Oncology Market Update

Trends, Deals, Valuations and Players in the Market

June 5, 2025 / #ASCO2025 Recap Edition

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Stifel has a broad team focused on oncology equity financings and strategic advisory work.

The team has deep scientific knowledge and strong relationships with KOLs and has advised on 85 financing and strategic transactions in oncology over the last five years.

Stifel is one of the world's most active advisors on financing and strategic transactions in oncology therapeutics.

Note: As of May 30, 2025. Deal values and dates represented are as of the announcement that the definitive agreement was signed. Stifel transactions include deals completed by Stifel, Nicolaus & Company, Incorporated and its affiliated entities and Torreya Capital LLC and its affiliated entities.

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Feel Free to Meet Us at BIO in Two Weeks

Please join us at BIO on June 16 to 19, 2024.

For details on attending please go to:
https://convention.bio.org/

To set up a meeting, feel free to reach out to Jenna Hill (hillje@stifel.com).

Feel Free to Join Us at Biotech Hangout

Please join us this Friday at noon EST for the latest episode.

To Learn More
https://www.biotechhangout.com/

Links to Stifel Biopharma Special Topic Publications

To get on the mailing list for these publications feel free to contact Jenna Hill (hillje@stifel.com). Past special issues from Stifel on biopharma are available at:

Healthcare Outlook

May 30, 2025

Aging Biology, Part I

Mar 26, 2025

2025 Biotech Outlook

Jan 8, 2025

2024 Biotech Mid-Year Outlook

July 15, 2024

Obesity Drug Update

July 8, 2024

AI in medicine

Jan 22, 2024

Why Invest in Biotech?

November 22, 2023

Obesity Drug Review

July 1, 2023

Past Issues

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May 19, 2025 (FDA Policy)
May 12, 2025 (MFN Policy)
May 5, 2025 (NIH Cuts, China Tariffs)
Apr 28, 2025 (Eyes on Washington DC)
Apr 21, 2025 (FDA Shifts, Buyside Update)
Apr 14, 2025 (Wild Week in Market)
Apr 7, 2025 (Biotech Market Break)
Mar 31, 2025 (China Biotech Update)
Mar 24, 2025 (Healthcare Reform)
Feb 24, 2025 (Retail Pharma Trends)
Feb 10, 2025 (Pharma Earnings)
Jan 27, 2025 (Women's Health, Obesity)
Dec 17, 2024 (Biotech Blues)
Nov 25, 2024 (Biotech Balance Sheets)
Nov 18, 2024 (New Administration)
Nov 4, 2024 (Election, Obesity)
Oct 21, 2024 (China, Pfizer)
Oct 7, 2024 (VC update)
Sep 23, 2024 (The Fed Rate Cut)
Sep 9, 2024 (Sector Outlook)
Aug 12, 2024 (Biotech Market)
July 8, 2024 (Obesity Market Update)
June 17, 2024 (Lab Market)
June 8, 2024 (Oncology Review)
May 27, 2024 (GLP-1's)
May 20, 2024 (Returning Capital)
May 13, 2024 (Brain, AlphaFold 3)
May 6, 2024 (Earnings, Obesity)
April 29, 2024 (M&A, Japan)
April 22, 2024 (Pharma Pricing)
April 15, 2024 (AI in Pharma)
April 8, 2024 (The Buyside)
April 1, 2024 (Biotech Balance Sheets)
March 25, 2024 (Women's Health)
March 18, 2024 (Inflammasome)
March 11, 2024 (IRA, Immunology)
March 4, 2024 (Biotech Employment)
Feb 26, 2024 (Biotech Strategy)
Feb 19, 2024 (Big Drugs, Autoantibodies)
Feb 12, 2024 (Fibrosis, Endometriosis)
Feb 5, 2024 (Severe Disease in Women)
Jan 29, 2024 (Pharma R&D Productivity)
Dec 18, 2023 (Expectations for Future)
Dec 11, 2023 (ASH, R&D Days)
Dec 4, 2023 (Big Pharma, CEA)
November 20, 2023 (M&A)
November 13, 2023 (AHA, Bear Market)
November 7, 2023 (Unmet Needs)
October 30, 2023 (ADCs)
October 23, 2023 (ESMO Review)
October 16, 2023 (Cancer Screening)
October 9, 2023 (Biosimilars, M&A)
October 2, 2023 (FcRn, Antibiotics)
September 25, 2023 (Target ID)
September 18, 2023 (Pharma Strategy)
September 11, 2023 (US Health System)
September 5, 2023 (FTC, IRA, Depression)
August 21, 2023 (Covid, China)
June 19, 2023 (Generative AI)
June 12, 2023 (IRA, State of Industry)

Photo: ASCO 2025 Source: Stifel

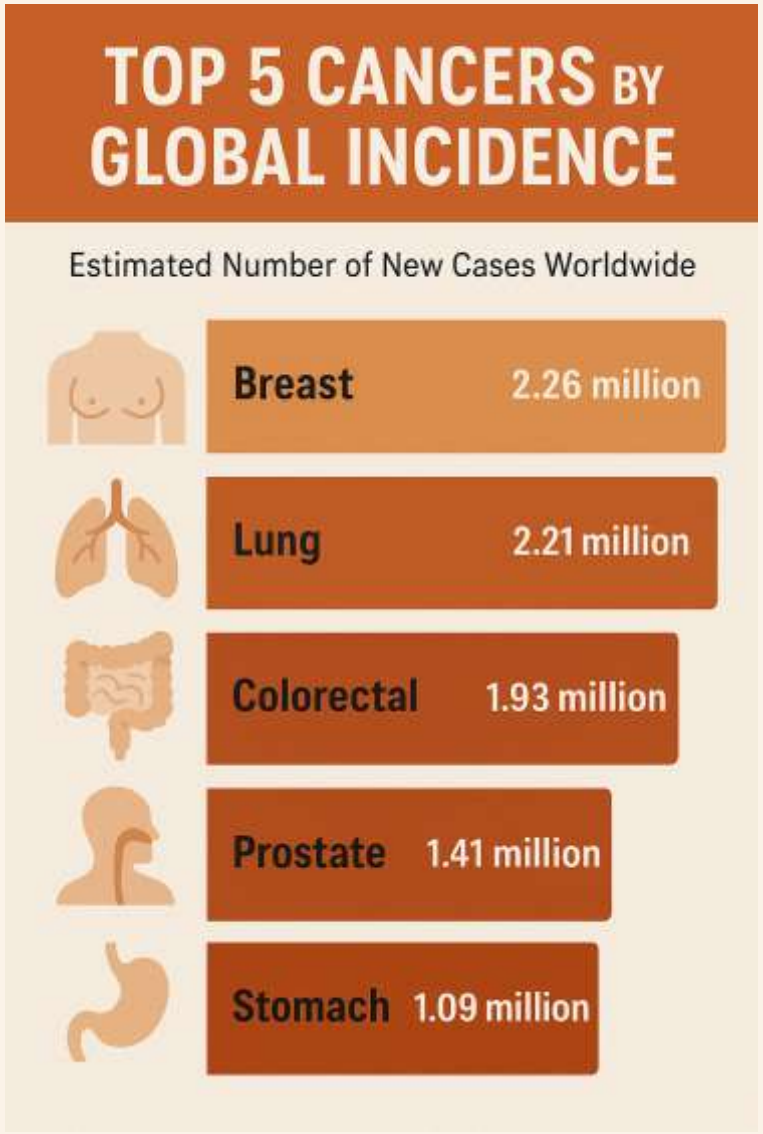
The Growing Market for Oncology Drugs

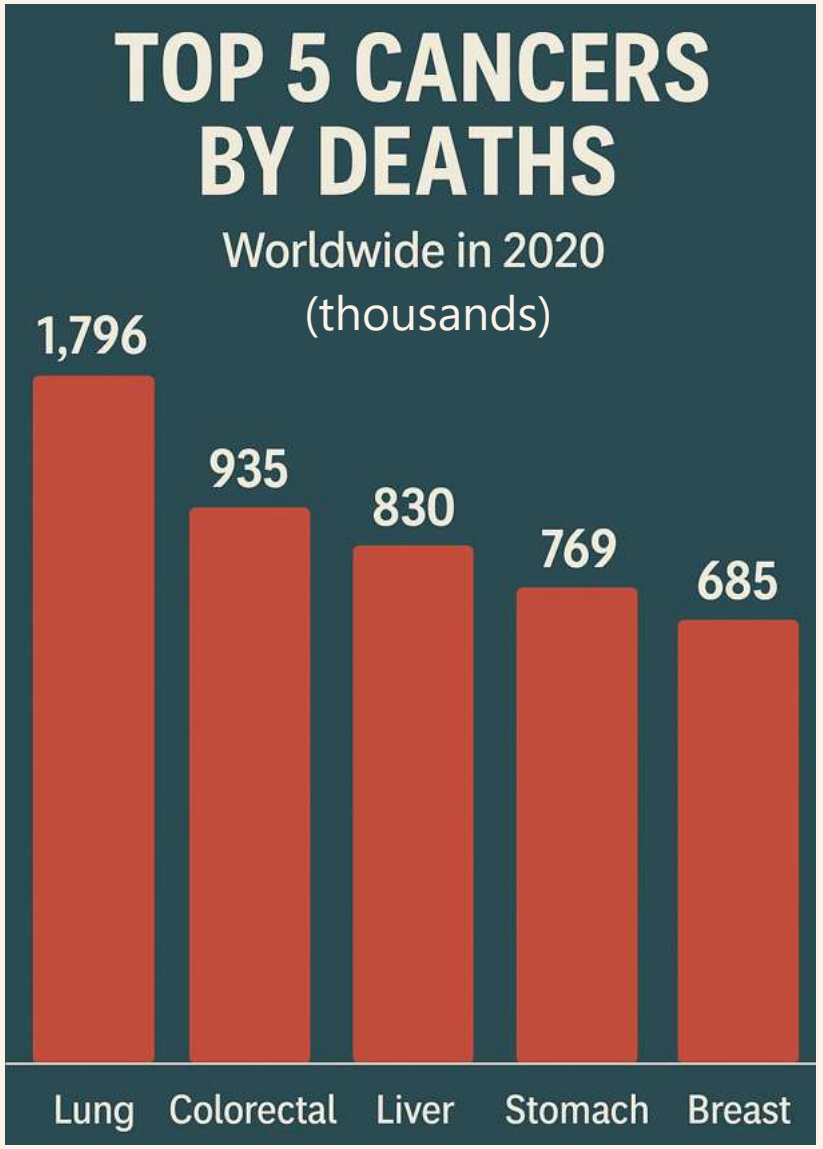
Photo: ASCO 2025 source: Stifel

Areas of Highest Unmet Need in Cancer Care: Global Data

WHO reports that “cancer is a leading cause of death worldwide, accounting for nearly 10 million deaths in 2020, or nearly one in six deaths.” Roughly a third of cancer deaths are preventable as they are linked to tobacco use, obesity or other lifestyle factors.

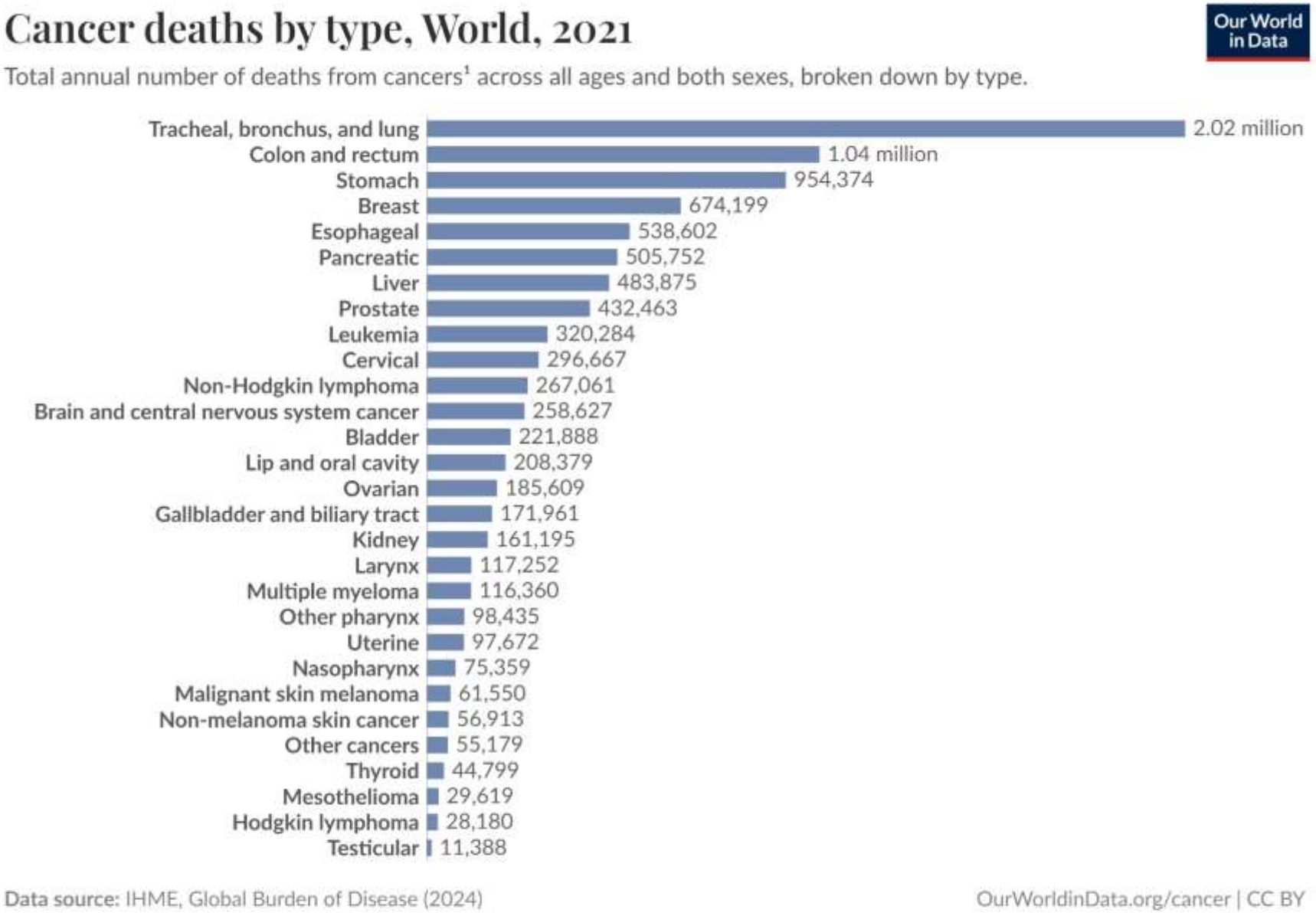
The disease burden data from WHO’s GLOBOCAN database at right indicate that the areas of greatest unmet need include new treatments for lung cancer, colorectal cancer, liver cancer, stomach cancer and breast cancer. There is also significant death and morbidity associated with pancreatic, brain cancer and prostate cancer.





Source: https://gco.iarc.fr/, https://gco.iarc.fr/today/en/fact-sheets-cancers

Total Deaths by Cancer Type in 2021: IHME Data



1. **Cancer** Cancer describes a group of diseases in which abnormal cells in the body begin to grow and multiply uncontrollably. These cells can form lumps of tissue called tumors, which can interfere with normal bodily functions.
Cancerous cells have the potential to spread to other parts of the body (this process is called "metastasis"), disrupting normal processes and causing serious health problems.

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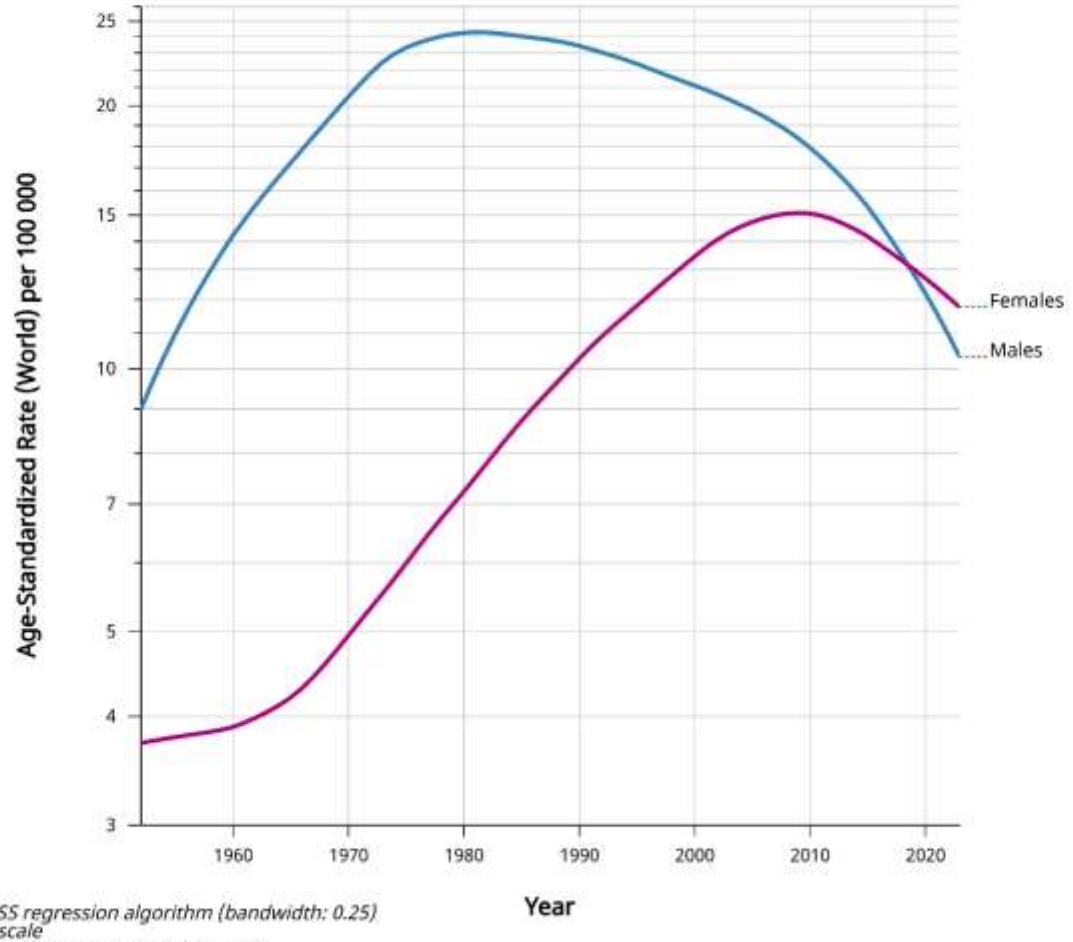
Global Mortality Rates from Cancer Are Dropping

Age-standardized rate (World) per 100 000, mortality, males and females
Lung
Sweden

GLOBAL CANCER OBSERVATORY



Lines are smoothed by the LOESS regression algorithm (bandwidth: 0.25)
Rates are shown on a semi-log scale
Cancer Over time | IARC - https://gco.iarc.who.int/overtime
Data version : Version 2.1
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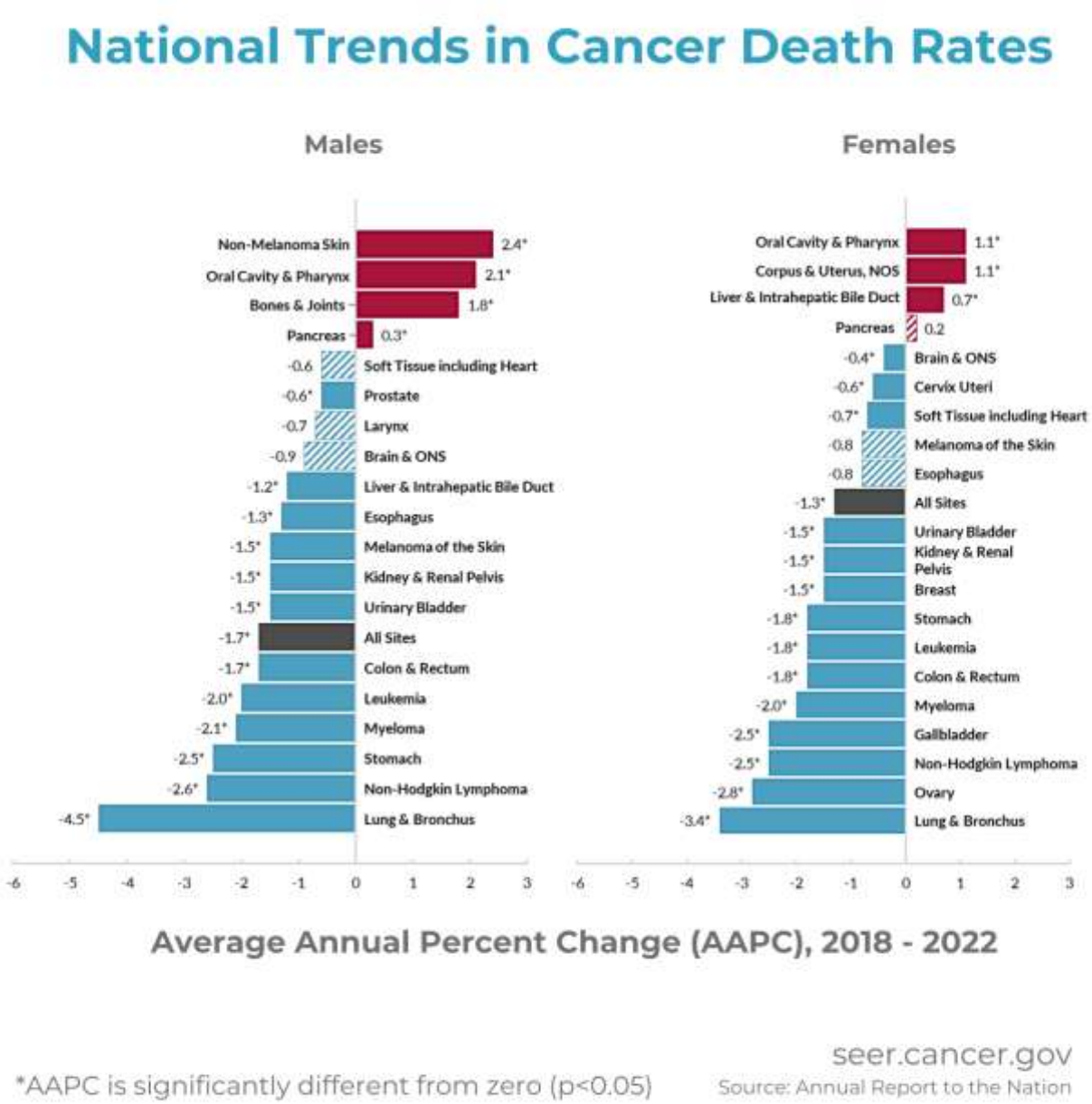
International Agency for Research on Cancer
World Health Organization

