17.77	17.88	20.78	21.12	20.34	20.89	22.91	21.12	22.01	21.56	
24	Regorafenib	27.93	29.72	29.05	28.16	32.96	30.84	32.74	30.61	32.63	30.84	31.84	28.94	
25	Nilotinib	21.45	22.46	22.79	22.91	24.80	24.25	23.69	23.24	23.80	23.24	22.01	19.78	
26	Ibrutinib	25.14	27.04	27.26	27.37	29.05	27.37	28.94	27.93	25.14	23.24	22.12	20.00	
27	Cetuximab	35.53	38.44	39.22	38.88	42.91	40.78	42.12	43.13	45.14	43.46	45.03	41.45	
28	Erlotinib	22.79	22.13	20.90	20.55	19.55	18.32	19.11	17.55	15.65	14.18	12.52	10.83	
29	Sorafenib	32.63	35.42	35.75	36.76	36.43	32.07	21.35	18.55	15.42	12.07	10.61	8.83	
30	Apatinib	43.91	44.69	44.02	44.92	44.25	44.47	44.80	42.12	44.92	39.55	38.66	35.53	
31	Bevacizumab	55.53	56.42	55.31	54.19	53.18	49.39	47.37	45.36	44.36	40.67	38.44	35.08	
32	Nimotuzumab	17.43	18.99	18.55	19.78	20.11	21.45	22.68	20.45	21.79	20.89	21.90	19.11	
33	Trastuzumab	57.65	59.33	59.66	59.66	61.01	59.55	60.34	60.45	59.66	57.77	56.54	54.53	
GBs	34	Lenvatinib	0.00	0.00	0.00	0.00	0.00	0.00	12.52	23.69	23.80	25.92	42.46	
	35	Erlotinib	0.34	5.81	9.16	9.50	10.39	10.39	8.60	8.59	7.59	6.70	6.25	17.32
	36	Sorafenib	0.00	0.00	0.22	4.13	6.15	34.64	32.62	34.74	32.40	31.95	34.19	31.05
	37	Bevacizumab	12.51	33.52	41.23	48.27	56.54	64.14	72.17	72.07	72.96	72.29	72.63	69.61
	38	Trastuzumab	0.00	0.00	0.89	7.37	14.41	22.79	27.82	32.29	30.84	35.64	39.55	39.33

Note: GBs, generic brands; OBs, originator brands.

Supplementary Table 4 Quarterly availability of innovative anticancer medicines in tertiary general hospitals from 2020 to 2022.

Type	No.	Name	2020 (%)				2021 (%)				2022 (%)			
			Q1st	Q2nd	Q3rd	Q4th	Q1st	Q2nd	Q3rd	Q4th	Q1st	Q2nd	Q3rd	Q4th
OBs	1	Zanubrutinib	0.00	0.00	1.17	2.01	15.44	31.04	35.07	35.40	38.59	35.74	38.59	35.07
	2	Trametinib	0.00	0.00	0.34	0.17	2.35	6.54	7.89	7.55	8.05	8.22	9.40	8.05
	3	Dabrafenib	0.00	0.17	0.50	0.17	2.68	6.71	7.72	7.21	8.39	7.89	8.72	7.55
	4	Lenvatinib	1.85	2.85	3.36	3.86	19.97	35.07	40.60	43.79	43.12	40.77	39.26	35.07
	5	Flumatinib	0.00	0.67	1.01	1.85	13.42	25.34	30.03	31.21	30.03	30.54	32.38	30.70
	6	Almonertinib	0.00	0.34	1.17	2.85	14.93	32.55	34.73	37.58	37.08	41.78	40.94	36.07
	7	Tislelizumab	0.34	1.85	4.19	8.22	21.64	35.74	42.95	47.32	60.23	59.90	60.91	60.57