Source: https://gco.iarc.fr/overtime/en

CDC: Cancer Death Rates Dropping in U.S. for Most Cancers



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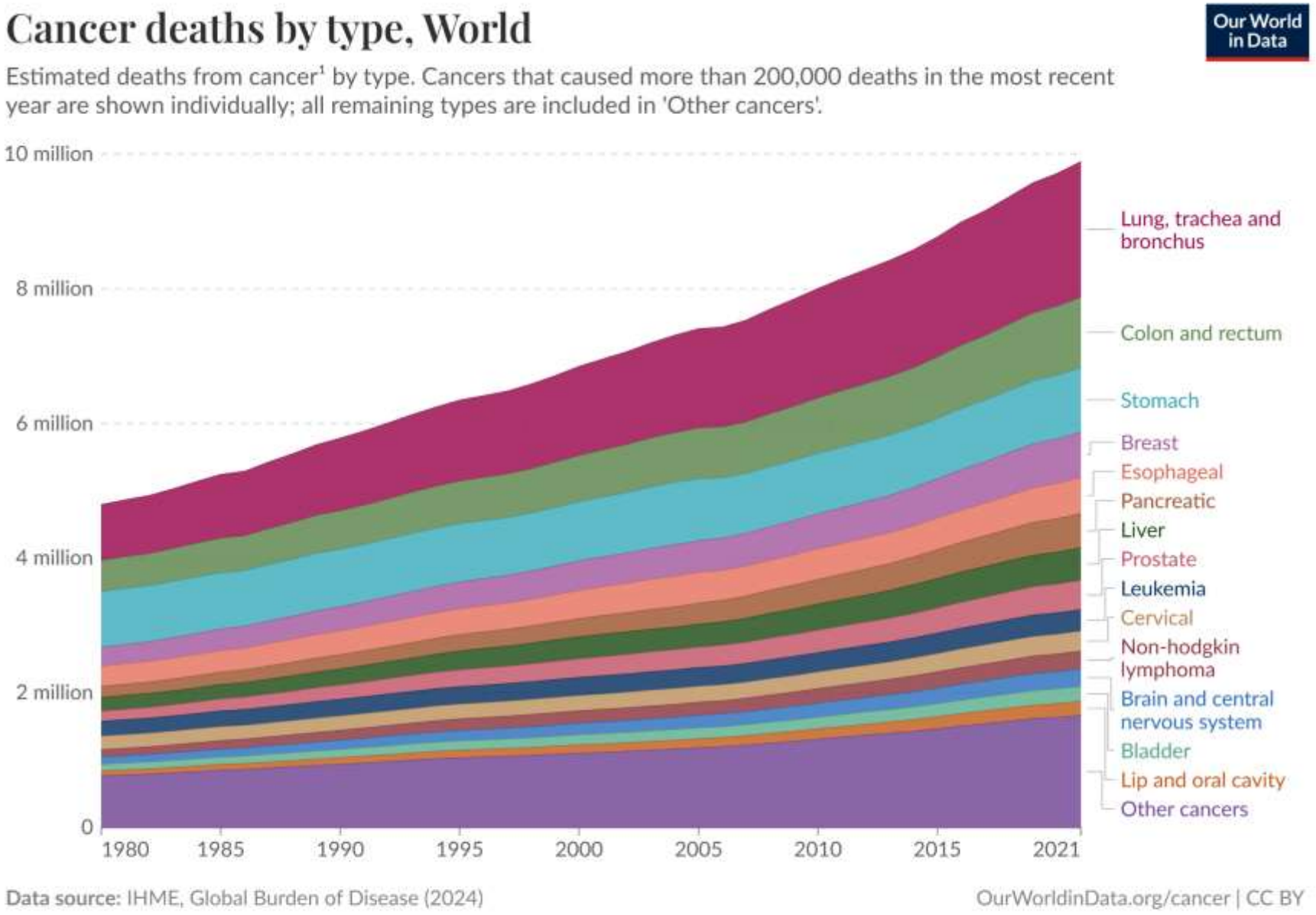
Source: https://seer.cancer.gov/report_to_nation/infographics/trends_mortality.html

While Age-Adjusted Death Rates are Falling, Total Deaths are Rising

A growing, aging population is causing cancer deaths to rise despite declining death rates from the disease.



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Cancerous cells have the potential to spread to other parts of the body (this process is called "metastasis"), disrupting normal processes and causing serious health problems.

CDC: Slight Improvement in Number of Cancers that are Being Caught Late

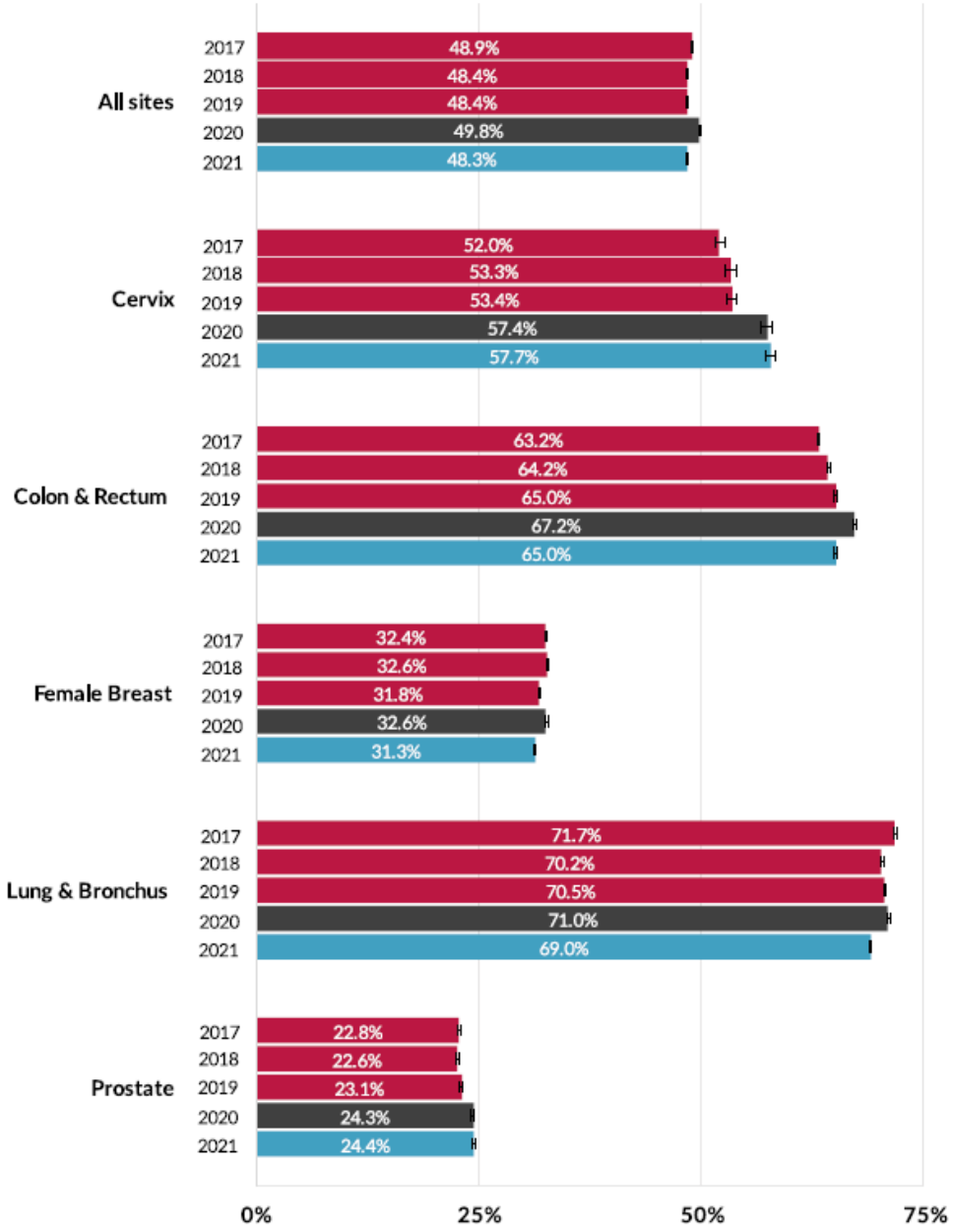

FIGURE 6 The percentage of cases diagnosed at late stage (regional or distant) for all sites and for five sites with screenable cancers by year (2017–2021) with confidence intervals. Late stage is defined as the percentage of total staged cancers that are diagnosed as regional or distant based on the National Cancer Institute's Surveillance, Epidemiology and End Results (SEER) summary stage.

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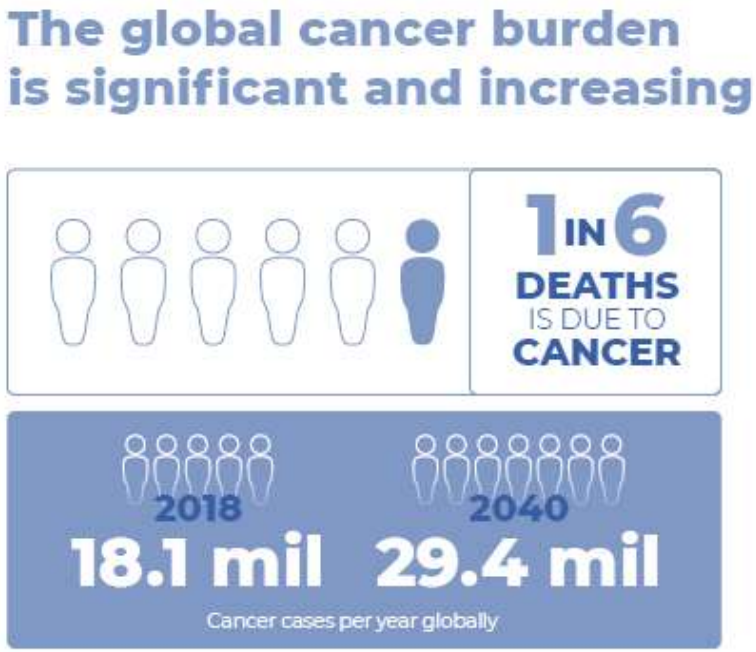
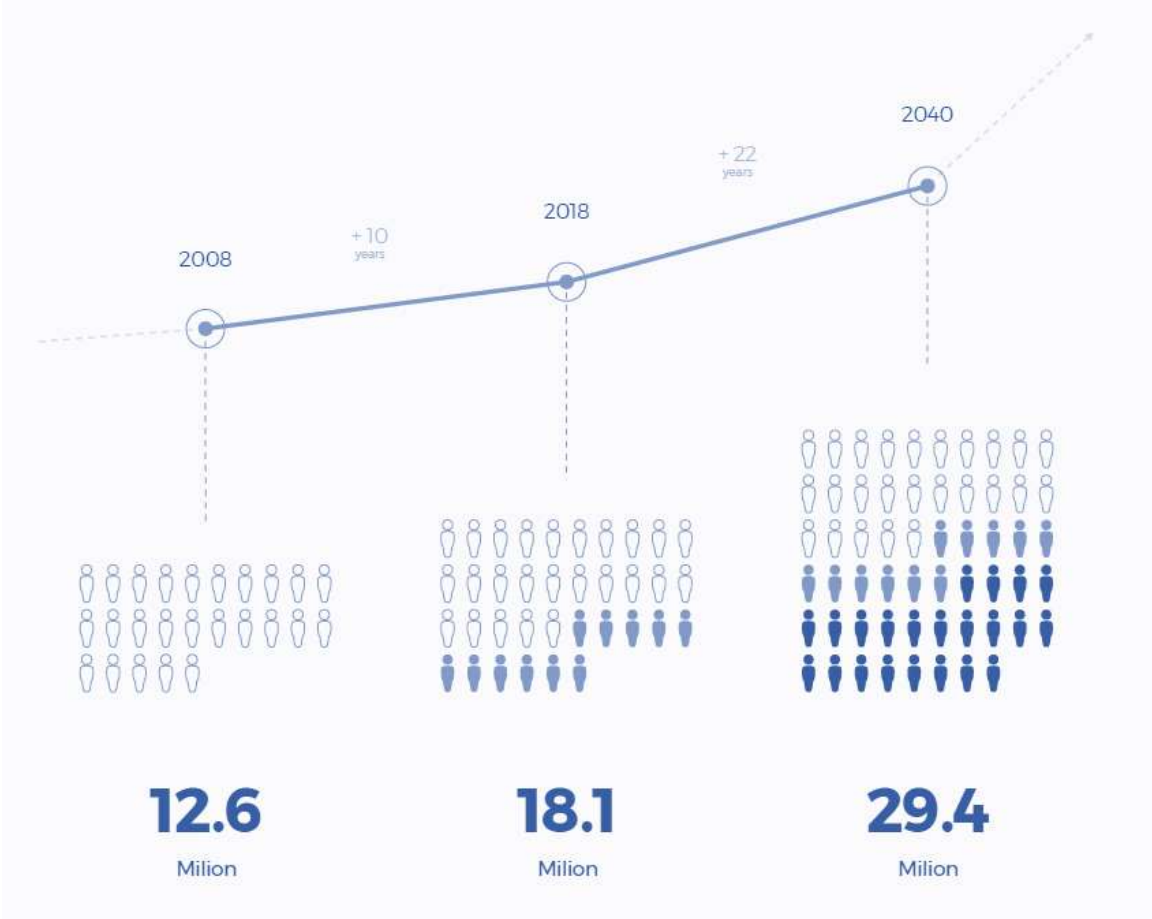
Source: https://acsjournals.onlinelibrary.wiley.com/doi/epdf/10.1002/cncr.35833

World Health Organization: As We Live Longer the Probably of Getting Cancer Goes Up

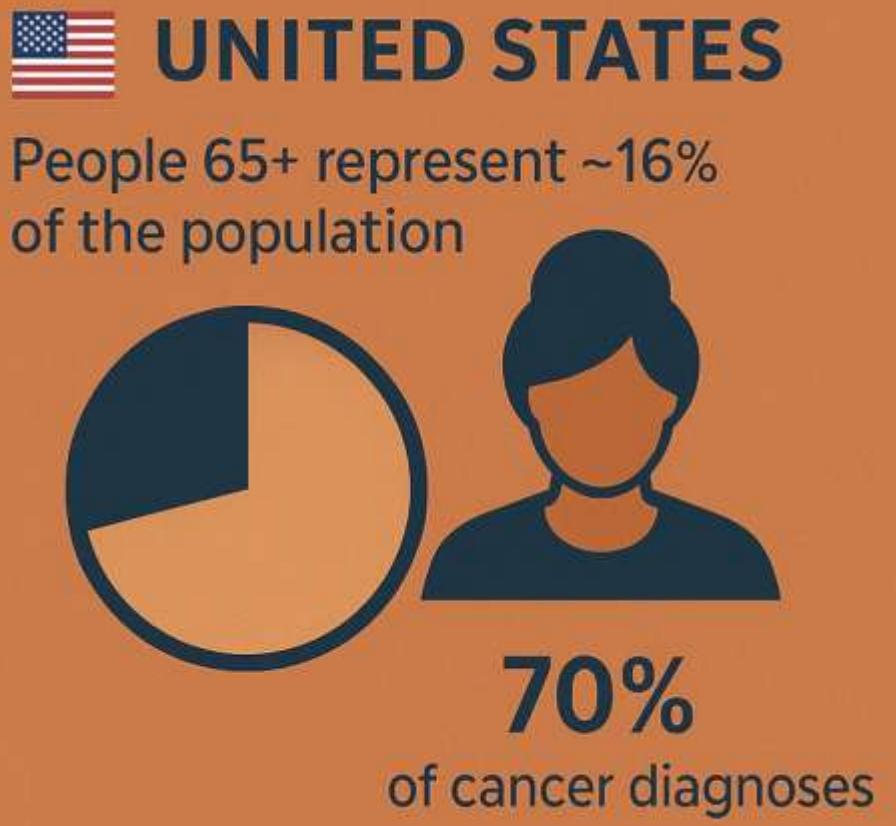
Ironically, longer human life spans make cancer more of a problem. This is because the incidence of cancer is much higher in persons over 65 years of age. As a result, the demand for cancer therapeutics is likely to rise disproportionately to overall pharma spend for at least several decades to come.

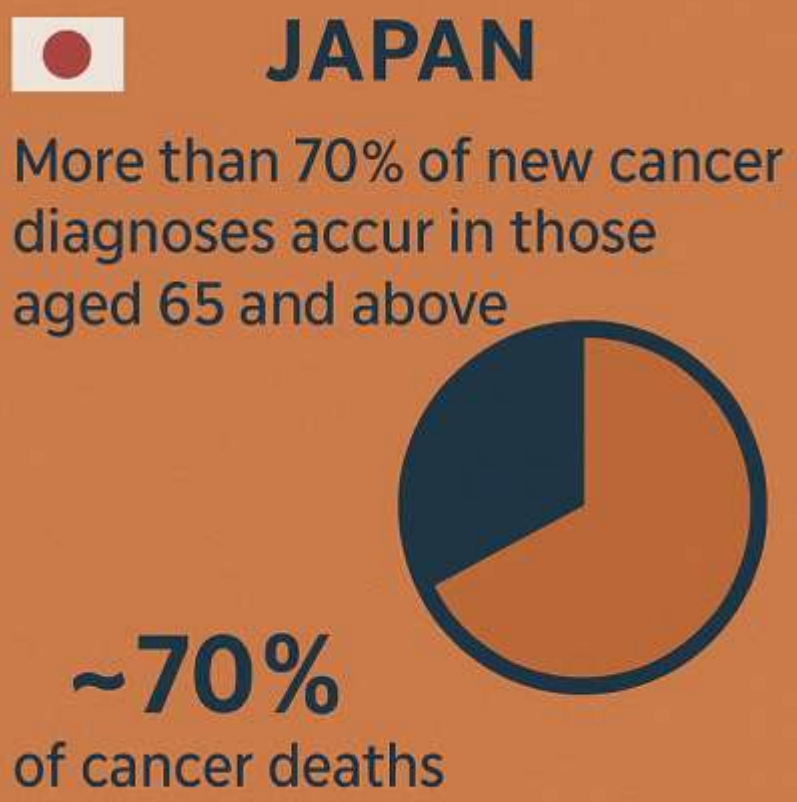




Source: https://www.who.int/publications/i/item/9789240001299

Aging Global Population Will Bring Increased Cancer Burden





Cancer is mostly a disease of old age.

Most cancers take place in the minority of people over 65 years of age.

Importantly, as life spans grow, there will be more cancer to deal with as a global society.