8	Toripalimab	3.19	4.53	7.05	9.90	16.95	31.71	34.73	33.72	38.09	39.60	40.94	38.93	
9	Camrelizumab	8.72	12.42	14.43	19.30	49.83	66.44	67.28	67.11	66.44	60.91	60.23	57.38	
10	Inetetamab	0.00	0.00	0.00	0.00	2.52	9.06	12.75	13.26	16.78	16.95	18.29	18.29	
11	Ruxolitinib	13.26	24.66	30.20	30.54	32.05	31.88	34.40	34.56	36.24	35.23	35.40	33.72	
12	Alectinib	16.95	28.02	32.05	32.38	36.74	36.41	37.92	37.92	39.26	36.58	39.09	36.74	
13	Fruquintinib	11.91	21.81	25.50	29.19	31.71	32.38	34.56	33.56	37.92	36.24	36.91	34.56	
14	Pyrotinib	26.34	35.40	42.45	40.94	42.79	45.13	47.15	47.15	50.50	44.97	45.64	41.44	
15	Pertuzumab	33.39	46.98	51.85	53.52	56.38	59.23	60.40	60.91	62.25	61.41	61.07	60.91	
16	Sintilimab	19.30	30.37	37.08	40.60	40.27	41.11	46.98	48.66	59.23	61.41	62.42	59.06	
17	Vemurafenib	9.40	8.89	9.06	8.22	9.56	7.38	6.88	4.03	4.70	3.69	4.19	2.52	
18	Osimertinib	58.72	63.26	66.28	64.09	71.48	71.48	70.97	71.14	71.14	69.13	68.96	65.10	
19	Anlotinib	61.58	62.58	63.59	63.09	65.94	67.95	66.95	66.11	67.62	65.44	64.26	59.73	
20	Crizotinib	40.60	41.28	42.28	41.61	43.46	41.44	42.45	40.10	40.77	37.58	37.08	33.72	
21	Ceritinib	16.11	15.94	16.95	15.77	19.46	17.45	17.62	15.27	15.10	13.42	13.76	11.74	
22	Pazopanib	18.62	21.48	23.66	23.15	21.81	22.99	23.32	23.66	22.48	22.65	20.97	17.28	
23	Axitinib	21.31	23.66	23.99	24.66	28.52	29.19	27.52	27.85	30.20	27.85	29.36	27.68	
24	Regorafenib	36.41	39.09	39.09	37.42	42.11	40.27	42.28	40.10	41.61	38.76	39.93	37.42	
25	Nilotinib	30.03	31.21	31.71	31.54	34.40	33.39	32.72	31.71	32.38	31.38	29.87	27.52	
26	Ibrutinib	33.89	36.24	36.58	36.41	38.76	37.08	38.26	37.42	33.72	31.54	30.03	26.51	
27	Cetuximab	47.48	49.66	51.01	49.50	53.86	52.52	52.85	53.19	56.38	53.19	55.54	50.84	
28	Erlotinib	29.36	29.36	27.85	27.69	25.85	23.66	25.00	22.15	19.80	17.96	15.44	13.59	
29	Sorafenib	42.11	44.80	44.63	45.13	44.46	40.43	26.68	24.33	19.97	14.77	12.92	9.73	
30	Apatinib	52.85	53.19	53.36	52.52	53.69	54.03	55.20	51.17	53.69	47.65	45.47	43.12	
31	Bevacizumab	67.11	67.45	66.11	65.44	64.43	59.56	58.39	55.87	54.53	50.17	47.82	43.62	
32	Nimotuzumab	23.66	25.50	25.84	27.01	27.68	29.03	31.21	27.85	29.53	29.03	30.20	26.34	
33	Trastuzumab	69.13	70.81	70.47	71.31	71.31	70.30	69.46	69.46	68.62	65.94	64.77	63.42	
GBs	34	Lenvatinib	0.00	0.00	0.00	0.00	0.00	0.00	14.77	28.19	26.85	28.69	48.66	
	35	Erlotinib	0.34	6.88	10.91	11.75	12.59	12.08	10.07	9.57	7.38	6.38	6.21	21.48
	36	Sorafenib	0.00	0.00	0.34	4.87	6.88	44.13	41.95	43.13	39.76	39.42	42.45	38.93
	37	Bevacizumab	15.77	41.61	50.17	57.55	67.79	75.84	82.89	82.38	82.72	80.37	81.04	77.52
	38	Trastuzumab	0.00	0.00	1.34	9.73	18.79	28.86	34.23	40.10	38.26	43.29	46.64	45.81

Note: GBs, generic brands; OBs, originator brands.