Source: SEER Data and National Cancer Center, Japan

High Expected Growth in Oncology Drugs Reflects Unmet Need Among Patients

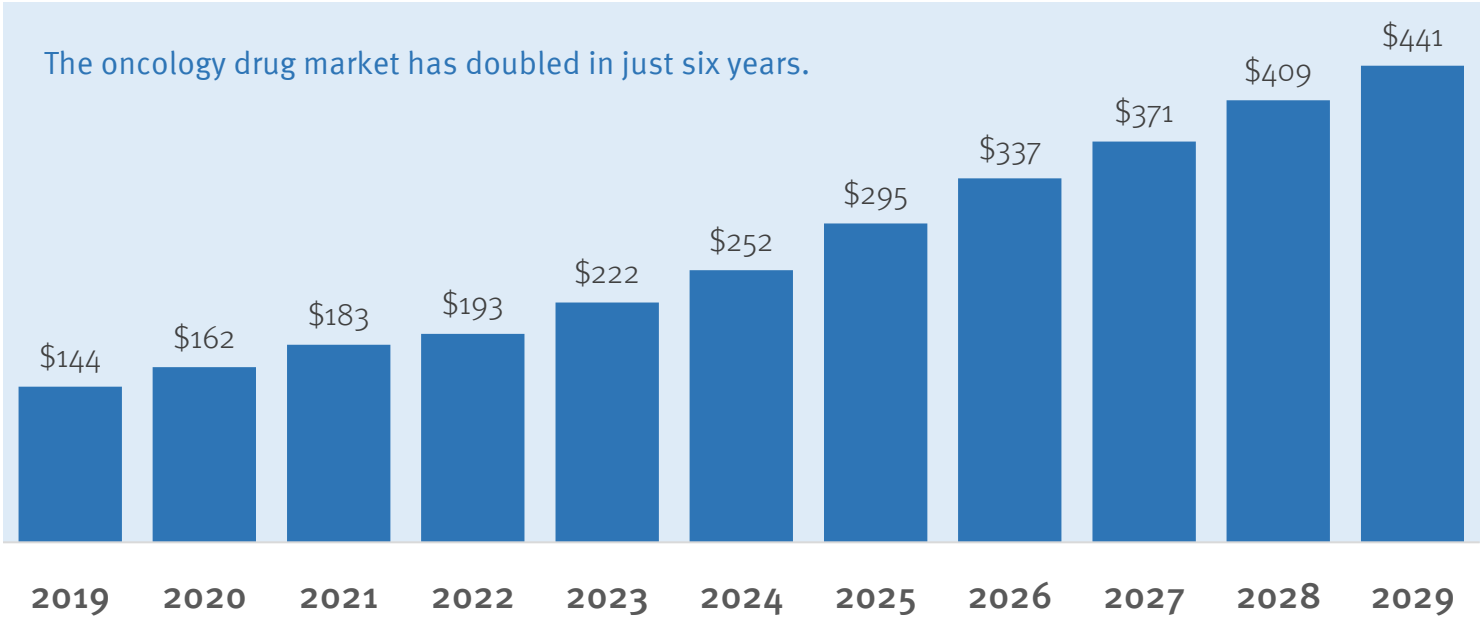
CAGR 2025–2029

10.6%

+$146BN

NET NEW GROWTH IN NEXT FIVE YEARS

Global Spending on Oncology Pharmaceuticals, 2019 to 2029 ($Billions)



ONCOLOGY DRUGS EXPECTED TO HAVE MOST DOLLAR GROWTH BETWEEN 2025 AND 2029 BY ANALYSTS

DARZALEX®

ENHERTU® ▼
trastuzumab deruxtecan

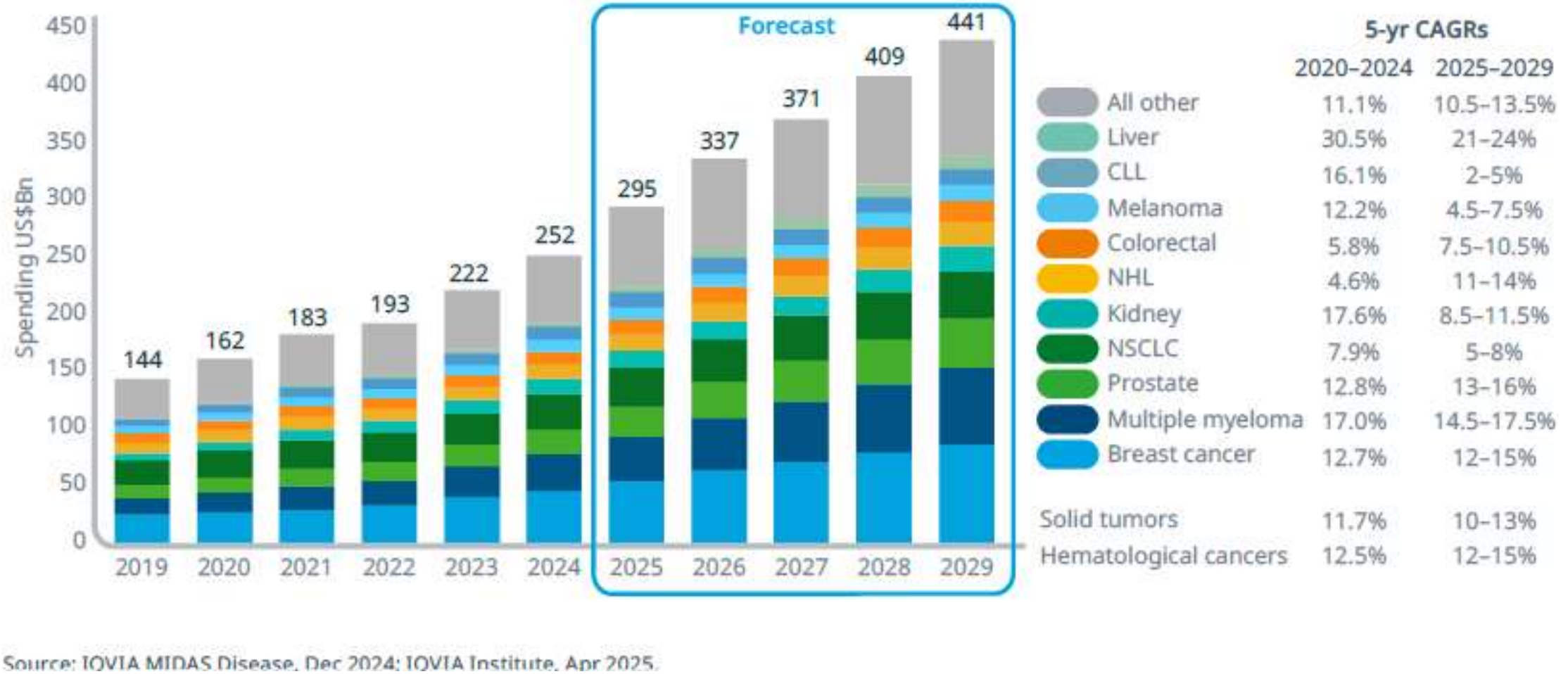
KEYTRUDA®
(pembrolizumab) Injection 100 mg

KISQALI®
ribociclib

CARVYKTI™
(ciltacabtagene autoleucel) Suspension for IV Infusion

Source: IQVIA Institute, May 2024 (https://www.iqvia.com/insights/the-iqvia-institute/reports-and-publications/reports/global-oncology-trends-2024)

IQVIA Institute: Most Top Tumor Types Will See Double Digit Spending Growth From 2025 to 2029

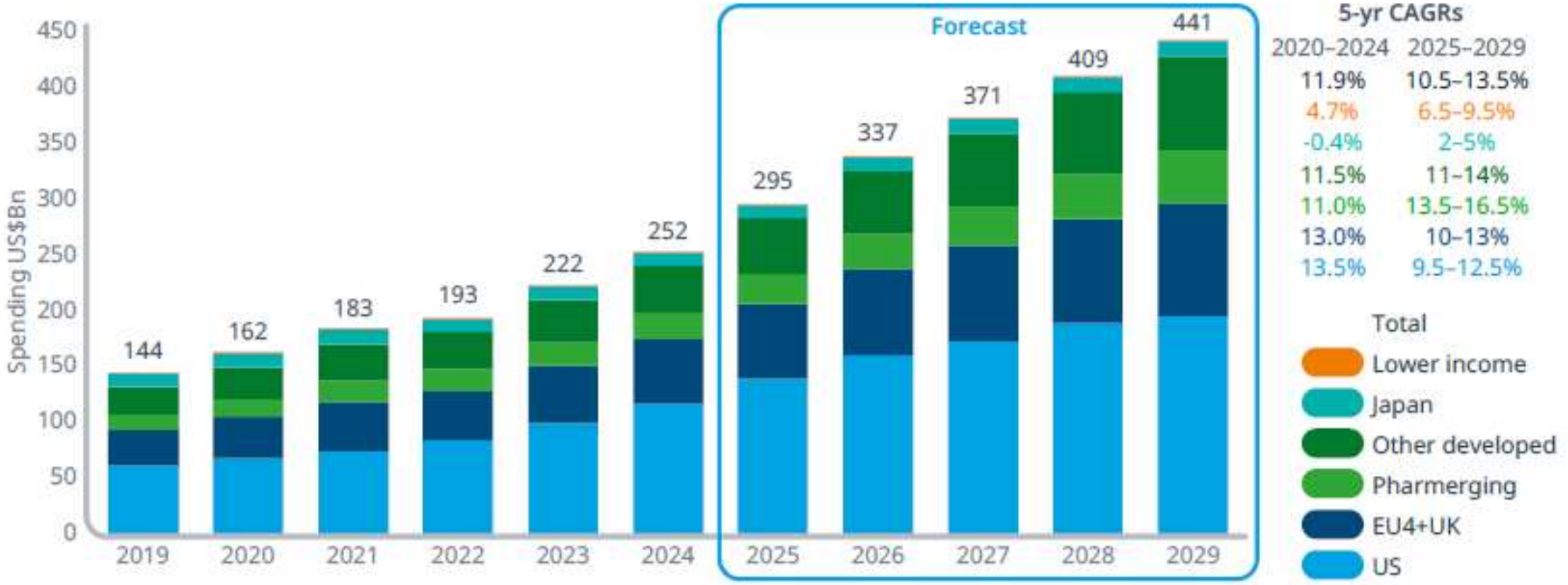


Source: IQVIA MIDAS Disease, Dec 2024; IQVIA Institute, Apr 2025.

Sourced from: https://www.iqvia.com/insights/the-iqvia-institute/reports-and-publications/reports/global-oncology-trends-2025

IQVIA Institute: Highest Growth in Cancer Drug Spending Will be in Emerging Countries

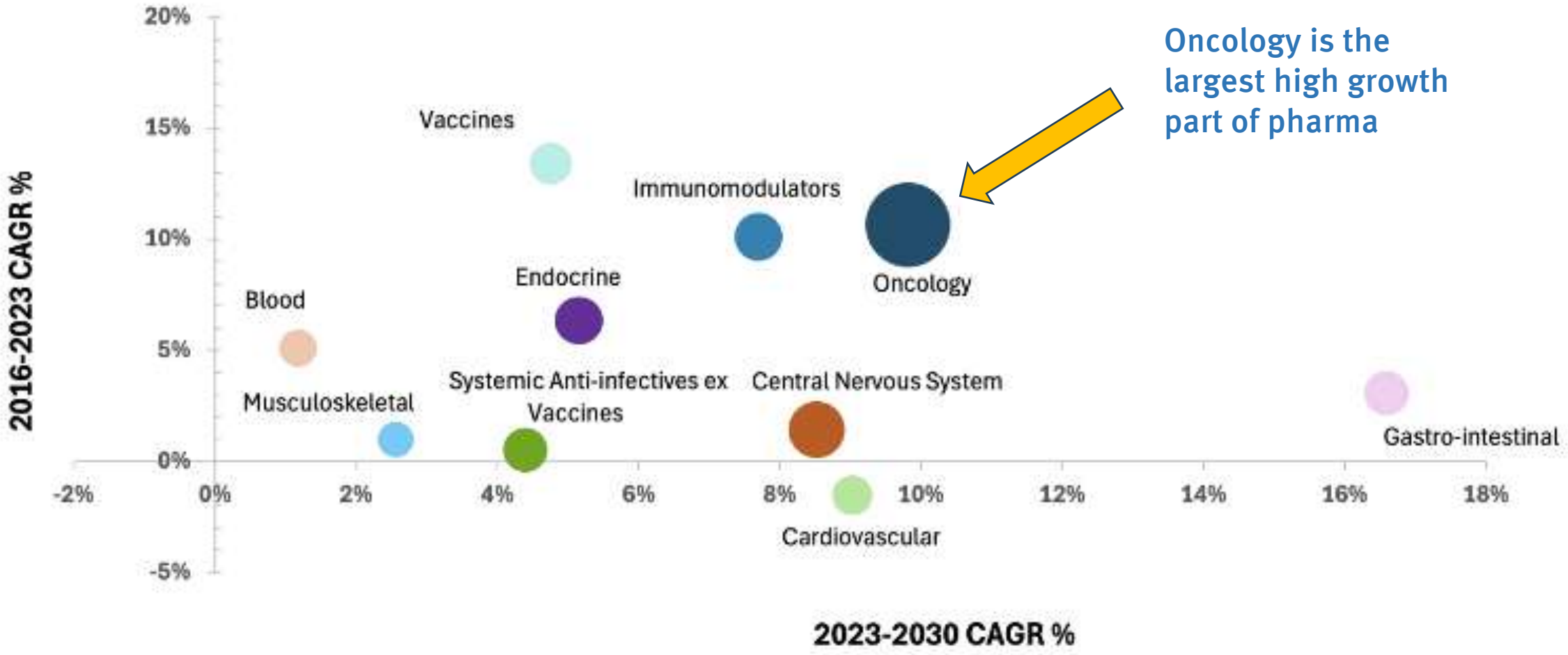
Exhibit 57: Oncology spending by region, US$Bn, 2019–2029



Sourced from: https://www.iqvia.com/insights/the-iqvia-institute/reports-and-publications/reports/global-oncology-trends-2025

Figure 7: Top 10 Therapy Areas in 2030 & Historic and Forecasted Sales Growth

Source: Evaluate Omnium® (May 2024)



Note: Circle size represents 2030 WW sales ($bn). Obesity drugs classified as GI, diabetes drugs as endocrine.

Source: https://www.evaluate.com/thought-leadership/world-preview-2024-report

Top Ten Global Pharma Marketers of Innovative Oncology Drugs by 2024 Revenue ($ Billions)

Company	Lead Drug Today	Key Focus Area Today	Revenue Rank 2023	Oncology Revenue 2023 ($billion)	Revenue Rank 2024	Oncology Revenue 2024 ($billion)	Revenue Rank 2030	Oncology Revenue 2030 ($billion)
MERCK	Keytruda®	Immuno-Oncology	1	$27.90	**1**	$32.70	3	$25.10
Roche	Perjeta®	Targeted Oncology	3	$25.40	**2**	$26.15	4	$23.90
Bristol Myers Squibb	Opdivo®	Immuno-Oncology	2	$26.50	**3**	$24.80	6	$18.20
AstraZeneca	Tagrisso®	Targeted Oncology	5	$17.20	**4**	$22.35	2	$29.50
Johnson&Johnson	Darzalex®	B-Cell Targets	4	$17.70	**5**	$20.78	1	$36.80
NOVARTIS	Kisqali®	Targeted Oncology	7	$14.40	**6**	$16.21	9	$15.30
Pfizer	Ibrance®	Targeted Oncology	6	$14.60	**7**	$15.61	5	$20.59
AMGEN	Kyprolis®	Targeted Oncology	8	$9.27	**8**	$9.70	11	$10.75
Lilly	Verzenio®	Targeted Oncology	9	$6.50	**9**	$8.75	10	$12.80
astellas	XTANDI®	Androgen Deprivation	11	$5.80	**10**	$7.32	18	$4.30

Note: Revenue estimate in oncology for 2023 and 2025 taken from each company's annual reports and earnings statements (sometimes data are not fully transparent, and we have had to make estimates). Revenue estimates for 2030 are obtained from securities analyst reports for each company as tabulated by Evaluate Pharma.

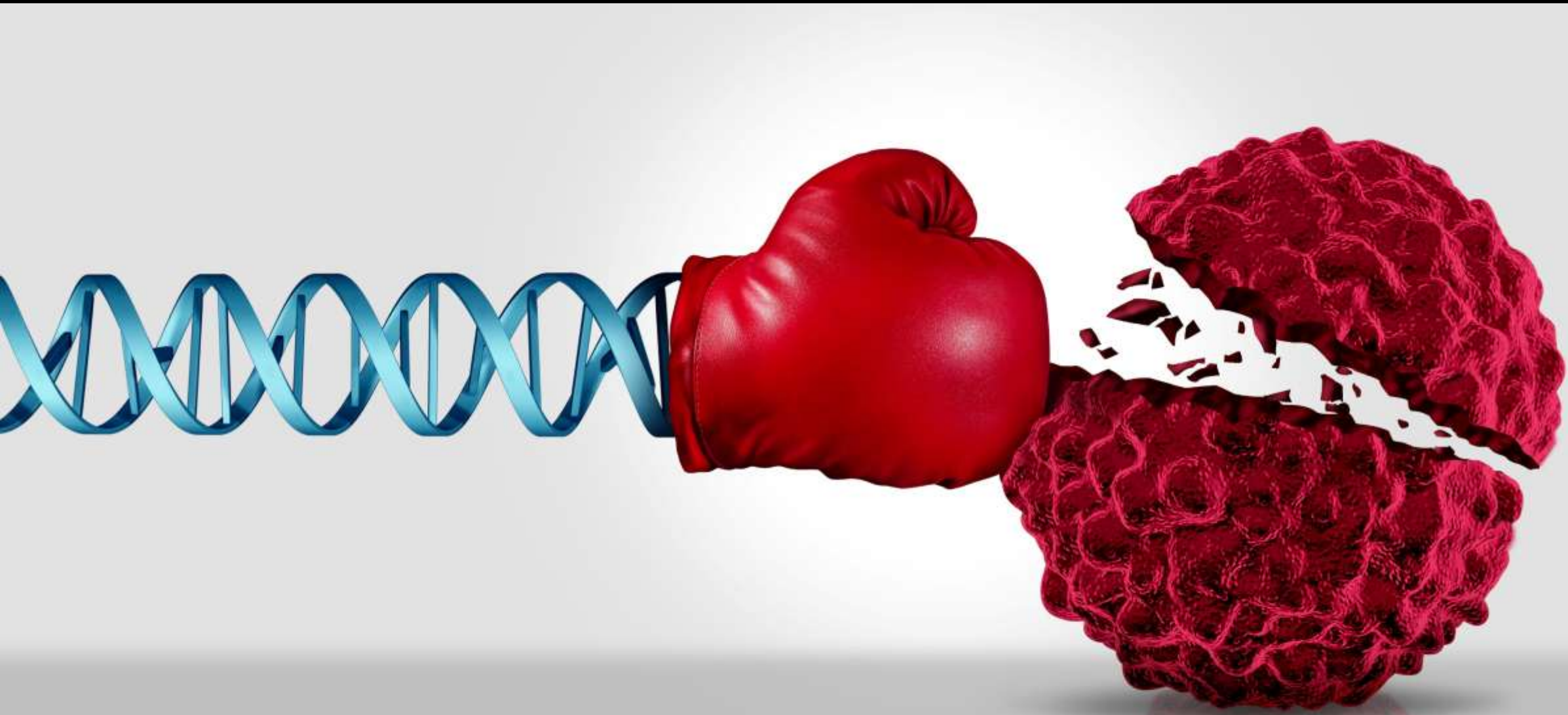
Next Ten Global Pharma Marketers of Innovative Oncology Drugs by 2024 Revenue ($ Billions)

Company	Lead Drug Today	Key Focus Area Today	Revenue Rank 2023	Oncology Revenue 2023 ($billion)	Revenue Rank 2024	Oncology Revenue 2024 ($billion)	Revenue Rank 2030	Oncology Revenue 2030 ($billion)
abbvie	Imbruvica®	B-Cell Targets	10	$5.90	**11**	$6.55	13	$8.70
Daiichi-Sankyo	Enhertu	Targeted Oncology	13	$2.90	**12**	$4.50	7	$17.80
齐鲁制药 QILU PHARMACEUTICAL	Yiruike	Targeted Oncology	16	$2.70	**13**	$4.40	16	$4.70
Incyte	Jakafi®	Targeted Oncology	15	$2.80	**14**	$3.95	27	$1.40
BeOne	Brukinsa®	B-Cell Targets	19	$2.46	**15**	$3.81	8	$17.40
Takeda	Velcade®	Targeted Oncology	12	$3.90	**16**	$3.67	22	$2.85
GILEAD	Trodelvy®	Targeted Oncology	14	$2.90	**17**	$3.30	14	$8.50
HENGRUI	Luzsana®	Immuno-Oncology	26	$1.10	**18**	$2.90	15	$5.60
IPSEN	Somatuline®	Targeted Oncology	17	$2.60	**19**	$2.58	26	$1.50
Eisai	Lenvima®	Targeted Oncology	18	$2.40	**20**	$2.15	29	$1.30

Note: Revenue estimate in oncology for 2023 and 2025 taken from each company's annual reports and earnings statements (sometimes data are not fully transparent, and we have had to make estimates). Revenue estimates for 2030 are obtained from securities analyst reports for each company as tabulated by Evaluate Pharma.

Other Significant Commercial Players in Oncology Drugs

#ASCO2025 Highlights and Key Themes in Oncology



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Key Themes in Oncology Pharmacology

We see five big themes playing out in oncology right now:

1) **Changing to a better backbone** (PD1 x VEGF) which will be combined with ADC's and TCE's - we are seeing ADC's + backbone going to frontline. This is the **big trend** in oncology right now. This is going to be great for patients while we wait on theme #2 to kick in over the next decade.

2) Emergence of **pan-tumor treatments** (like Revolution Medicines' pan-RAS). In the old days everyone got chemo then we went to targeted therapies. In the future we imagine something like a "broad spectrum" cancer drug that doesn't kill you. We are specifically tracking pan-KRAS, myc and EpCam strategies. Recent data from CytomX have been encouraging.

3) Emergence of **cancer screening techniques** that will get used - the key is to make this stuff affordable

4) Better efficacy from **radioligand** therapies

5) Improved **endpoints** (rather than PFS) - this is Vinay Prasad's big thing. We have seen MRD negativity take over in multiple myeloma (pearson corr with OS › 0.6).

ASCO this year was mainly about #1 but we also liked what we saw on #3 and #5.

ADC's and Better Backbone Therapy

Theme 1a: There is a New Sherrif in Town - Meet PD1 x VEGF

The #1 theme in oncology in 2025 is the emergence of a new backbone therapy. Over the last 50 years we have seen the torch pass from chemotherapy to PD-1. We are now seeing PD1 bispecifics, particularly PD-1 x VEGF emerge as the new backbone. We have seen two large BD deals in the last month in this area (Pfizer/3SBio) and (BioNtech/BMS).

While Summit missed its endpoint in the HARMONI trial, the p-value was 0.057 and the OS HR was 0.8. We think it's a no-brainer. Patients and physicians are going to prefer the bispecific. Would you rather lower your odds of death from cancer by 20%? We think the answer will be a resounding yes.

Summit HARMONi Release: https://www.smmttx.com/wp-content/uploads/2025/05/2025_PR_0530-_-HARMONi-Data-_-FINAL.docx.pdf

Also important were 3SBio's highly impressive data. See:

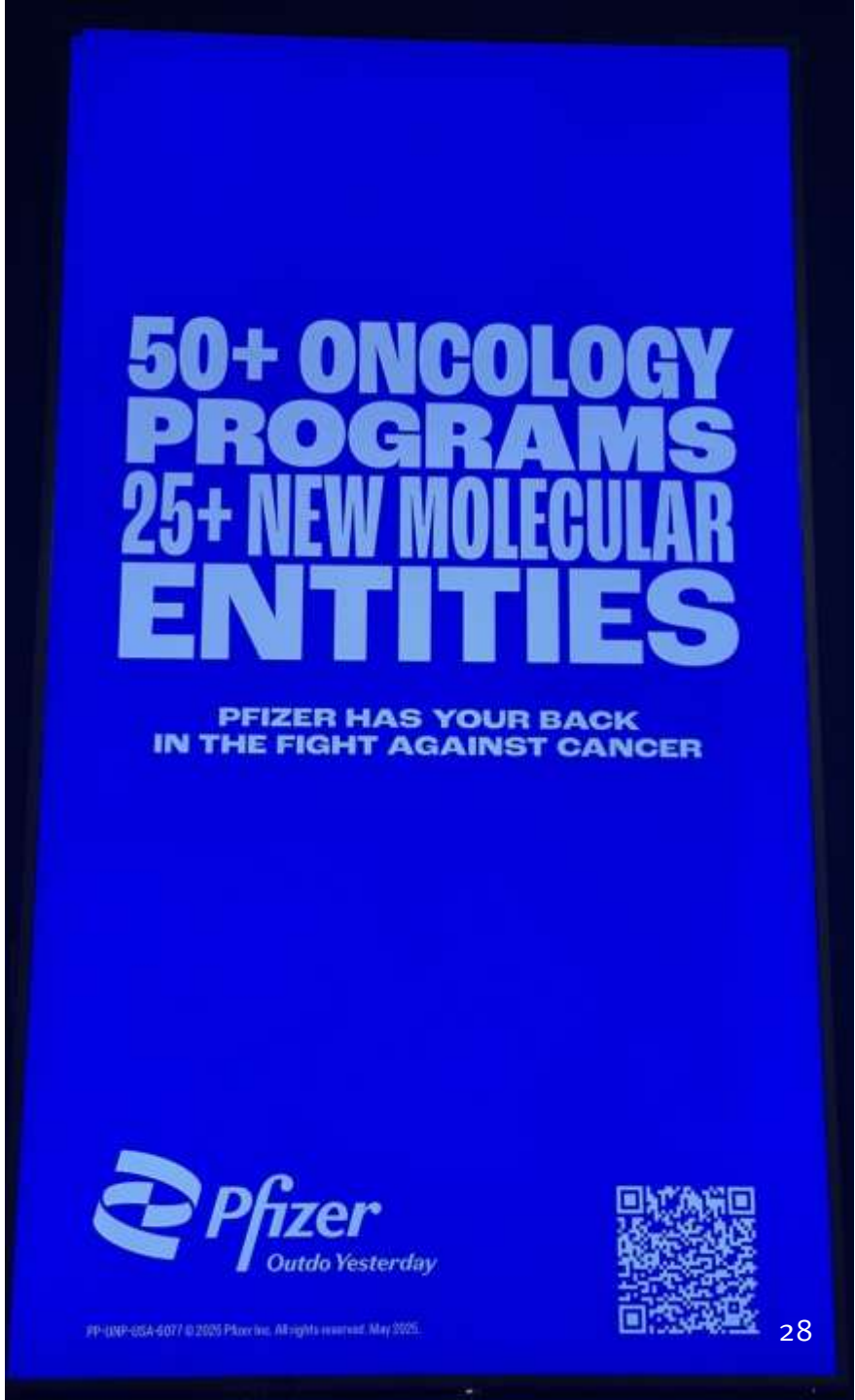
3SBio Poster: https://www.oncologypipeline.com/apexonco/asco-2025-3sbio-reveals-what-pfizer-got-its-125bn / https://www.asco.org/abstracts-presentations/ABSTRACT486706.

More on PD1 x VEGF Bispecifics

3SBio showed that SSGJ-707 achieved an objective response rate (ORR) of 65% in NSCLC patients with PD-L1 expression between 1–49%, and 77% in those with PD-L1 ≥50%. The safety profile was manageable, with grade ≥3 treatment-related adverse events (TRAEs) in 33% of patients and a discontinuation rate of 8%. The drug exhibited enhanced binding to PD-1 in the presence of VEGF, suggesting selective activation in the tumor microenvironment—a potentially meaningful advantage over conventional immunotherapy.

Summit and Akeso presented data from multiple Phase III trials evaluating ivonescimab, their own PD-1/VEGF bispecific. In the global HARMONi trial, conducted in patients with EGFR-mutant NSCLC post-TKI therapy, ivonescimab plus chemotherapy reduced the risk of progression or death by 48% compared to chemotherapy alone (HR 0.52, $p<0.00001$). A favorable trend in overall survival (HR 0.79, $p=0.057$) was also seen, though it did not meet statistical significance. Safety results showed grade ≥3 TEAEs in 56.9% of patients in the ivonescimab arm, including a 1.8% fatal TEAE rate.

While both bispecific antibodies showed promise, 3SBio's SSGJ-707 was notable for its high ORR in the PD-L1-high group and favorable safety profile. Ivonescimab, on the other hand, benefits from a more advanced clinical development program, with Phase III data across multiple settings and a recent approval in China. Despite strong PFS results, Summit's stock dropped following the ASCO presentation due to the lack of statistically significant OS benefit.



Bispecific/ADC Combos Matter

Together, these data underscore the growing importance of PD-1/VEGF bispecifics in reshaping NSCLC treatment. We believe that PD-1/VEGF bispecifics will become the emerging backbone therapy in oncology going forward.

We spoke to pharma's about the why of these deals. That is, why did Pfizer license 3SBio's drug and not just keep working in partnership with Summit?

The answer is an obvious one. Backbone therapy is too important to leave to others.

Several groups we spoke to, mentioned the importance of *controlling* the clinical development of emerging backbone therapy, particularly which combinations get prioritized in clinical trials.

We think it is fairly obvious that the next decade in oncology drugs is going to involve combinations of ADC's and TCE's with backbone therapy. The big game is going to involve designing these combinations to be tolerable enough to move into the first line place in therapy, where markets and patient benefit will be highest.

ADC's Moving to Front Line

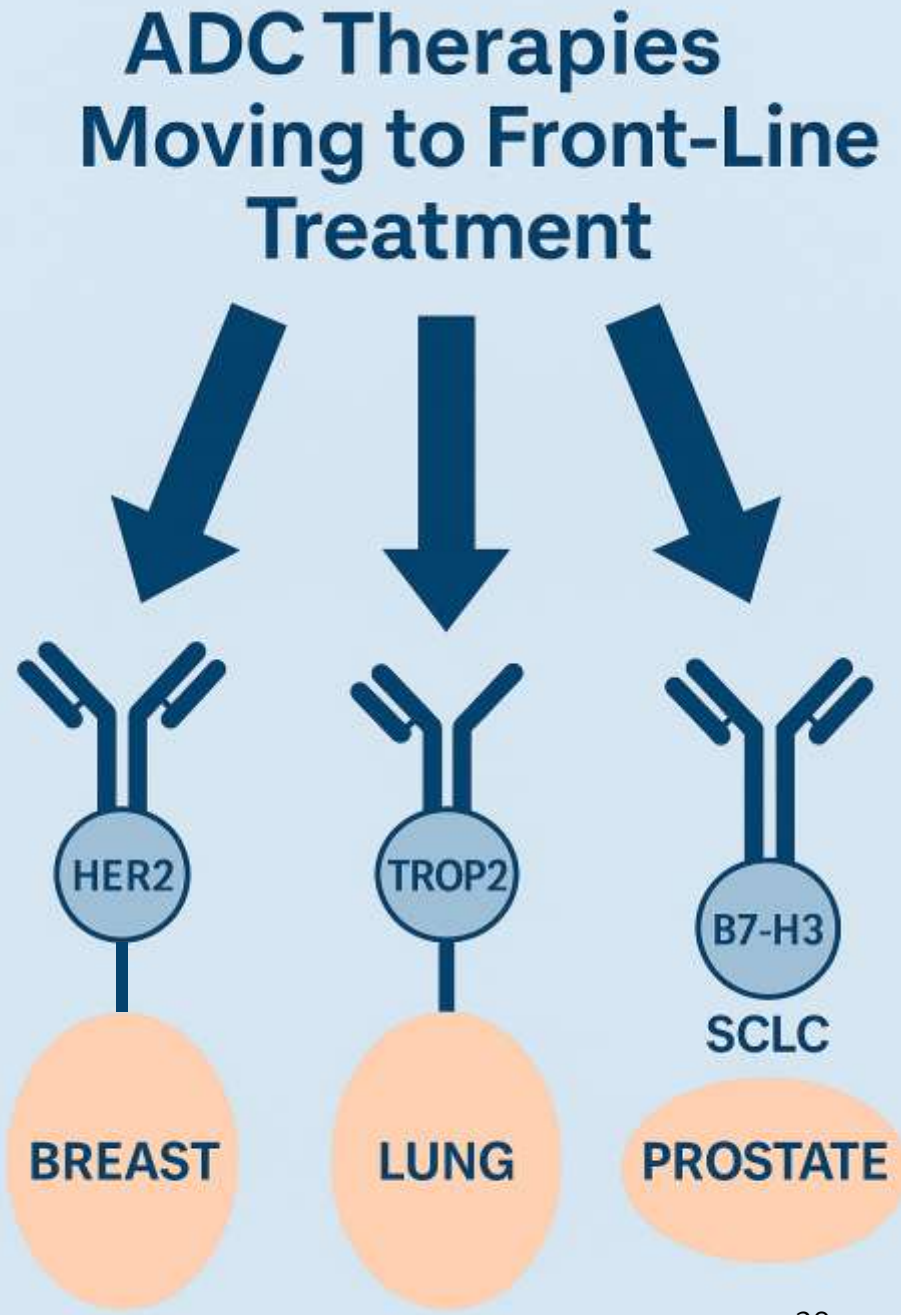
***AZ Poster*: pd1 plus Trop2 adc in lung (TROPION-Lung02)**
(see https://www.businesswire.com/news/home/20250601553230/en/DATROWAY-Continues-to-Show-Promising-Tumor-Responses-as-Part-of-Combination-Regimens-in-Patients-with-Early-and-Advanced-Non-Small-Cell-Lung-Cancer).
This is so big because the efficacy is front line, metastatic NSCLC. Now imagine if you plugged in a PD1/VEGF bispecific and a less risky TROP2 ADC.

AbbVie: C-met ADC in EGFR wild type advanced NSCLC also quite impressive. This was *without* backbone therapy. Wow. (see https://meetings.asco.org/abstracts-presentations/251489).

Gilead First-Line Breast Cancer: Gilead reported a compelling 35% reduction in the risk of disease progression or death (PFS HR=0.65) with Trodelvy plus Keytruda compared to Keytruda plus chemotherapy in the Phase III ASCENT-04 study for first-line treatment of PD-L1–positive metastatic triple-negative breast cancer (TNBC).

AstraZeneca DESTINY-09: ENHERTU going for front line in breast: https://www.oncologypipeline.com/apexonco/asco-2025-enhertu-mounts-its-first-line-charge

Alphamab's data in HER3 x TROP2 were great: https://meetings.asco.org/abstracts-presentations/250129
Alphamab data in ovarian with biparatopic HER2 also striking: (https://meetings.asco.org/abstracts-presentations/243967).



Theme 3: Cancer Screening

One of the most exciting developments in cancer screening at ASCO 2025 came from a low-cost, high-impact blood test designed for early cancer detection developed in China. The study, featured in abstract #482308, showcased a seven-protein cancer test with excellent performance. This test can run on a Roche Cobas 411 machine (inexpensive) and detect multiple cancer types, particularly colorectal and lung cancers. Remarkably inexpensive to administer, this test demonstrated sensitivity rates exceeding 70% for stage I cancers with specificity near 90%. We were also impressed by the PREEMPT CRC study which showed solid performance of a novel test for colorectal cancer (abstract 241158).

Another standout was the Dana-Farber-led "Signal Fidelity" study (abstract #498882), which took a rigorous approach to evaluating multi-cancer early detection (MCED) tests. Rather than focusing on sensitivity alone, this study aimed to determine whether blood-based cancer signals genuinely reflect the biology of early-stage tumors. Using deep genomic and transcriptomic analyses, the investigators compared circulating tumor DNA signals with matched tumor tissue in patients with early-stage disease. The findings were reassuring: the test's signals were highly concordant with primary tumor biology, addressing a longstanding criticism of liquid biopsies—that they might detect "noise" rather than true malignant signatures.

Theme 5: Better Endpoints

We attended the annual I-Spy investigator dinner on Friday night (May 30th) and had a great chance to connect with some of the leading breast cancer investigators in the world.

Most interesting were a series of sessions led by Laura Esserman of UCSF. After walking through the benefit of Bayesian adaptive clinical trials in breast cancer, Dr. Esserman introduced a speaker on the topic of improving surrogate endpoints in breast cancer trials.

Today, the most commonly used surrogate biomarker in studies of early breast cancer is pCR, particularly in HER2-positive and triple-negative breast cancer (TNBC).

High pCR rates often predict better EFS (event-free survival) and OS.

Today, for metastatic breast cancer, PFS is the most frequent primary endpoint in Phase II and III trials.

The main issue is that both pCR and PFS are not particularly good at predicting OS.

In contrast, MRD has been a great advance in the analysis of liquid tumors. MRD is highly predictive of OS in those diseases but, in contrast, in most other areas of oncology, we have not seen good predictors emerge for OS.

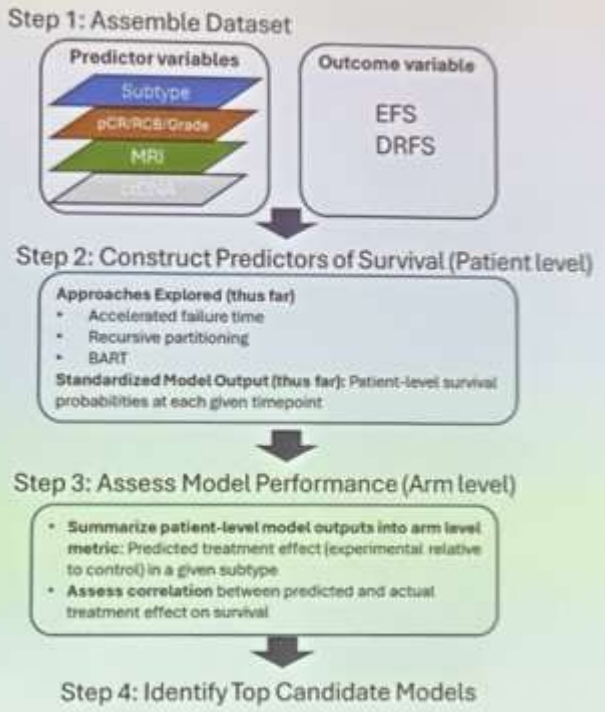
#ASCO 2025

Improving Endpoints in Oncology Clinical Trials

I-SPY Team Created a Multivariable Testing Framework

Process for Efficient Endpoint Development

- Goal: Develop a surrogate for survival outcome that strongly correlates with survival at the patient *and* trial arm levels
- I-SPY 2 dataset is assembled and split into training and test sets balancing for key variables
- Data hosted on OneSourceAI platform
  - Enables multiple analysts to work on common data
  - Facilitates new model development and code sharing
- Thus far, >30000 models constructed with different combinations of input variables and assessed for performance



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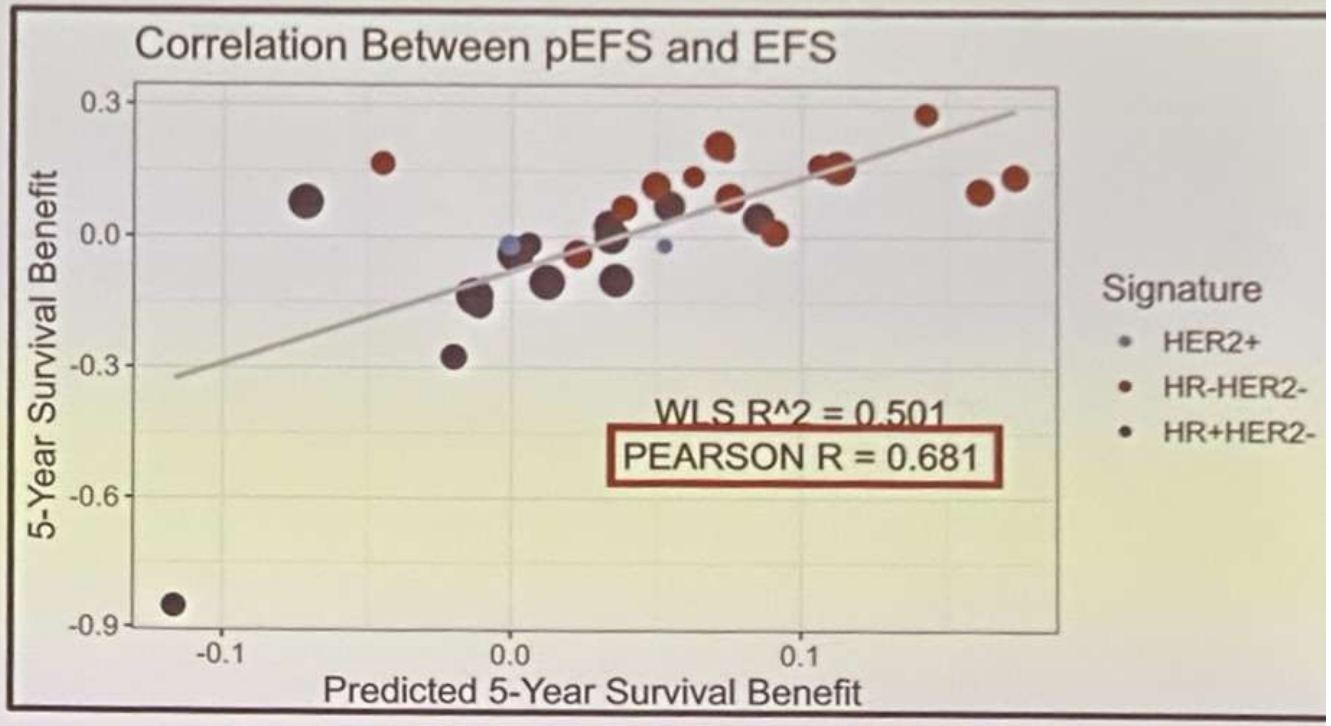
I-SPY Team Successful in Improving Breast Cancer Surrogate Endpoint

Multivariable Advanced Failure Time Models

One promising candidate is a multivariable AFT model incorporating:

- Tumor Biology: HR/HER2 subtype
- Extent of Disease at Baseline: Clinical T
- Extent of Disease at Surgery: Residual Cancer Burden (RCB)
- Post-treatment Aggressiveness: Post-surgical grade



Trial level correlation is within range of what was observed for MRD-CR in multiple myeloma

Overall Survival and Quality of Life Superiority in Modern Phase III Oncology Trials

Oncology News Central, June 4, 2025

Progression-free survival (PFS) and other surrogate endpoints are increasingly used in phase 3 oncology trials; however, a new study presented at the 2025 American Society of Clinical Oncology (ASCO) Annual Meeting (Abstract 11015) found that few trials with these alternative measures, often deemed "positive," ultimately improved overall survival (OS) or quality of life (QOL) for patients, and even fewer improved both. These findings were also simultaneously published in JAMA Oncology.

"I think we need to be held to a higher standard," Alexander Dean Sherry, MD, a radiation oncologist at the University of Texas MD Anderson Cancer Center in Houston, and lead author of the study, told Oncology News Central (ONC). "We need to ask ourselves: What are the true benefits of these new treatments, which are often more expensive and potentially even more toxic?" he asked. "I would say in the absence of a very pronounced survival benefit or quality of life benefit, it's difficult to make that assertion."

Dr. Sherry and colleagues assessed **791 randomized controlled trials (RCTs)** published between 2002 and 2024, representing 555,580 patients. Alternative primary endpoints were the most common surrogates (63%), and the primary endpoint was met in 53% of the RCTs. Alternative endpoint superiority was shown in 55% of the RCTs. OS was reported by 89% of the RCTs. **"However, we found that only 28% [of those trials] improved the time that patients lived following randomization," Dr. Sherry said.**

"Even more discouragingly, only 11% improved the quality of patients' lives, and that quality was informed by the patients themselves," Dr. Sherry said. He added that both OS and global QOL superiority were shown in only 6% of all RCTs included.

The reasons for the increased use of surrogate endpoints are understandable, Dr. Sherry said. Alternative endpoints require fewer patients and resources, making trials less expensive. Results are also available faster, "which is so incredibly important in a field like oncology," he added. "[But] do these endpoints really represent intrinsically valuable outcomes?"