Supplementary Table 5 Quarterly availability of innovative anticancer medicines in secondary general hospitals from 2020 to 2022.

Type	No.	Name	2020 (%)				2021 (%)				2022 (%)			
			Q1st	Q2nd	Q3rd	Q4th	Q1st	Q2nd	Q3rd	Q4th	Q1st	Q2nd	Q3rd	Q4th
OBs	1	Zanubrutinib	0.00	0.00	0.00	0.00	1.67	5.69	5.35	8.70	10.37	12.37	12.04	11.04
	2	Trametinib	0.00	0.00	0.00	0.00	1.34	1.67	1.34	0.67	2.34	3.01	1.67	2.68

3	Dabrafenib	0.00	0.00	0.00	0.00	1.34	1.34	0.67	0.67	1.67	2.68	1.34	2.68	
4	Lenvatinib	0.00	0.33	0.67	1.34	4.68	15.05	19.06	22.07	19.73	18.73	17.39	15.38	
5	Flumatinib	0.33	0.33	0.00	0.67	3.68	5.35	6.02	7.36	7.02	9.03	10.03	9.36	
6	Almonertinib	0.00	0.00	0.33	0.33	6.02	9.36	12.71	14.05	18.06	19.06	18.06	16.39	
7	Tislelizumab	0.00	0.33	0.67	1.00	5.69	14.05	20.74	26.09	34.45	38.13	38.46	37.12	
8	Toripalimab	2.01	2.34	2.01	4.01	9.03	18.06	18.39	15.05	18.06	18.06	19.06	20.07	
9	Camrelizumab	1.67	3.68	3.34	4.01	24.41	37.12	36.79	33.11	33.78	33.11	30.77	29.10	
10	Inetetamab	0.00	0.00	0.00	0.00	0.00	2.01	2.34	4.01	4.68	5.35	8.03	6.35	
11	Ruxolitinib	2.34	4.68	4.68	5.69	6.02	6.35	6.69	7.69	7.02	9.36	10.03	9.03	
12	Alectinib	4.35	7.36	10.37	9.70	10.37	13.04	14.72	15.05	17.73	18.73	18.06	16.72	
13	Fruquintinib	3.68	5.35	6.02	7.69	8.03	9.70	11.71	13.71	15.72	13.71	16.39	15.05	
14	Pyrotinib	8.36	13.38	16.05	14.72	16.72	15.38	16.39	17.06	17.73	18.73	17.06	18.06	
15	Pertuzumab	11.37	16.72	23.75	23.08	26.42	25.08	27.42	32.78	32.44	29.77	33.78	35.45	
16	Sintilimab	6.35	13.04	16.39	18.06	18.39	18.06	16.39	20.40	33.44	34.78	36.79	36.79	
17	Vemurafenib	1.00	1.34	0.67	1.34	2.01	3.01	1.67	2.01	2.68	2.01	1.00	0.67	
18	Osimertinib	25.75	31.10	31.44	31.10	38.13	37.12	41.14	39.13	41.47	40.80	39.13	38.80	
19	Anlotinib	26.42	29.43	30.10	30.77	36.45	34.78	36.79	34.45	37.12	37.79	37.12	36.45	
20	Crizotinib	13.04	13.71	13.04	14.38	17.06	17.73	17.06	15.72	16.72	16.05	15.38	15.72	
21	Ceritinib	2.34	2.68	1.67	1.67	2.34	2.34	1.34	1.34	3.34	4.35	4.68	3.68	
22	Pazopanib	4.01	2.68	1.67	3.01	4.01	4.35	4.35	4.01	4.68	5.02	4.68	5.02	
23	Axitinib	4.35	5.02	5.35	4.35	5.35	5.02	6.02	7.02	8.36	7.69	7.36	9.36	
24	Regorafenib	11.04	11.04	9.03	9.70	14.72	12.04	13.71	11.71	14.72	15.05	15.72	12.04	
25	Nilotinib	4.35	5.02	5.02	5.69	5.69	6.02	5.69	6.35	6.69	7.02	6.35	4.35	
26	Ibrutinib	7.69	8.70	8.70	9.36	9.70	8.03	10.37	9.03	8.03	6.69	6.35	7.02	
27	Cetuximab	11.71	16.05	15.72	17.73	21.07	17.39	20.74	23.08	22.74	24.08	24.08	22.74	
28	Erlotinib	9.36	7.69	7.02	6.35	7.02	7.69	7.36	8.36	7.35	6.69	6.02	5.35	
29	Sorafenib	13.71	16.72	18.06	20.07	20.40	15.39	10.70	7.02	6.35	6.69	20.40	7.02	
30	Apatinib	26.09	27.76	25.42	29.77	25.42	25.42	24.08	24.08	27.42	23.41	25.08	20.40	
31	Bevacizumab	32.44	34.45	33.78	31.77	30.77	29.10	25.42	24.41	24.08	21.74	19.73	18.06	
32	Nimotuzumab	5.02	6.02	4.01	5.35	5.02	6.35	5.69	5.69	6.35	4.68	5.35	4.68	
33	Trastuzumab	34.78	36.45	38.13	36.45	40.47	38.13	42.14	42.47	41.81	41.47	40.13	36.79	
GBs	34	Lenvatinib	0.00	0.00	0.00	0.00	0.00	0.00	8.03	14.72	17.73	20.40	30.10	
	35	Erlotinib	0.33	3.67	5.68	5.01	6.02	7.02	5.68	6.68	8.02	7.36	6.35	9.03
	36	Sorafenib	0.00	0.00	0.00	2.68	4.68	15.72	14.05	18.06	17.73	17.06	17.73	15.39
	37	Bevacizumab	6.02	17.39	23.41	29.77	34.11	40.80	46.82	51.51	53.51	56.19	55.85	53.85
	38	Trastuzumab	0.00	0.00	0.00	2.68	5.69	10.70	15.05	16.72	16.05	20.40	25.42	26.42