Sources: https://www.oncologynewscentral.com/oncology/positive-cancer-trials-with-surrogate-endpoints-rarely-improve-survival-quality-of-life, https://ascopubs.org/doi/pdf/10.1200/JCO.2025.43.16_suppl.11015

#ASCO 2025

Practice Changing Clinical Trials

Zhang Study: Time of Day Matters in Immunotherapy

2025 ASCO ANNUAL MEETING

Randomized trial of Time-of-Day immunochemotherapy on Survival in Non-Small Cell Lung Cancer

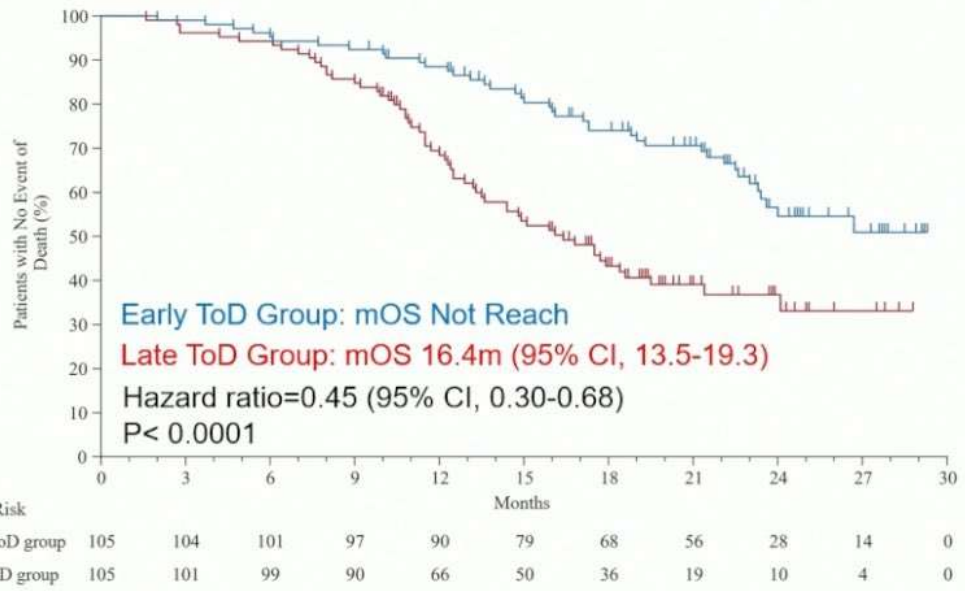
Zhe Huang[1,2*], Liang Zeng[1*], Zhaohui Ruan[1*], Qun Zeng[3*], Huan Yan[1], Wenjuan Jiang[1], Yi Xiong[1], Chunhua Zhou[1], Haiyan Yang[1], Li Liu[1], Jiacheng Dai[1], Nachuan Zou[1], Shidong Xu[1,2], Ya Wang[1], Zhan Wang[1], Jun Deng[4], Xue Chen[4], Jing Wang[5], Hua Xiang[5], Xiaomei Li[6], Boris Duchemann[6,7], Guoqiang Chen[8,9], Christoph Scheiermann[8,10,11,12,13†], Francis Lévi[6,13†], Nong Yang[14†], Yongchang Zhang[1,2,4,15†]

Presenter: Yongchang Zhang, MD, PhD, Hunan Cancer Hospital, zhangyongchang@csu.edu.cn

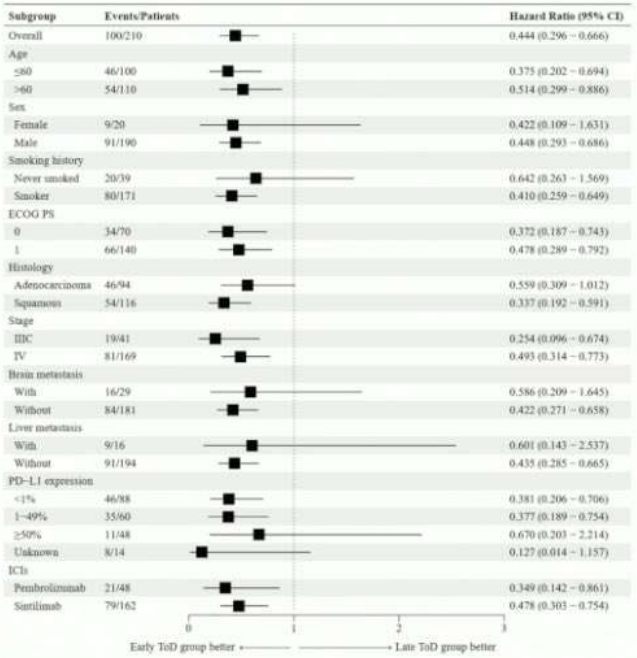
2025 ASCO #ASCO25 ASCO

Results: OS

Statistically significant improvement in OS comparing early with late ToD group



No. at Risk											
Early ToD group	105	104	101	97	90	79	68	56	28	14	0
Late ToD group	105	101	99	90	66	50	36	19	10	4	0



Median follow-up time: 23.2 months.

2025 ASCO ANNUAL MEETING #ASCO25

PRESENTED BY: Yongchang Zhang MD, zhangyongchang@csu.edu.cn

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ASCO AMERICAN SOCIETY OF CLINICAL ONCOLOGY KNOWLEDGE CONQUERS CANCER

Profound Implications of Time-of-Day Study

The Zhang et al. study presented at ASCO 2025 is a striking and potentially practice-changing contribution to the field of immuno-oncology. The data suggest that **circadian rhythms can significantly influence the efficacy of immune checkpoint inhibitors (ICIs)**, with a statistically significant improvement in overall survival (OS) when therapy was administered earlier in the day. Patients in the "early time of day" (ToD) group had a median OS that was *not reached*, while the "late ToD" group had a median OS of 16.4 months (HR: 0.45, 95% CI: 0.30–0.68; $P < 0.0001$). These results are consistent across most subgroups, as shown in the forest plot, and are biologically plausible given prior evidence that **T cell activation, trafficking, and exhaustion are regulated by circadian gene expression**.

This raises a fundamental methodological question: **Should time of infusion be treated as a confounding or stratification factor in immunotherapy trials?** The impact observed here is not trivial—effect sizes are comparable to adding a second drug in some cases—yet current clinical trials typically do not record or control for time of administration.

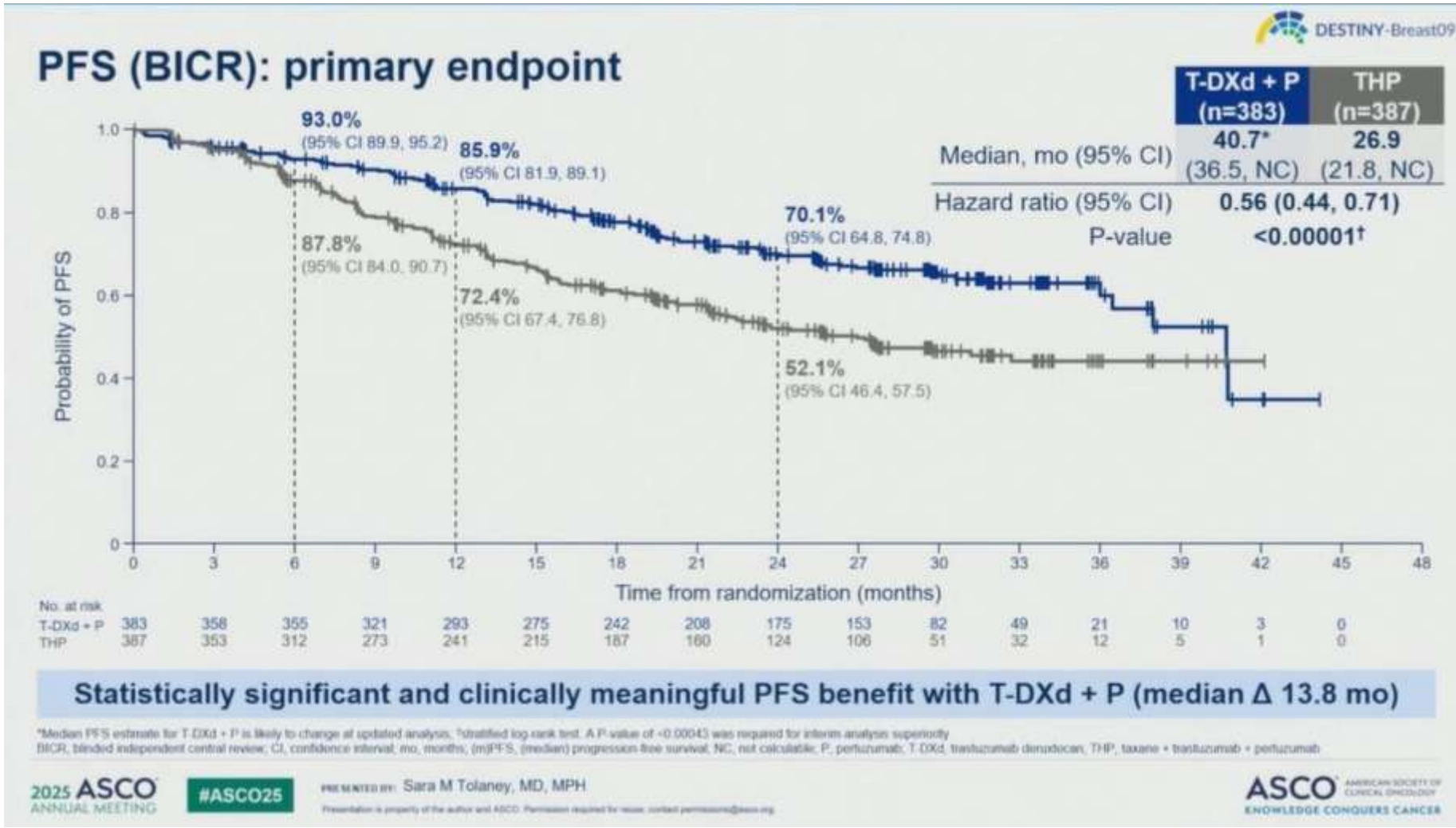
If biological processes such as lymphocyte trafficking and tumor immunogenicity are fluctuating with time, then trial outcomes may be variably influenced simply by scheduling patterns. There is precedent for this in other areas of medicine (e.g., statins, antihypertensives), but it has not been rigorously explored in oncology.

Given the implications, a retrospective analysis of prior pivotal ICI trials—by time of day of infusion—could be highly informative. Trials like KEYNOTE-024 or CheckMate-227 may yield new insights if disaggregated by ToD. If this finding holds, future studies should **randomize or standardize infusion timing**, or at the very least document it systematically.

An even more basic question is whether **immunology drugs**, in general, particularly those that involve T-cell activation, have important time of day performance differentials.

AZ/DS: ENHERTU® Delivers in First-Line Metastatic Breast Cancer vs. SOC.

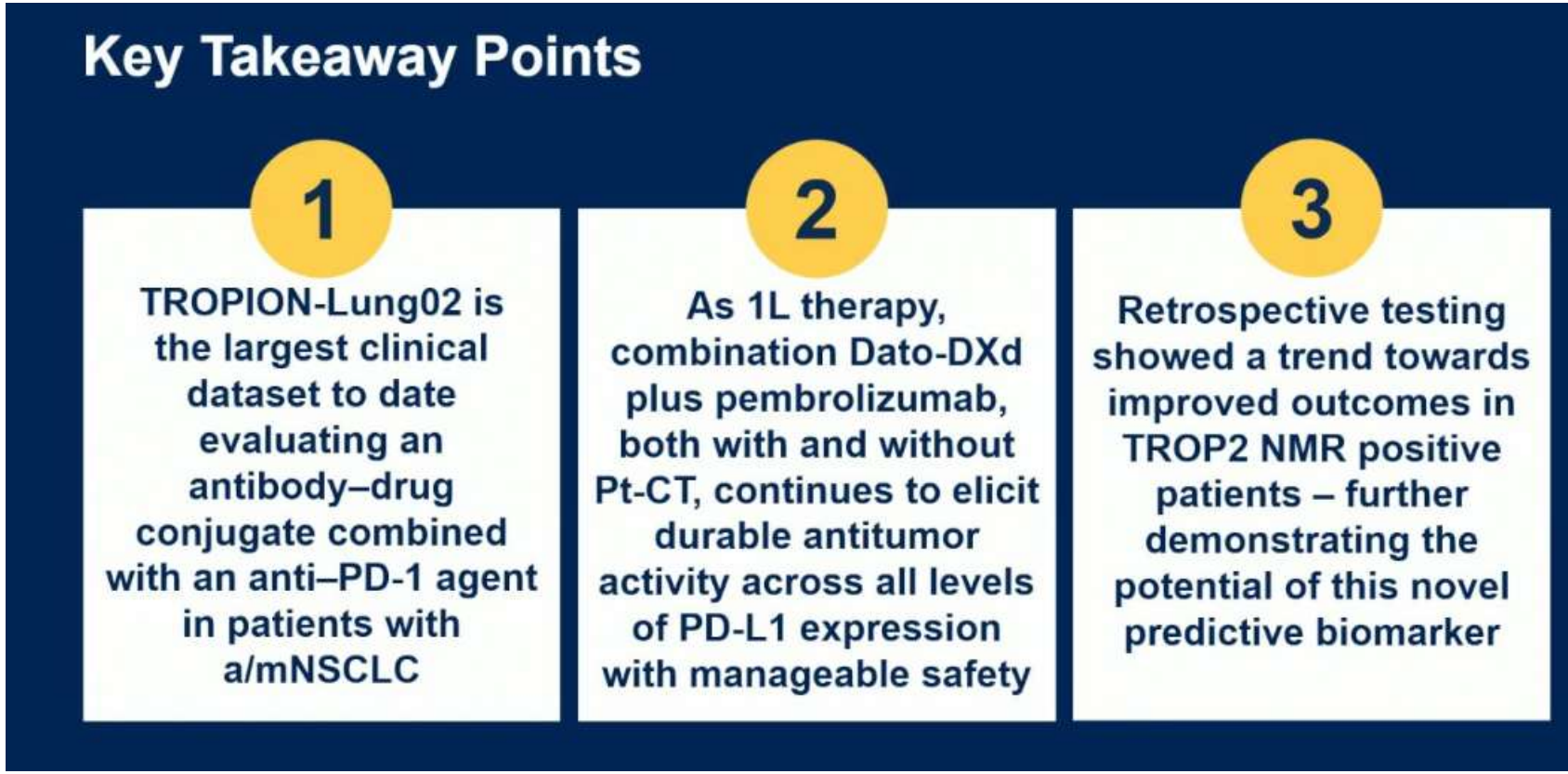
The **DESTINY-Breast09** trial presented at ASCO 2025 demonstrated that T-DXd (trastuzumab deruxtecan) plus pertuzumab (P) significantly improved progression-free survival (PFS) compared to the standard THP regimen (trastuzumab + pertuzumab + paclitaxel) in patients with HER2-positive advanced or metastatic breast cancer (a/mBC). The hazard ratio for PFS was 0.56 (P < 0.00001), representing a 44% reduction in the risk of disease progression or death. Median PFS reached 40.7 months with T-DXd + P versus 26.9 months with THP. The combination also showed a durable response, with median duration of response (DOR) exceeding 3 years and a complete response (CR) rate of 15.1% compared to 8.5% for THP. Early overall survival data trended favorably for the T-DXd arm (HR 0.60), and safety was consistent with known profiles.



AZ/DS: TROPION-Lung02 Makes Case for Trop2 ADC in Frontline Lung

At the 2025 ASCO Annual Meeting, the TROPION-Lung02 Phase 1b trial presented compelling data on the use of datopotamab deruxtecan (Dato-DXd), a TROP2-directed antibody-drug conjugate, in combination with pembrolizumab, with or without platinum-based chemotherapy, as a first-line treatment for advanced non-small cell lung cancer (NSCLC) without actionable genomic alterations.

42 patients received the doublet regimen (Dato-DXd plus pembrolizumab), achieving an objective response rate (ORR) of 54.8% (95% CI: 38.7–70.2), while 54 patients received the triplet regimen (Dato-DXd plus pembrolizumab and platinum chemotherapy), with an **ORR of 55.6%** (95% CI: 41.4–69.1). The median duration of response was notably longer in the doublet arm at 20.1 months, compared to 13.7 months in the triplet arm. Progression-free survival (PFS) also favored the doublet regimen, with a median PFS of 11.2 months versus 6.8 months for the triplet. These results were consistent across both nonsquamous and squamous histologies.



AbbVie: Temab-A, an anti c-Met ADC Performs in Wild Type NSCLC

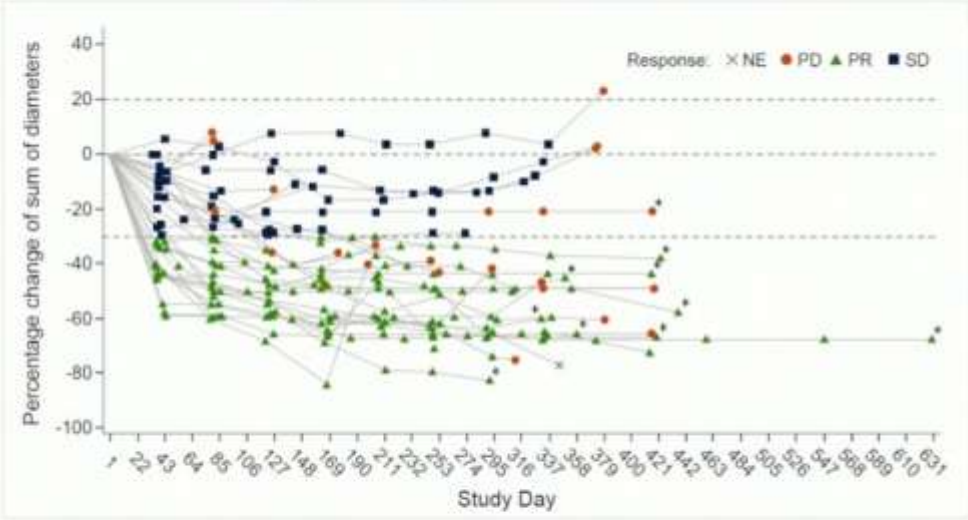
AbbVie presented encouraging Phase I data on Temab-A (telisotuzumab adizutecan, ABBV-400), a next-generation antibody-drug conjugate (ADC) targeting c-Met, in patients with advanced non-small cell lung cancer (NSCLC).

Temab-A combines a c-Met–targeting antibody with a novel topoisomerase I inhibitor payload, aiming to deliver cytotoxic effects specifically to c-Met–expressing tumor cells. In the study, patients with advanced EGFR-mutated non-squamous NSCLC who had progressed after platinum-based chemotherapy and tyrosine kinase inhibitors were treated with Temab-A.

The results showed an objective response rate (ORR) of 63%, a median duration of response of 9.8 months, and a median progression-free survival of 10.9 months, irrespective of c-Met expression levels.

ORR was 63% with a median follow-up of 13.8 months

Change in Target Lesion Size Over Time



Outcome	Total (N=41)
Confirmed best overall response,[a] n (%)	
PR	26 (63)
SD	12 (29)
ORR,[b] n (%)	26 (63)
CBR,[c] n (%)	38 (93)
CBR12	34 (83)
CBR24	32 (78)
mDOR, mo	9.8 [8.3, 13.9]
mPFS, mo [95%CI]	10.9 [9.4, 12.3]
P[OS at 12 mo], % [95% CI]	69 [52, 81]

- At data cutoff (11 February 2025), 10 (24%) patients remain on treatment
- Median duration of follow-up: 13.8 months (range: 0.4–20.7)

[a]Denotes patient who is still on treatment. [b]Not evaluable/not assessed in 3 patients. [c]Requires a CR or PR confirmed in an assessment ≥4 weeks later. [d]CBR12/24 includes patients with confirmed CR or PR or SD lasting ≥12/24 weeks. CBR, clinical benefit rate (CR + PR + SD); CI, confidence interval; CR, complete response; DOR, duration of response; m, median; mo, months; NE, not evaluable; ORR, objective response rate; OS, overall survival; P, probability; PD, progressive disease; PFS, progression-free survival; PR, partial response; SD, stable disease.

Source: https://news.abbvie.com/2024-05-28-AbbVie-Showcases-Robust-Solid-Tumor-Pipeline-at-ASCO-2024-with-New-Data-from-Its-Innovative-Antibody-Drug-Conjugate-ADC-Platform

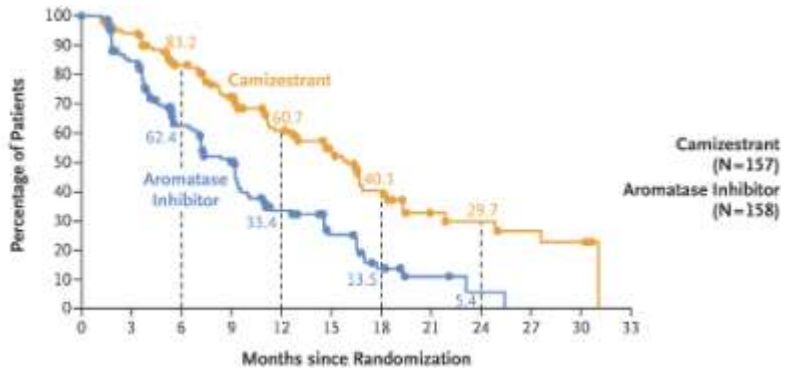
First-Line Camizestrant for Emerging ESR1-Mutated Advanced Breast Cancer

Authors: François-Clément Bidard, M.D., Ph.D. , Erica L. Mayer, M.D., M.P.H. , Yeon Hee Park, M.D., Ph.D., Wolfgang Janni, M.D., Ph.D., Cynthia Ma, M.D., Ph.D., Massimo Cristofanilli, M.D. , Giampaolo Bianchini, M.D., +18 , for the SERENA-6 Study Group* Author Info & Affiliations

Mutations in ESR1 are the most common mechanism of acquired resistance to treatment with an aromatase inhibitor plus a cyclin-dependent kinase 4 and 6 (CDK4/6) inhibitor for advanced breast cancer. Camizestrant, a next-generation selective estrogen-receptor (ER) degrader and complete ER antagonist, has shown antitumor activity in ER-positive advanced breast cancer.

A total of 3256 patients were tested for an *ESR1* mutation. The 315 eligible patients were assigned to switch to camizestrant (157 patients) or to continue to receive an aromatase inhibitor (158 patients). At an interim analysis at a median follow-up of 12.6 months, the median progression-free survival was 16.0 months (95% confidence interval [CI], 12.7 to 18.2) in the camizestrant group and 9.2 months (95% CI, 7.2 to 9.5) in the aromatase-inhibitor group (hazard ratio for progression or death, 0.44; 95% CI, 0.31 to 0.60; P<0.0001). The median time until a deterioration in the patient-reported global health status and quality of life occurred was 23.0 months with camizestrant and 6.4 months with an aromatase inhibitor (hazard ratio, 0.53; 95% CI, 0.33 to 0.82). The frequency of discontinuation because of adverse events was 1.3% with camizestrant and 1.9% with an aromatase inhibitor.

In patients with ER-positive, HER2-negative advanced breast cancer with an *ESR1* mutation that emerged during treatment, those who were switched to camizestrant with continuation of a CDK4/6 inhibitor during first-line therapy had significantly longer progression-free survival than those who maintained the aromatase-inhibitor combination. (Funded by AstraZeneca; SERENA-6 ClinicalTrials.gov number, NCT04964934.)



Source: https://www.nejm.org/doi/full/10.1056/NEJMoa2502929

ROSELLA: A Phase 3 Study of Relacorilant in Combination with Nab-Paclitaxel versus Nab-Paclitaxel Monotherapy in Patients with Platinum-Resistant Ovarian Cancer

(GOG-3073, ENGOT-ov72, APGOT-Ov10, LACOG-0223, and ANZGOG-2221/2023)

Alexander Olawaiye,[1] Laurence Gladieff, Lucy Gilbert, Jae-Weon Kim, Mariana Scaranti, Vanda Salutari, Elizabeth Hopp, Linda Mileshkin, Alix Devaux, Michael McCollum, Ana Oaknin, Aliza L. Leiser, Nicoletta Colombo, Andrew Clamp, Boglárka Balázs, Giuseppa Scandurra, Emilie Kaczmarek, Hristina I. Pashova, Sachin G. Pai, and Domenica Lorusso

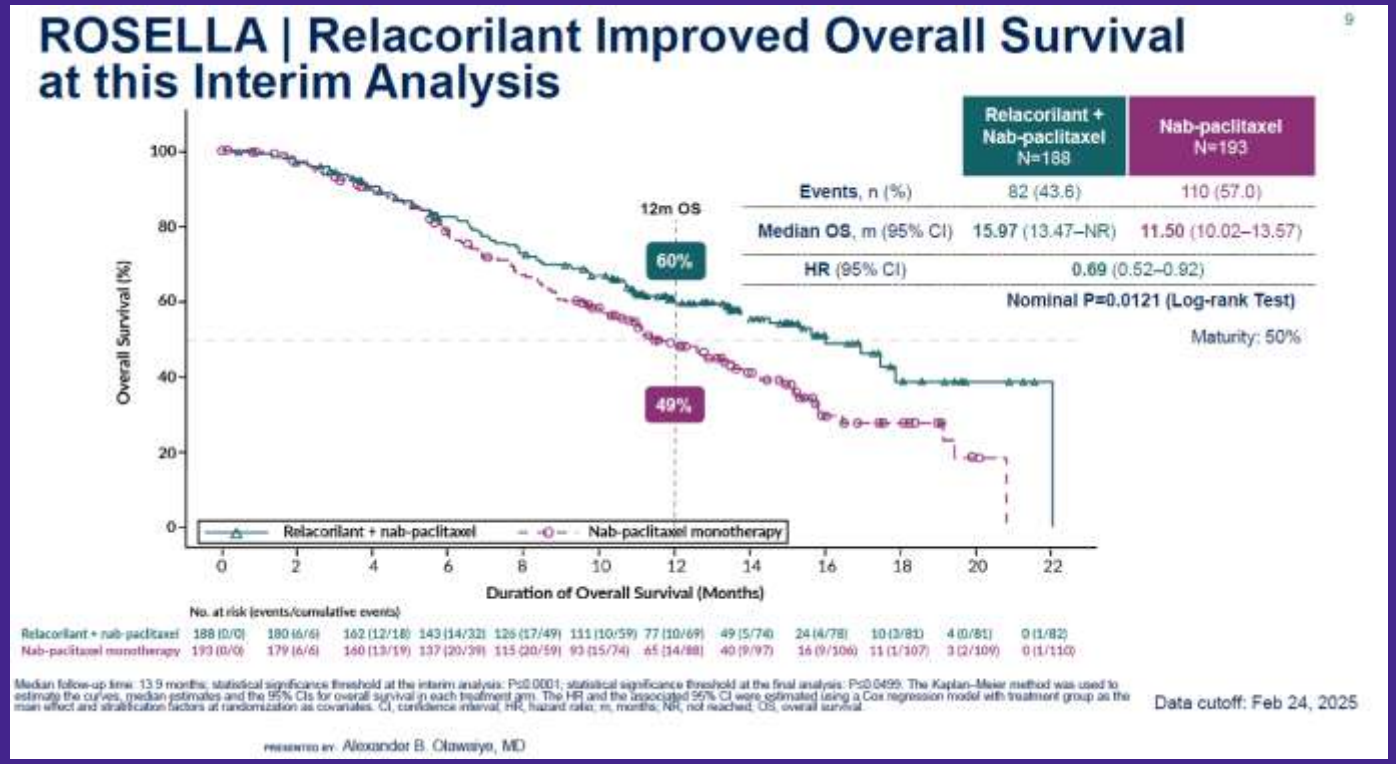
[1]University of Pittsburgh School of Medicine and UPMC Magee-Women's Hospital, Gynecologic Oncology Group, Pittsburgh, PA, USA.

In collaboration with:

GOG FOUNDATION · ENGOT · APGOT Asia-Pacific Gynecologic Oncology Trials Group · LACOG · ANZGOG

Presented at the 2025 American Society of Clinical Oncology (ASCO) Annual Meeting | May 30 – Jun 3, 2025

ROSELLA | Relacorilant Improved Overall Survival at this Interim Analysis



Corcept THERAPEUTICS

Relacorilant is a novel SGRA: Relacorilant is an oral, selective glucocorticoid receptor antagonist (SGRA) in development for the treatment of patients with cancer ROSELLA met its primary endpoint: The addition of relacorilant to nab-paclitaxel extended progression-free survival assessed by BICR with a statistically and clinically significant hazard ratio (HR) of 0.70 (median 6.5 vs 5.5 months, P=0.0076) in the phase 3 ROSELLA study in patients with platinum-resistant ovarian cancer

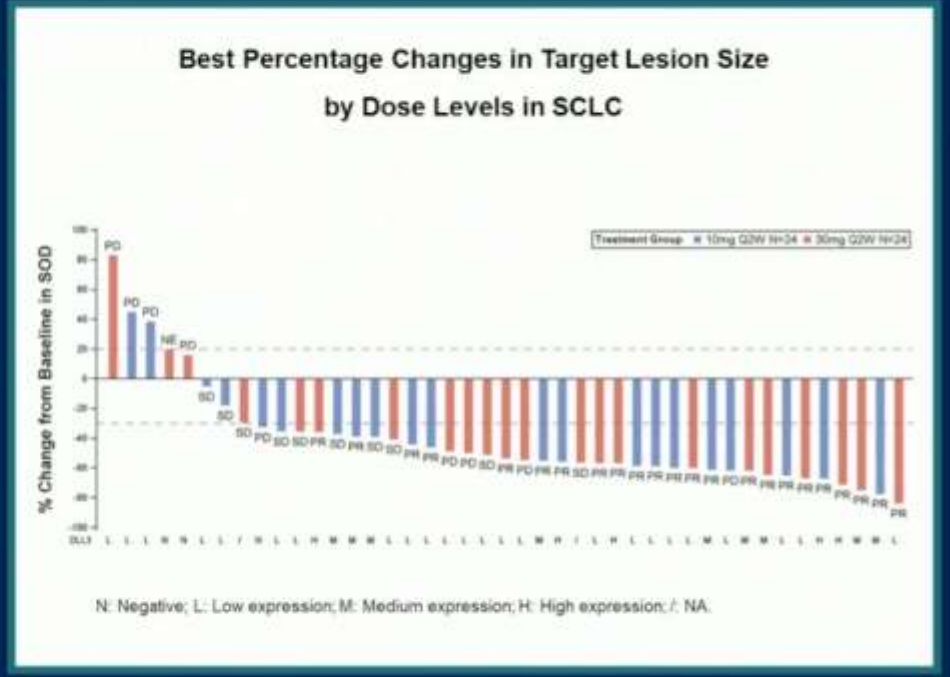
Source: https://corcept.com/rosella-data-asco-2025/

Zelgen's DLL3 Trispecific Generates 60%+ ORR in SCLC

Alveltamig/ZGoo6 is a novel trispecific T-cell engager (Tri-TE) developed by Suzhou Zelgen Biopharmaceuticals, designed to enhance immune-mediated tumor cell killing by simultaneously targeting **CD3** on T cells and two distinct epitopes of **Delta-like ligand 3 (DLL3)** on tumor cells. DLL3 is an inhibitory Notch ligand aberrantly expressed on the surface of various neuroendocrine tumors, notably **small cell lung cancer (SCLC)** and **neuroendocrine carcinomas (NECs)**, while being minimally present in normal tissues. By binding to CD3 and both DLL3 epitopes, ZGoo6 facilitates the formation of an immunological synapse, promoting T-cell activation and targeted cytotoxicity against DLL3-expressing tumor cells.

Antitumor Activity as Assessed by IRC

	10 mg Q2W (N=24)	30 mg Q2W (N=24)
BOR		
CR, n (%)	0	0
PR, n (%)	15 (62.5)	14 (58.3)
SD, n (%)	2 (8.3)	2 (8.3)
PD, n (%)	6 (25.0)	6 (25.0)
NE, n (%)	1 (4.2)	2 (8.3)
ORR*, n (%) 95% CI	15 (62.5) (40.6, 81.2)	14 (58.3) (36.6, 77.9)
DCR*, n (%) 95% CI	17 (70.8) (48.9, 87.4)	16 (66.7) (44.7, 84.4)



CR: Complete Response; PR: Partial Response; SD: Stable Disease; PD: Progressive Disease; BOR: Best Overall Response; *: Non-confirmed

6

2025 ASCO ANNUAL MEETING #ASCO25 PRESENTED BY: Xinghao Ai

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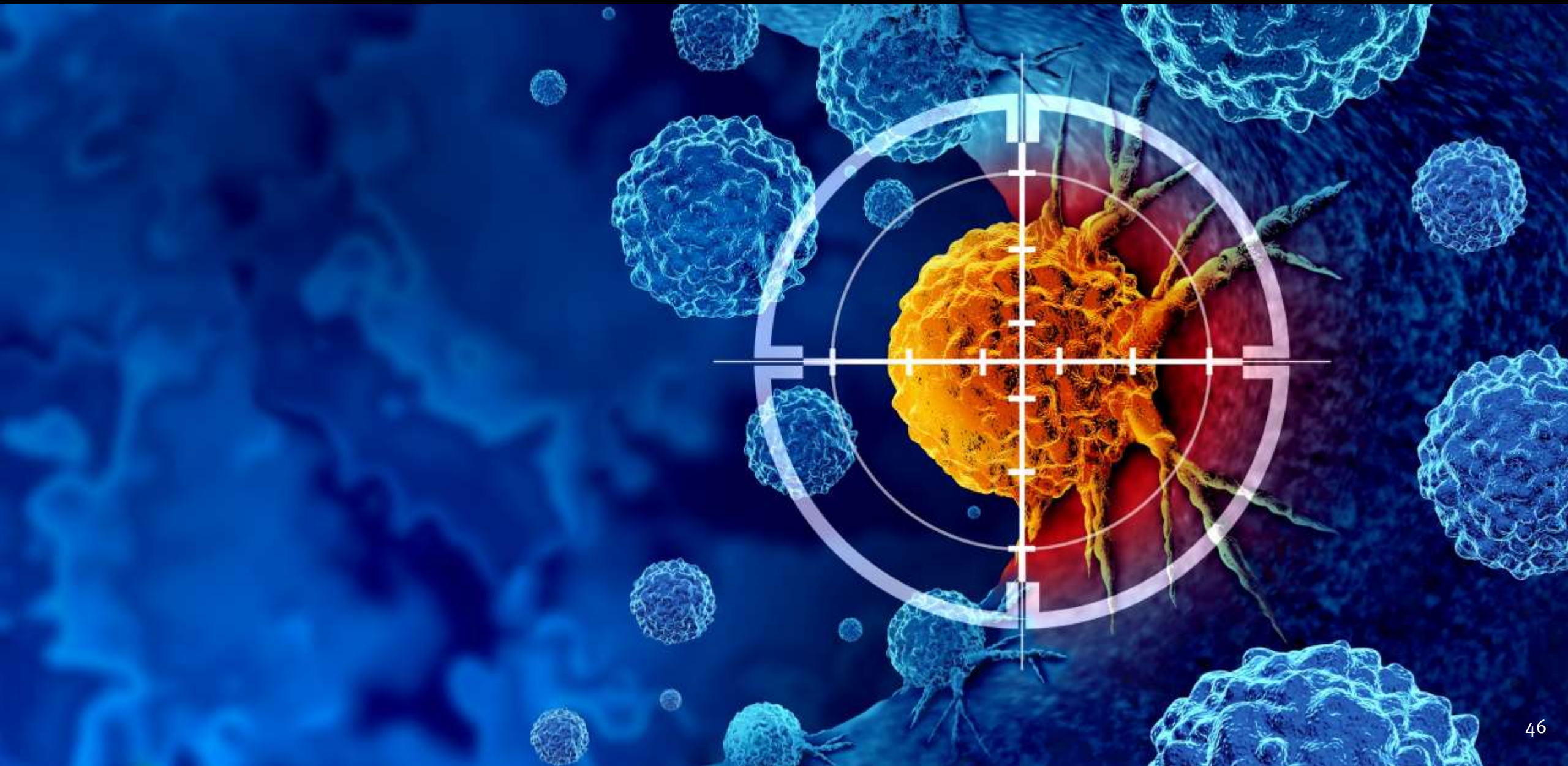
ASCO AMERICAN SOCIETY OF CLINICAL ONCOLOGY KNOWLEDGE CONQUERS CANCER

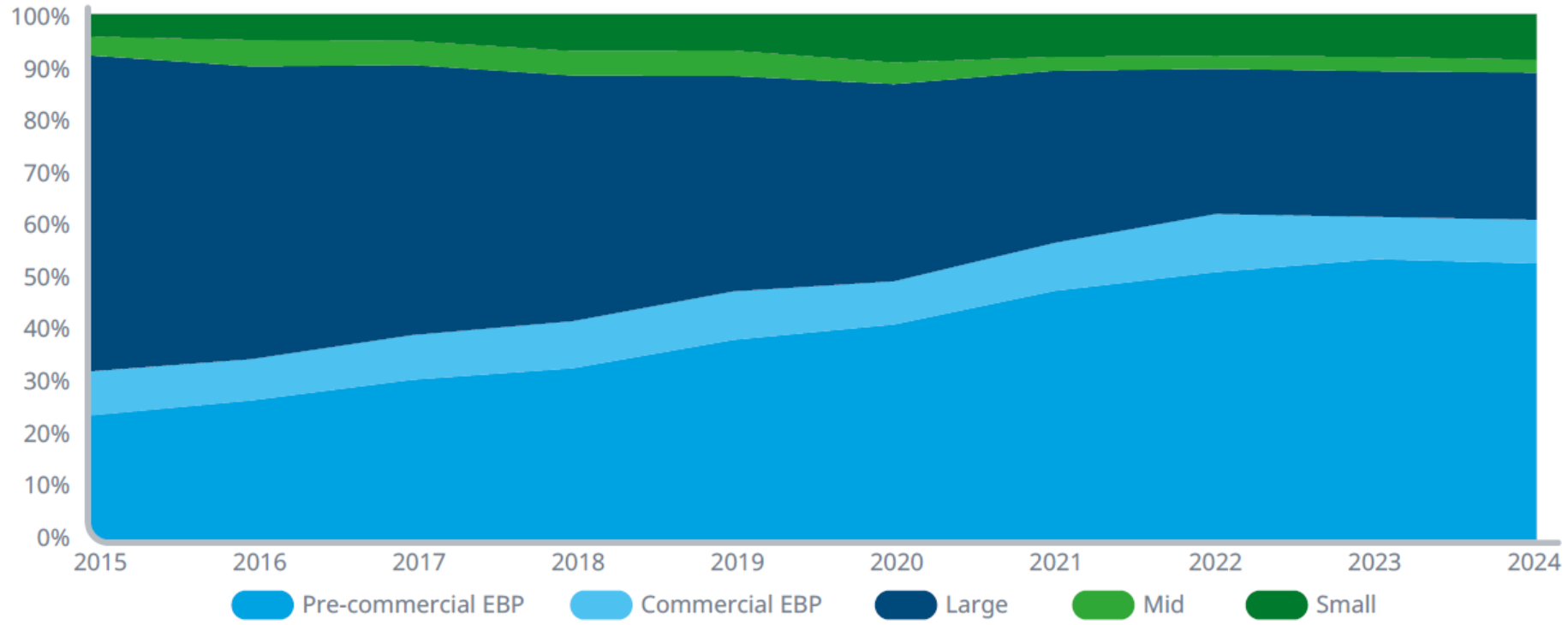
Key Trends Shaping Oncology Drug Development Today



Biotech Becoming Far More Important in Oncology Drug Development

Pre-commercial emerging biopharma companies are responsible for 53% of oncology trials, up from 24% a decade ago

Exhibit 2: Share of oncology trial starts by company segment, 2015–2024

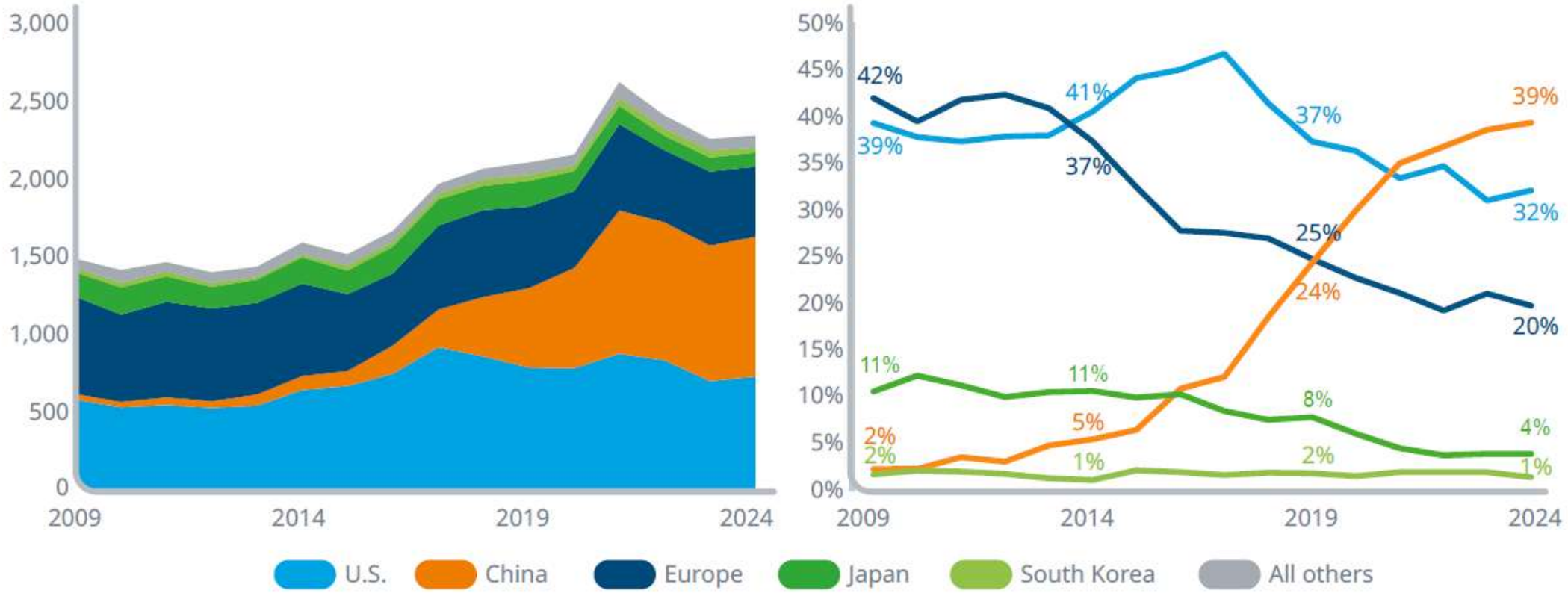


Source: Citeline Trialtrove, Jan 2025; IQVIA Institute, Apr 2025.

Source: https://www.iqvia.com/insights/the-iqvia-institute/reports-and-publications/reports/global-oncology-trends-2025

Oncology Trials From China Companies Have Risen to 39% of Starts, up From Only 5% a Decade Ago

Exhibit 3: Number and share of oncology trial starts by company headquarters location, 2009–2024

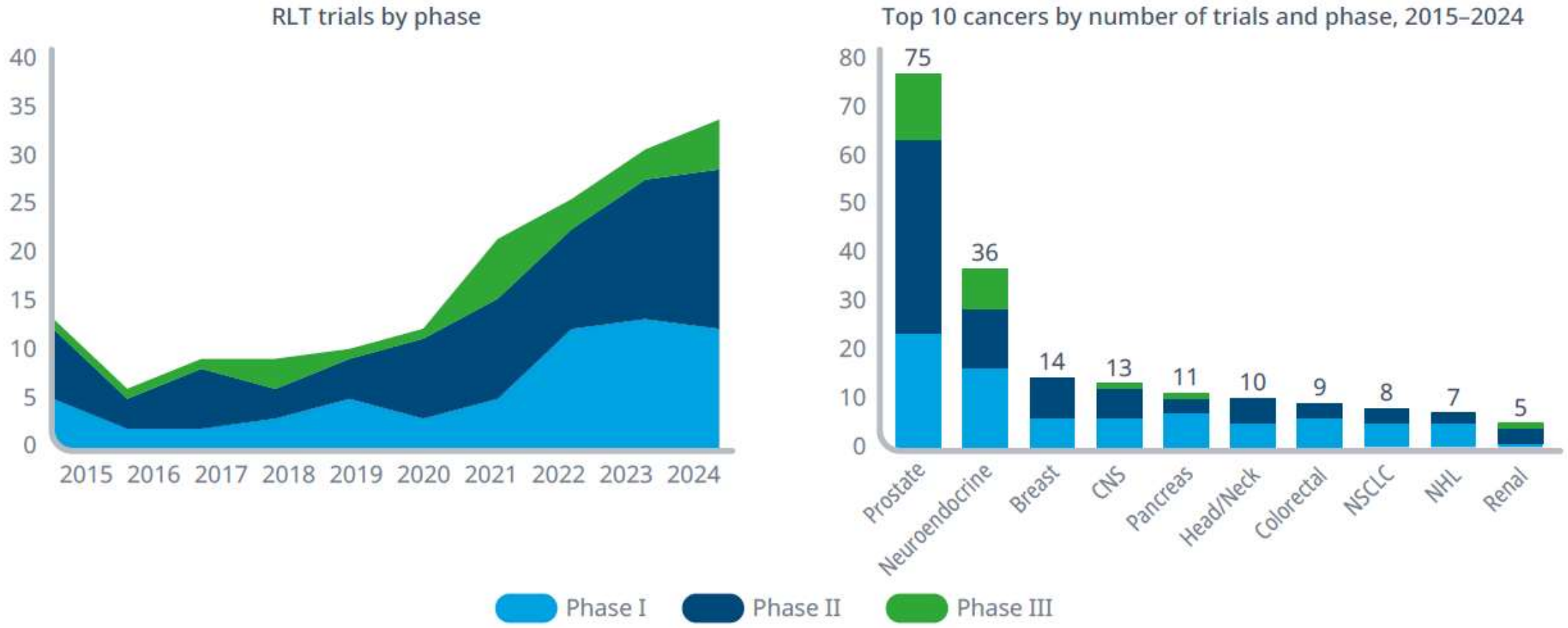


Source: Citeline Trialtrove, Jan 2025; IQVIA Institute, Apr 2025.