Note: GBs, generic brands; OBs, originator brands.

Supplementary table 6 Monthly drug cost as percentage of household capacity-to-pay in China.

Type	No.	Name	Total (%)			Urban (%)			Rural (%)		
			2020	2021	2022	2020	2021	2022	2020	2021	2022
OBs	1	Zanubrutinib	307.73	55.56	45.34	209.89	38.28	31.52	556.09	98.53	80.21
	2	Trametinib	384.66	51.89	49.86	262.36	35.76	34.66	695.12	92.03	88.19
	3	Dabrafenib	575.76	52.01	49.53	392.70	35.84	34.43	1040.45	92.24	87.61
	4	Lenvatinib	732.03	47.52	43.38	499.28	32.74	30.16	1322.83	84.27	76.73
	5	Flumatinib	230.07	26.54	26.12	156.92	18.29	18.16	415.75	47.07	46.21
	6	Almonertinib	445.02	49.28	47.13	303.53	33.96	32.76	804.19	87.40	83.37
	7	Tislelizumab	443.36	29.69	18.47	302.39	20.46	12.84	801.18	52.66	32.67
	8	Toripalimab	196.08	24.79	20.24	133.74	17.08	14.07	354.33	43.97	35.81
	9	Camrelizumab	616.21	32.52	28.05	420.29	22.41	19.50	1113.54	57.67	49.61
	10	Inetetamab	NA	33.07	31.60	NA	22.78	21.97	NA	58.64	55.89
	11	Ruxolitinib	52.89	48.54	43.16	36.07	33.44	30.01	95.57	86.07	76.36
	12	Alectinib	82.96	76.16	67.72	56.59	52.48	47.08	149.92	135.07	119.78
	13	Fruquintinib	44.28	42.67	39.23	30.20	29.40	27.27	80.01	75.67	69.39
	14	Pyrotinib	65.03	60.13	47.74	44.35	41.43	33.19	117.51	106.64	84.44
	15	Pertuzumab	35.89	33.06	31.58	24.48	22.78	21.96	64.86	58.63	55.87
	16	Sintilimab	41.13	37.52	13.67	28.05	25.85	9.50	74.32	66.55	24.18
	17	Vemurafenib	136.60	103.85	95.91	93.17	71.56	66.68	246.85	184.18	169.66
	18	Osimertinib	77.70	29.81	24.90	53.00	20.54	17.31	140.42	52.86	44.05
	19	Anlotinib	47.77	31.35	26.74	32.58	21.60	18.59	86.32	55.59	47.30
	20	Crizotinib	67.98	64.26	61.35	46.36	44.28	42.65	122.84	113.96	108.53
	21	Ceritinib	62.98	59.44	54.63	42.96	40.95	37.98	113.82	105.41	96.63
	22	Pazopanib	94.83	89.67	85.69	64.68	61.79	59.57	171.37	159.03	151.57
	23	Axitinib	62.16	55.62	52.82	42.39	38.32	36.72	112.32	98.64	93.43
	24	Regorafenib	86.51	73.69	69.28	59.00	50.77	48.16	156.33	130.69	122.55
	25	Nilotinib	42.80	40.89	38.74	29.19	28.18	26.93	77.35	72.52	68.53
	26	Ibrutinib	85.71	72.21	67.88	58.46	49.75	47.19	154.88	128.06	120.07
	27	Cetuximab	121.38	106.53	97.46	82.79	73.40	67.76	219.34	188.92	172.41
	28	Erlotinib	12.17	11.36	10.71	8.30	7.83	7.45	21.98	20.15	18.95
	29	Sorafenib	56.92	53.21	50.79	38.83	36.66	35.31	102.87	94.36	89.84
	30	Apatinib	58.41	54.73	47.65	39.84	37.71	33.13	105.55	97.06	84.30
	31	Bevacizumab	57.28	52.55	50.20	39.07	36.21	34.90	103.52	93.19	88.80
	32	Nimotuzumab	62.47	57.47	54.91	42.61	39.60	38.17	112.89	101.92	97.13
	33	Trastuzumab	38.11	35.03	33.47	25.99	24.14	23.27	68.86	62.13	59.21
GBs	34	Lenvatinib	NA	35.03	20.58	NA	24.13	14.31	NA	62.12	36.40
	35	Erlotinib	10.83	9.96	6.44	7.39	6.86	4.48	19.58	17.67	11.39
	36	Sorafenib	40.57	14.43	11.30	27.67	9.94	7.85	73.31	25.58	19.98
	37	Bevacizumab	45.72	41.23	37.66	31.18	28.41	26.18	82.62	73.12	66.62
	38	Trastuzumab	34.32	31.47	29.99	23.41	21.68	20.85	62.03	55.80	53.06