Source: https://www.iqvia.com/insights/the-iqvia-institute/reports-and-publications/reports/global-oncology-trends-2025

Radioligand Therapies are Being Tested Across a Range of Tumors, Primarily Prostate and Neuroendocrine

Exhibit 11: Radioligand therapy (RLT) trials by tumor and phase, 2015–2024

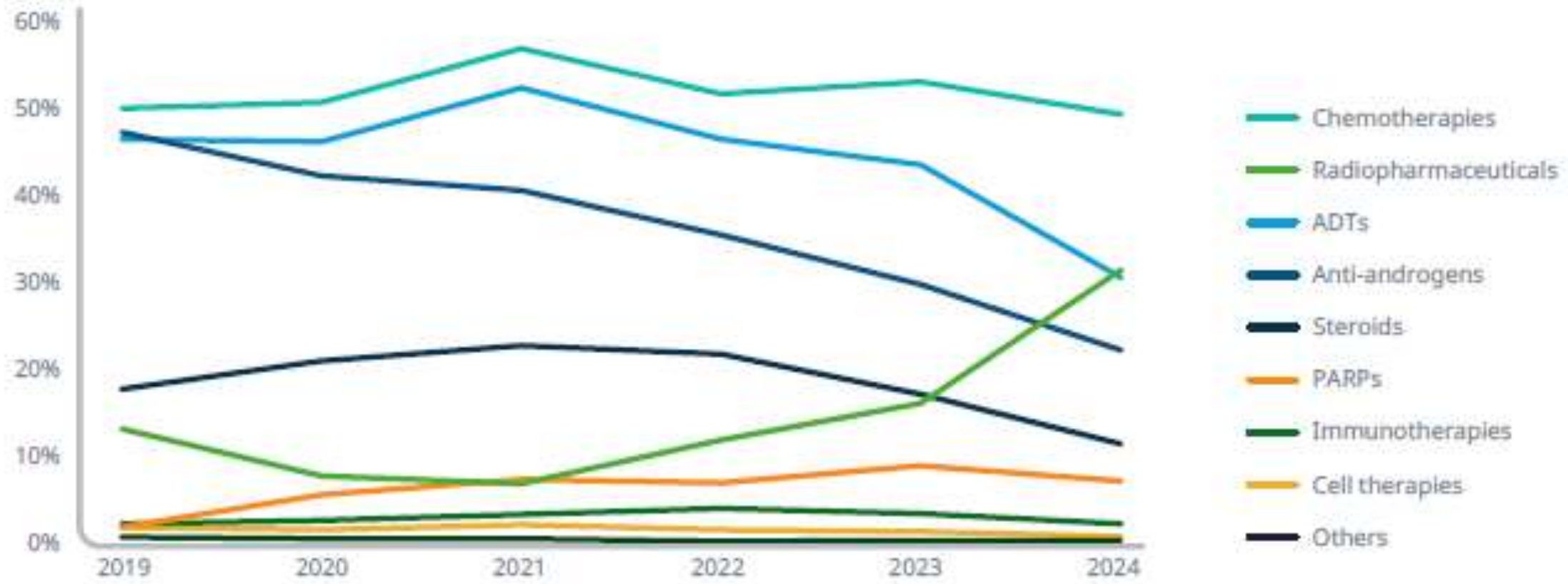


Source: Citeline Trialtrove, Jan 2025; IQVIA Institute, Apr 2025.

Source: https://www.iqvia.com/insights/the-iqvia-institute/reports-and-publications/reports/global-oncology-trends-2025

In 2024, 31% of Advanced Metastatic Prostate Cancer Patients Received Radiopharmaceuticals, up From 7% in 2021

Exhibit 51: Share of 3L+ metastatic castration-resistant prostate cancer patients in U.S. treated by therapy



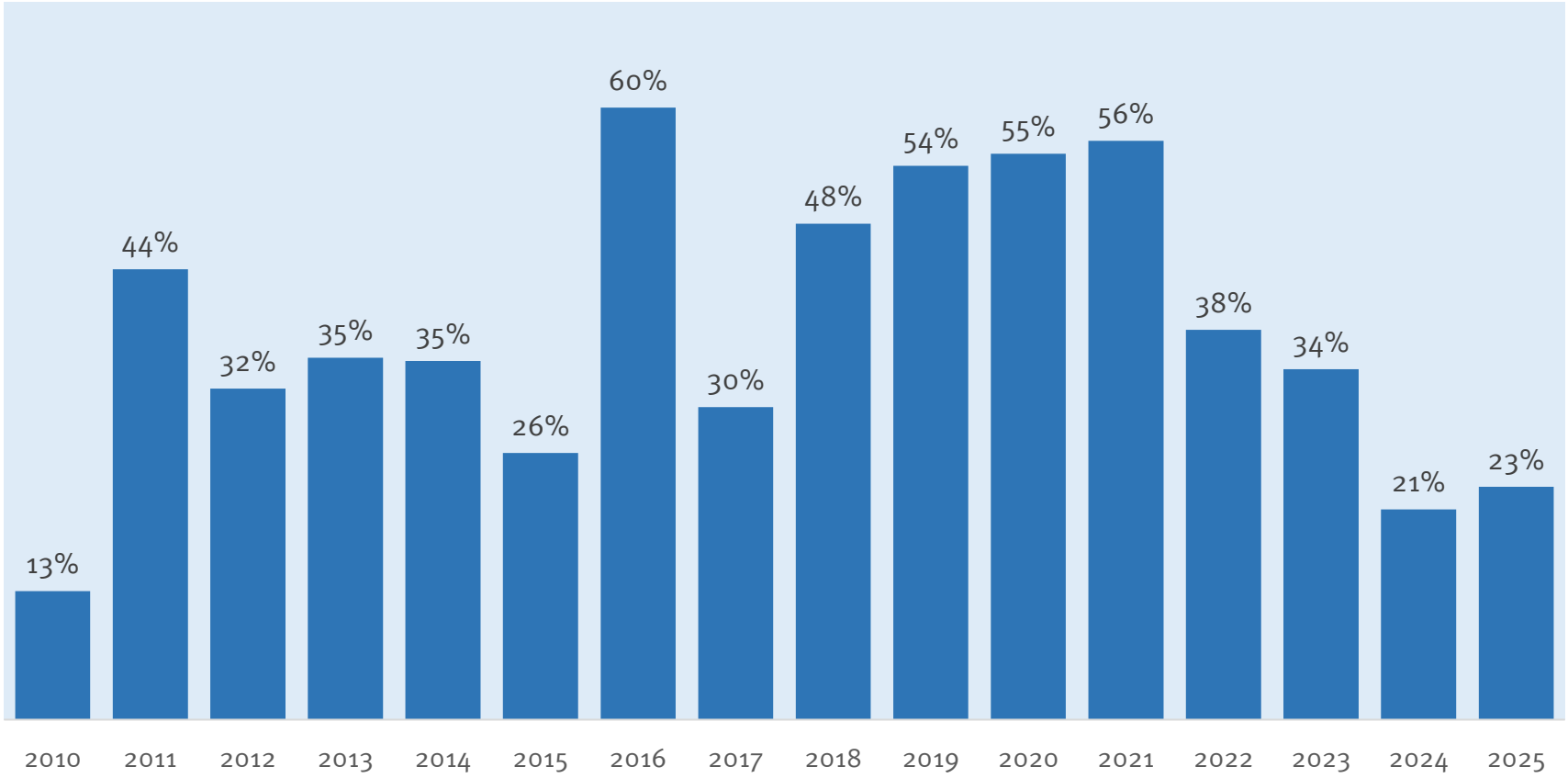
Source: IQVIA Oncology Dynamics, Dec 2024.

Source: https://www.iqvia.com/insights/the-iqvia-institute/reports-and-publications/reports/global-oncology-trends-2025

Oncology Pharmaceuticals Environment and Deals

Oncology IPO's Becoming Less Dominant

Oncology Biotech IPO Dollars Raised ($ Volume) as a Percent of all Biotech IPO Dollars Raised, 2010 to 2025 (through May 30, 2025)



The oncology therapeutics field accounts for 23% of all private capital raised in IPO's in 2025. This is down from peak levels over 50% as recently as 2021. Other areas such as I&I and cardiometabolic have risen in relative popularity with investors.

Source: DealForma and Stifel Research.

Most Active Oncology Dealmakers, Jan 1, 2015 to June 2, 2025

BMS and Pfizer has been heavy spenders in oncology business development activity. BMS, Roche and Merck lead in terms of the sheer number of deals over the last decade.

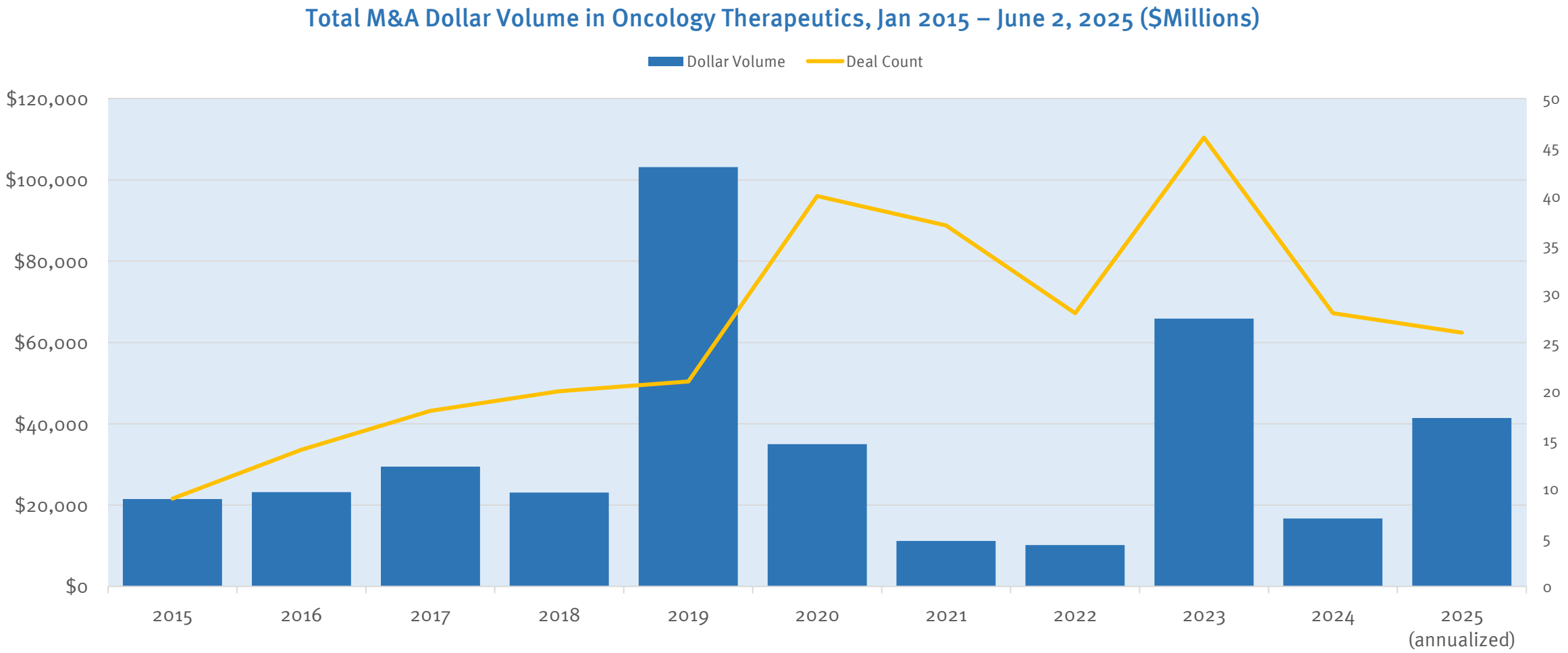
Company	Total Deal Count	Total Deal Spend (upfront $mm)	M&A Deal Count	M&A Total Spend Upfront ($mm)	Asset Purchase Count	Asset Purchase Total Spend Upfront ($mm)	Global Licensing Deal Count (upfront > $3mm only)	Licensing Total Spend Upfront ($mm)
Bristol-Myers Squibb	45	$110,118	12	$101,202	1	$0	32	$8,916
Pfizer	18	$75,447	4	$71,864	0	$0	14	$3,583
Gilead	22	$39,621	5	$37,134	0	$0	17	$2,487
AbbVie	12	$37,571	4	$36,489	0	$0	8	$1,082
Merck	26	$18,896	13	$10,485	0	$0	13	$8,411
AstraZeneca	25	$16,672	6	$8,193	1	$5,100	18	$3,379
Eli Lilly	16	$14,616	8	$14,120	0	$0	8	$496
Sanofi	21	$13,705	3	$11,932	0	$0	18	$1,773
Celgene	10	$12,441	4	$11,205	0	$0	6	$1,236
Novartis	21	$11,298	6	$10,483	0	$0	15	$815
GSK	12	$9,763	3	8398.12	0	$0	9	$1,365
Takeda	13	$7,163	3	$5,925	0	$0	10	$1,238
Roche	32	$5,236	5	$3,270	1	$42	26	$1,924
Amgen	7	$3,163	3	$3,008	0	$0	4	$155
J&J	14	$2,858	3	$2,075	0	$0	11	$783
Grand Total	**294**	**$378,568**	**82**	**$335,783**	**3**	**$5,142**	**209**	**$37,643**

Source: DealForma and Stifel Research.

Oncology Biopharma M&A Dealmaking Activity

Oncology M&A Activity Robust in 2025 Versus Past Years

Despite underlying political uncertainty, the pace of oncology M&A has been reasonable in 2025. This year is positioned to have the third highest volume since 2015. This has been aided by the fact that Blueprint Medicines has an oncology approval for its lead product.

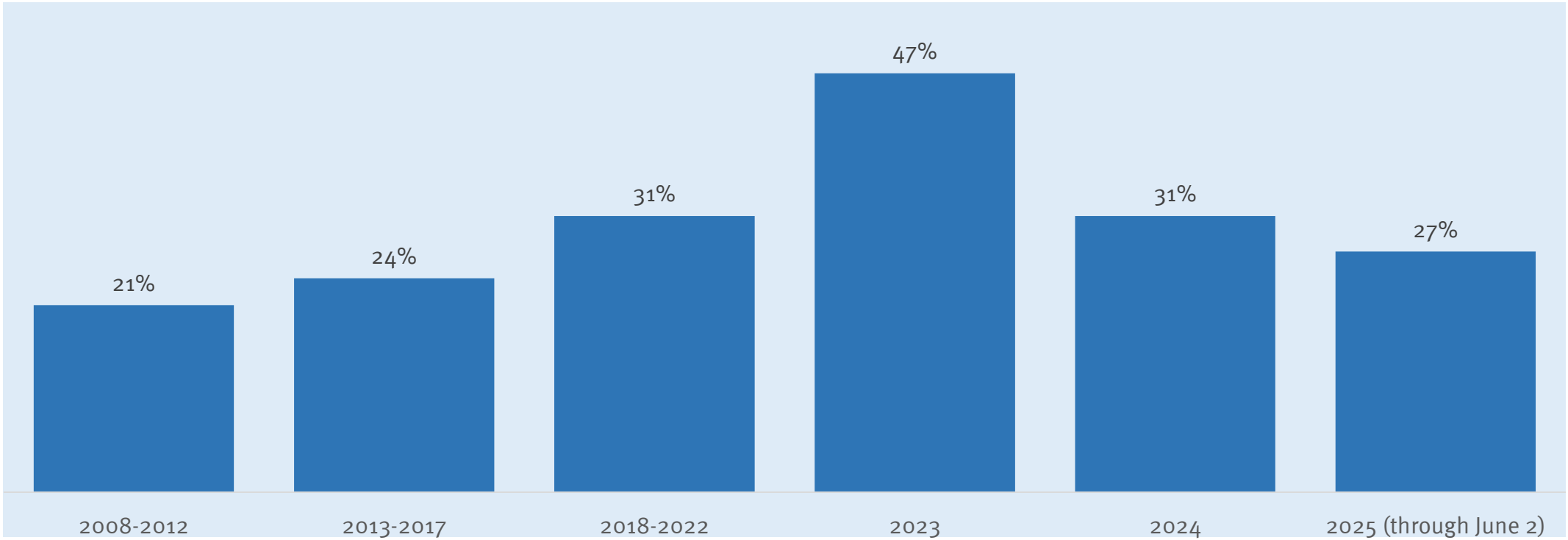


Source: DealForma and Stifel Research. We count cash and equity upfront payments as dollar volume and do not include contingent deal payments.

Oncology Volume as a Percent of Total M&A in 2025 Has Declined Over the Last Two Years

Twenty-seven percent of all therapeutics M&A dollars spent thus far in 2025 were for oncology targets. This is not out of line with previous periods. We saw the most spend for a year in 2023 when Seagen was done in an otherwise light year and the least done in the 2008 to 2012 period when oncology was less important as an overall part of the bioeconomy.

Dollar Volume of M&A by Therapeutic Area as a Percent of Total Volume, 2008 - 2025 YTD

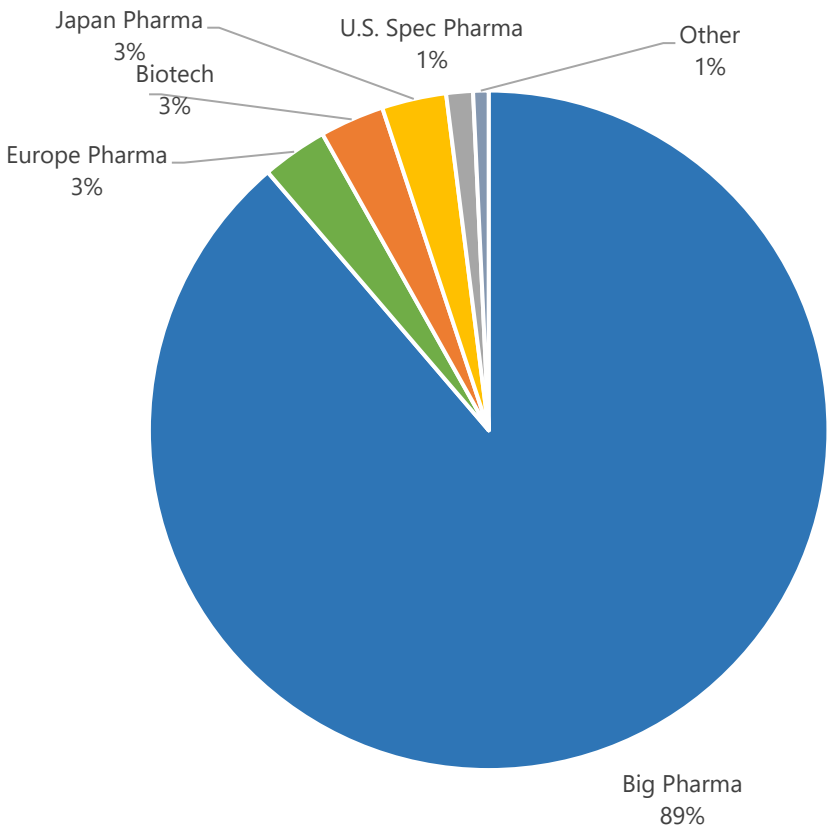


Source: DealForma and Stifel Research

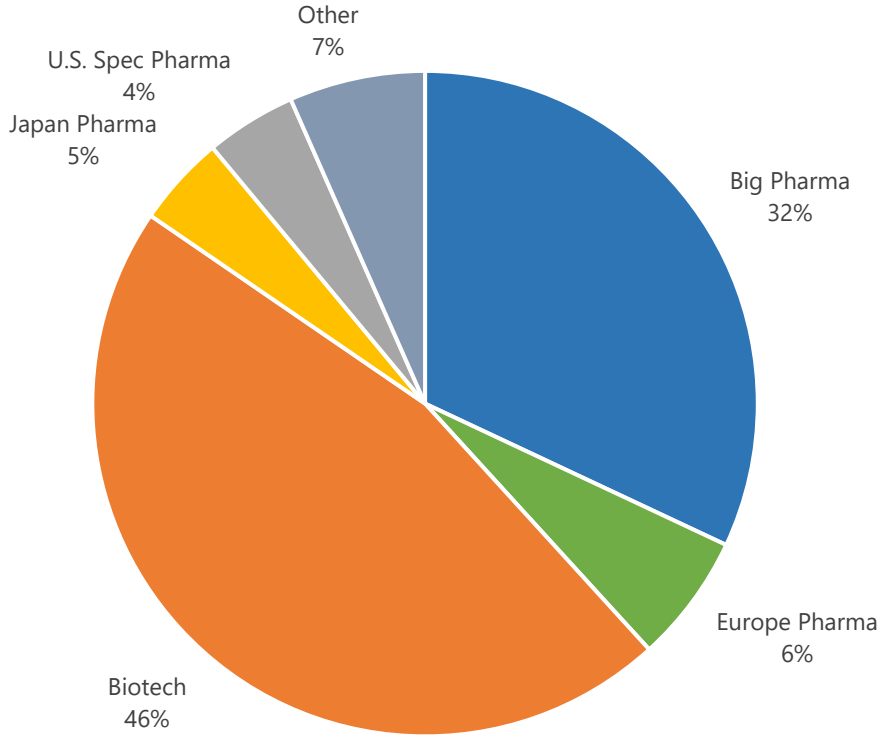
Who Are The M&A Buyers in Oncology?