Note: The percentage below 20% were bolded. NA, not available.

Supplementary table 7 Price comparison of four anticancer medicines in China and the United States.

	Bevacizumab (10 mg)		Cetuximab (10 mg)		Pertuzumab (1 mg)		Trastuzumab (10mg)	
	China	USA	China	USA	China	USA	China	USA
2020Q1	19.55	78.40	18.77	64.71	1.66	12.94	18.08	102.32
2020Q2	19.56	76.36	18.11	64.41	1.71	12.95	18.11	99.68
2020Q3	18.84	75.75	18.41	65.48	1.71	12.99	18.12	100.49
2020Q4	18.83	72.51	18.77	65.17	1.71	13.02	18.12	93.68
2021Q1	20.05	70.60	19.47	66.31	1.83	13.53	19.39	90.98
2021Q2	19.91	70.41	18.67	66.71	1.83	13.56	19.38	89.81
2021Q3	18.93	67.86	18.68	67.62	1.83	13.56	19.38	86.41
2021Q4	18.93	69.49	18.65	67.64	1.83	13.56	19.38	88.60
2022Q1	15.98	69.23	17.29	69.41	1.75	14.15	18.57	86.61
2022Q2	15.99	69.72	17.31	69.09	1.75	14.44	18.57	84.40
2022Q3	16.09	70.75	17.31	70.35	1.75	14.41	18.57	82.74
2022Q4	17.04	71.35	17.31	70.14	1.75	14.43	18.58	80.25

Note: The price of drugs in China was the average price of originator drugs in the surveyed hospitals. The price of drugs in the United States did not distinguish the originator and generic drugs except trastuzumab, which was the originator drug. The price information of drugs in the United States was collected at <https://www.cms.gov/medicare/payment/all-fee-service-providers/medicare-part-b-drug-average-sales-price/asp-pricing-files>. The dose of the drug is Healthcare Common Procedure Coding System (HCPCS) code dosage.

Supplementary table 8 Prices of anticancer medicines in different countries.

Type	No.	Name	Dosage form	Dosage (mg)	Price (USD)			
					China ^a	Switzerland ^b	Japan ^c	Norway ^d
OBs	1	Zanubrutinib	Cap	80	12.58	45.66	—	44.37
	2	Trametinib	Tab	0.5	19.00	55.32	51.97	93.02
				2	54.90	211.25	195.09	278.95
	3	Dabrafenib	Cap	50	10.06	38.69	32.67	32.69
				75	13.73	57.00	48.11	49.00
	4	Lenvatinib	Cap	4	16.05	63.62	26.57	58.43
	5	Flumatinib	Tab	200	9.66	—	—	—
	6	Almonertinib	Tab	55	26.15	—	—	—
	7	Tislelizumab	Inj	100	215.47	—	—	—
	8	Toripalimab	Inj	80	122.59	—	—	—
				240	283.37	—	—	—
	9	Camrelizumab	Inj	200	435.08	—	—	—
	10	Inetetamab	Inj	50	87.67	—	—	—
	11	Ruxolitinib	Tab	5	7.99	36.35	—	32.58
	12	Alectinib	Cap	150	9.40	27.01	44.46	25.44
	13	Fruquintinib	Cap	1	13.35	—	—	—
				5	53.36	—	—	—
14	Pyrotinib	Tab	80	10.61	—	—	—	
15	Pertuzumab	Inj	420	736.26	3565.49	1362.72	2493.87	
16	Sintilimab	Inj	100	160.46	—	—	—	
17	Vemurafenib	Tab	240	13.33	33.72	33.18	27.50	

	18	Osimertinib	Tab	80	27.64	209.95	122.37	198.94
	19	Anlotinib	Cap	8	31.94	—	—	—
				10	37.89	—	—	—
				12	43.57	—	—	—
	20	Crizotinib	Cap	200	28.66	76.44	61.89	66.46
				250	34.00	94.40	76.89	81.39
	21	Ceritinib	Cap	150	20.21	58.57	42.33	36.94
	22	Pazopanib	Tab	200	23.77	35.39	27.70	24.70
	23	Axitinib	Tab	1	8.51	16.49	10.41	12.72
				5	29.22	78.11	47.13	63.41
	24	Regorafenib	Tab	40	25.63	44.22	37.51	30.49
	25	Nilotinib	Cap	150	10.96	33.88	24.13	23.47
				200	13.66	64.13	31.78	29.72
	26	Ibrutinib	Cap	140	25.11	64.96	68.70	59.17
	27	Cetuximab	Inj	100	173.11	262.44	232.89	197.21
	28	Erlotinib	Tab	150	11.02	87.68	66.72	58.27
	29	Sorafenib	Tab	200	14.12	32.18	31.44	28.06
	30	Apatinib	Tab	250	15.56	—	—	—
	31	Bevacizumab	Inj	100	222.88	386.46	200.82	303.02
	32	Nimotuzumab	Inj	50	213.22	—	—	—
	33	Trastuzumab	Inj	440	817.30	1726.47	—	1145.14
GBs	34	Lenvatinib	Cap	4	4.40	—	—	57.00
	35	Erlotinib	Tab	150	1.05	—	20.72	—
	36	Sorafenib	Tab	200	2.09	28.02	—	28.06
	37	Bevacizumab	Inj	100	161.20	353.01	73.81	303.02
				400	492.65	1264.02	278.93	1135.80
	38	Trastuzumab	Inj	60	124.00	—	89.67	—
				150	248.80	611.78	205.53	520.43

Note: ^aPrice information was the average price of drugs in the fourth quarter of 2022 collected by the surveyed hospitals, and the median price is taken if there were different manufacturers. ^bPrice information was collected on February 27, 2024 at <http://www.compendium.ch/search/de>. ^cPrice information was collected on March 6, 2024 at <https://www.e-pharma.jp/search/>. ^dPrice information was collected on March 7, 2024 at <https://www.legemiddelsoek.no/sider/default.aspx?searchquery=&f=Han;Mtl;Vir;ATC;Var;Mar;Mid;Avr;gen;par;&pane=0>.