From a dollar perspective, the buyers in oncology are big pharma (89% of dollars spent). But from a deal count perspective, smaller biotech companies comprise nearly half of the deals while big pharma account for roughly a third of the market.

Dollar Volume (upfronts) in Oncology M&A, Jan 1, 2015 to June 2, 2025 (by Buyer Type)



Distribution of Dollar Count in Oncology M&A by Buyer Type, Jan 1, 2015 to June 2, 2024

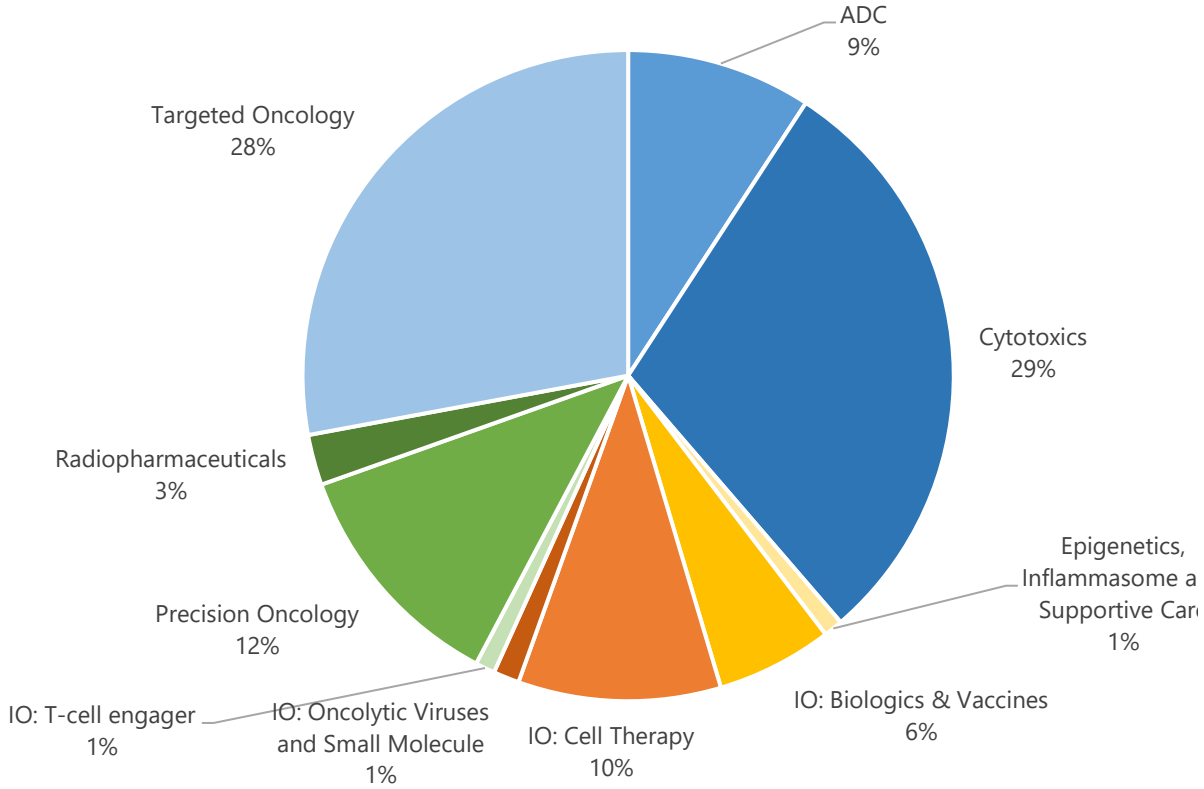


Source: DealForma and Stifel Research

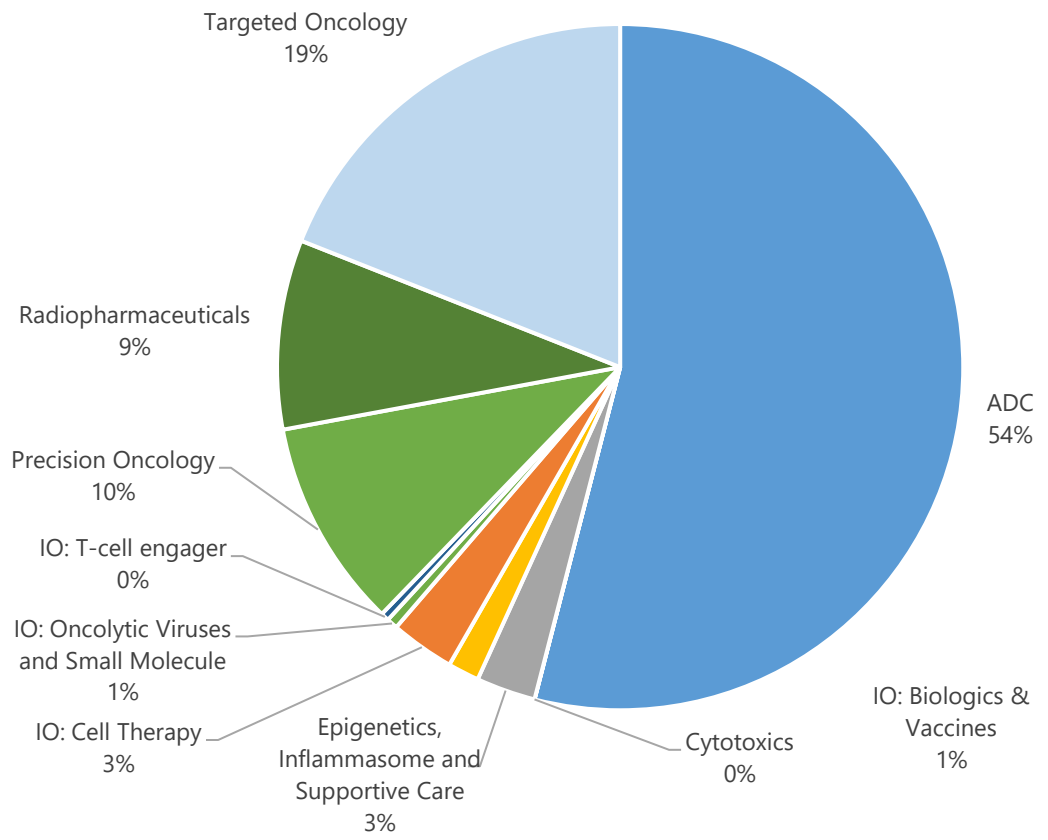
M&A Interest Has Shifted Towards ADCs and Radiopharma

M&A interests have shifted dramatically in the last three years – away from cytotoxics and targeted oncology and towards ADC's and radiopharma. Interest in targeted oncology and precision oncology remains robust.

Oncology M&A Deal Activity Stratified by Mode of Action of Target Firm's Lead Drug ($ billions) 2015 to 2022

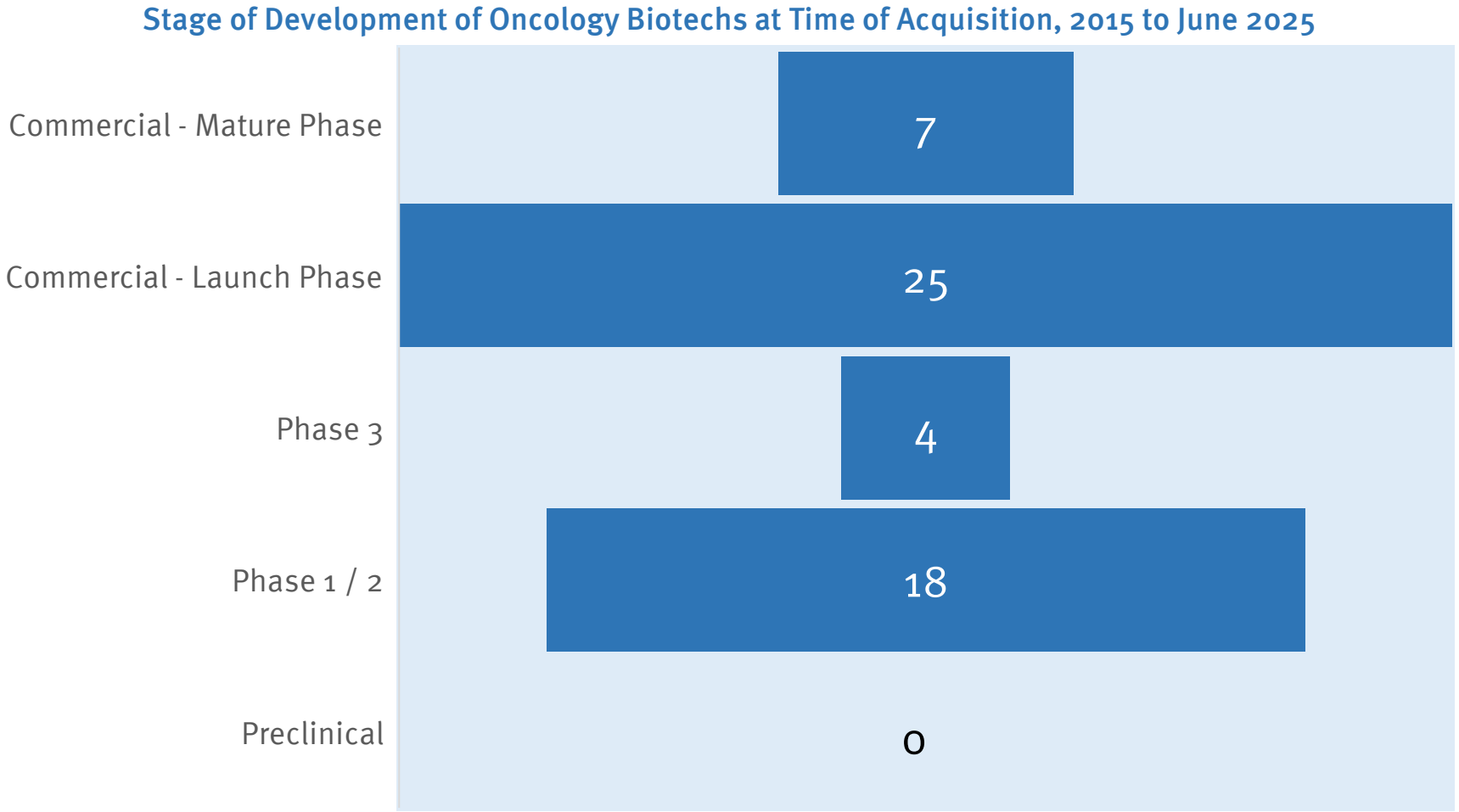


Oncology M&A Deal Activity Stratified by Mode of Action of Target Firm's Lead Drug ($ billions), Jan 1, 2023 to Jun 2, 2025



Source: Stifel oncology transaction database and DealForma. We count upfront cash and equity payments as dollar volume.

Public Oncology Biotechs Get Bought Most in Commercial Launch Phase or in Phase 1 / 2 Stage

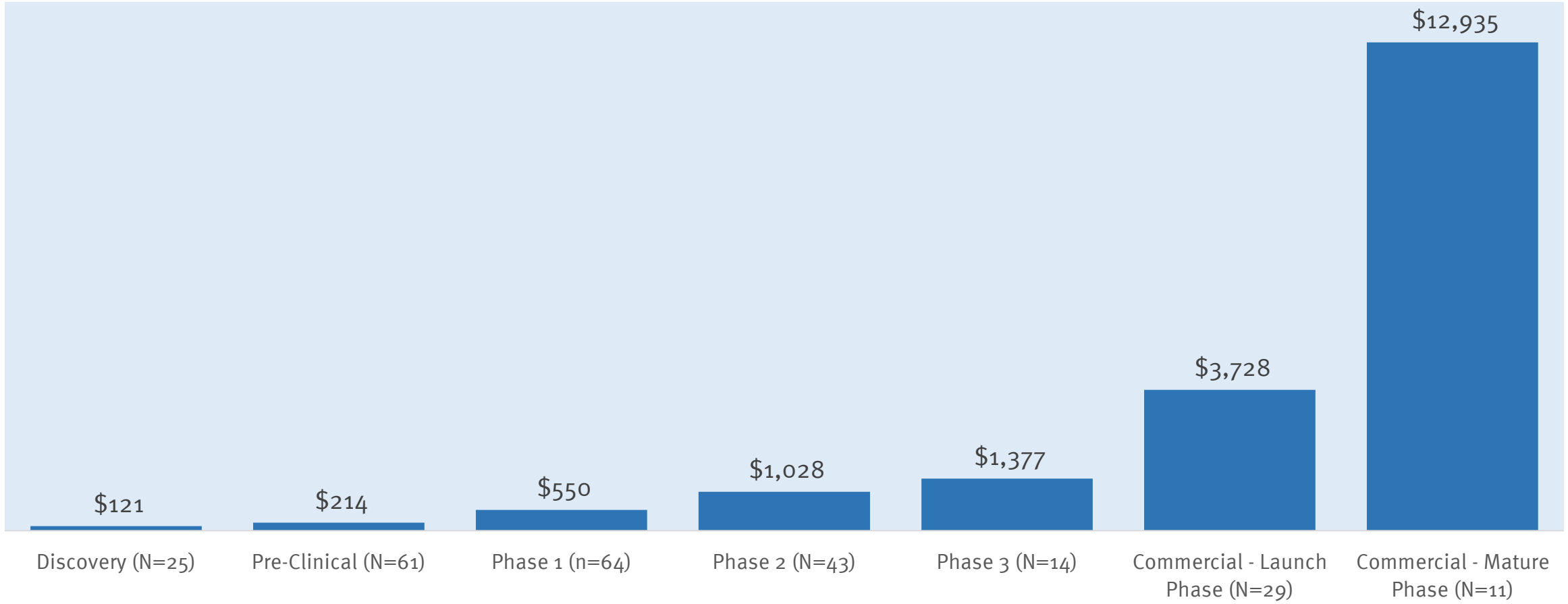


There are two types of biotechs that appeal to pharma buyers: (1) companies that have generated or are likely to generate a strong signal in early clinical development and (2) those that have gotten an FDA approval for a product with high commercial potential. We record no cases of preclinical public oncology biotechs that have been bought since 2015.

Average M&A Payments by Stage of Development

The average payment rises exponentially as drug candidates approach commercialization. There is a huge payoff for sellers to allowing their drug candidates to be de-risked and mature.

Average Oncology M&A Upfront Payment by Last Completed Stage of Development, 2015 to mid-2025 ($mm)

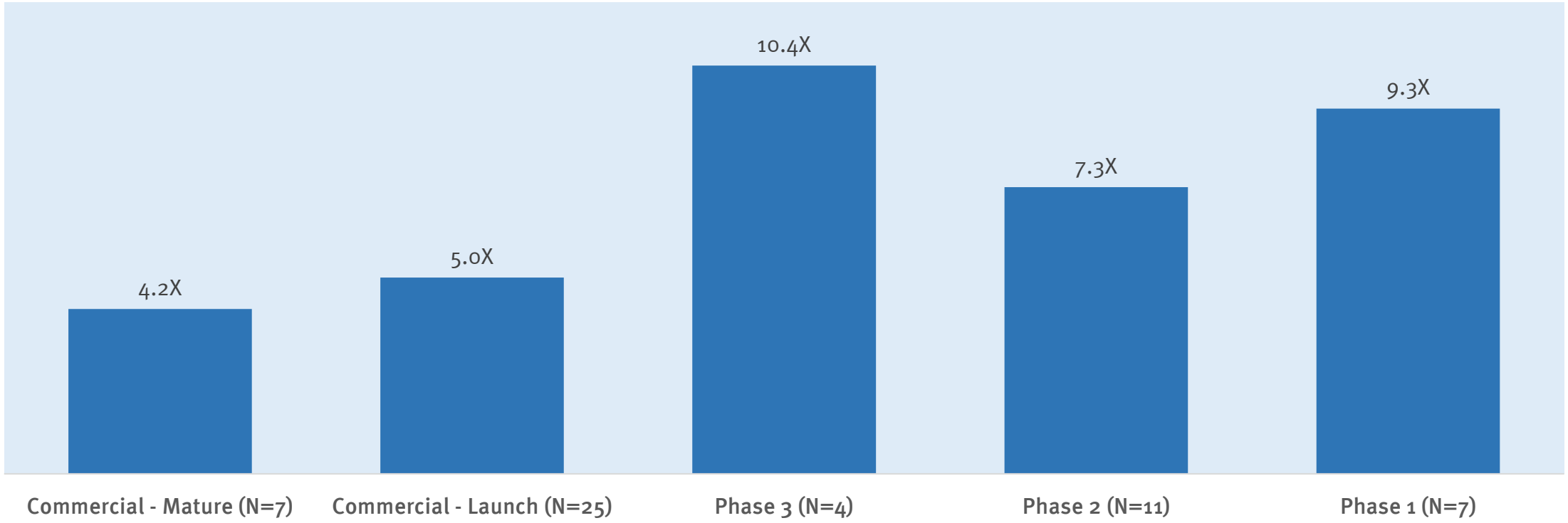


Notes: Data sourced from DealForma and Stifel oncology transaction database. Phases of development are *completed* stages of development rather than those which are ongoing.

Average Forward Revenue Multiple by Stage of Development in Oncology M&A

As companies go up the revenue curve the forward multiples paid for assets go down. Clinical stage assets are, to a significant degree, being bought at relatively high multiples versus potential revenue. It's striking that Phase 3 programs tend to draw the highest prices in the clinical sphere.

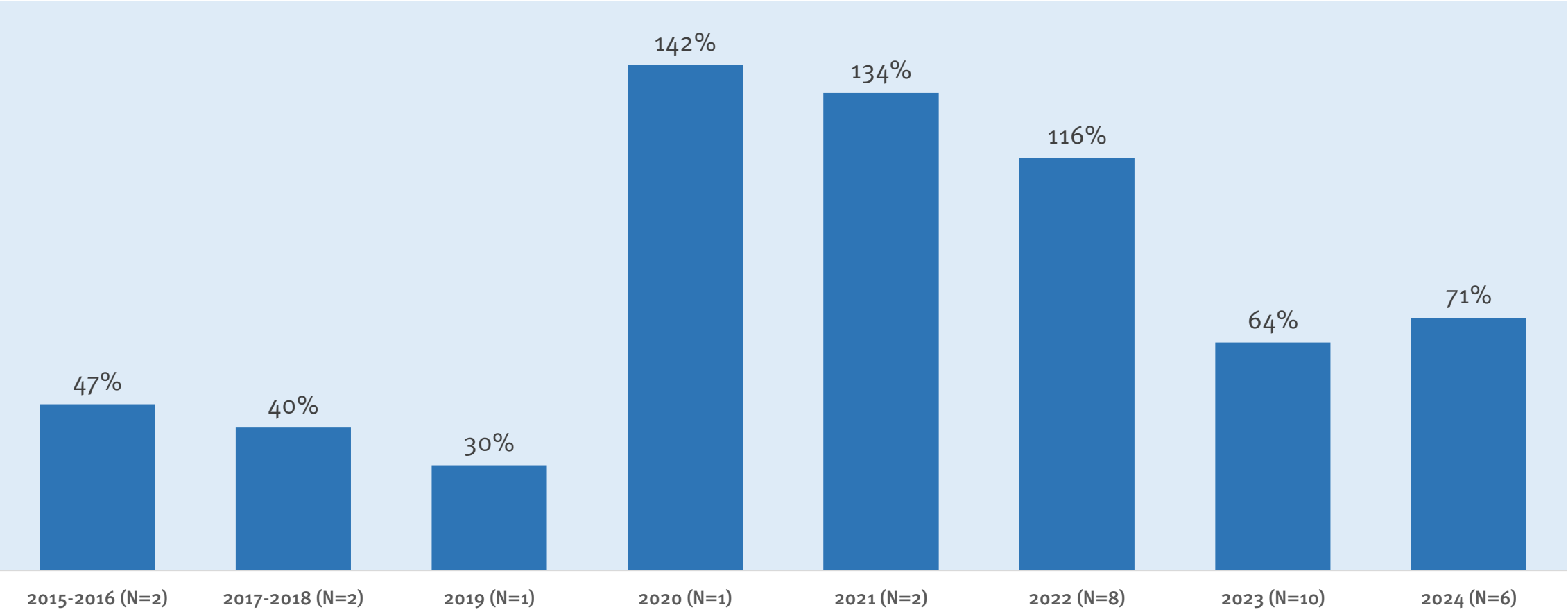
Average Multiple of Revenue Enterprise Value Paid for Target Versus Revenue Forecast in Five Years, by Development Stage Underway at the Time of Deal, Public Oncology M&A Deals, 2015 to June 2025



Source: Stifel oncology transaction database. Revenue estimates are based on consensus analyst estimates of revenue three or five years out from acquisition announcement. These estimates are sourced either from CapitalIQ, merger proxies or analyst reports from the time that are themselves sourced from CapitalIQ.

Control Premia Paid on Public Oncology M&A Have Dropped Since Market Recovery in 2023 …

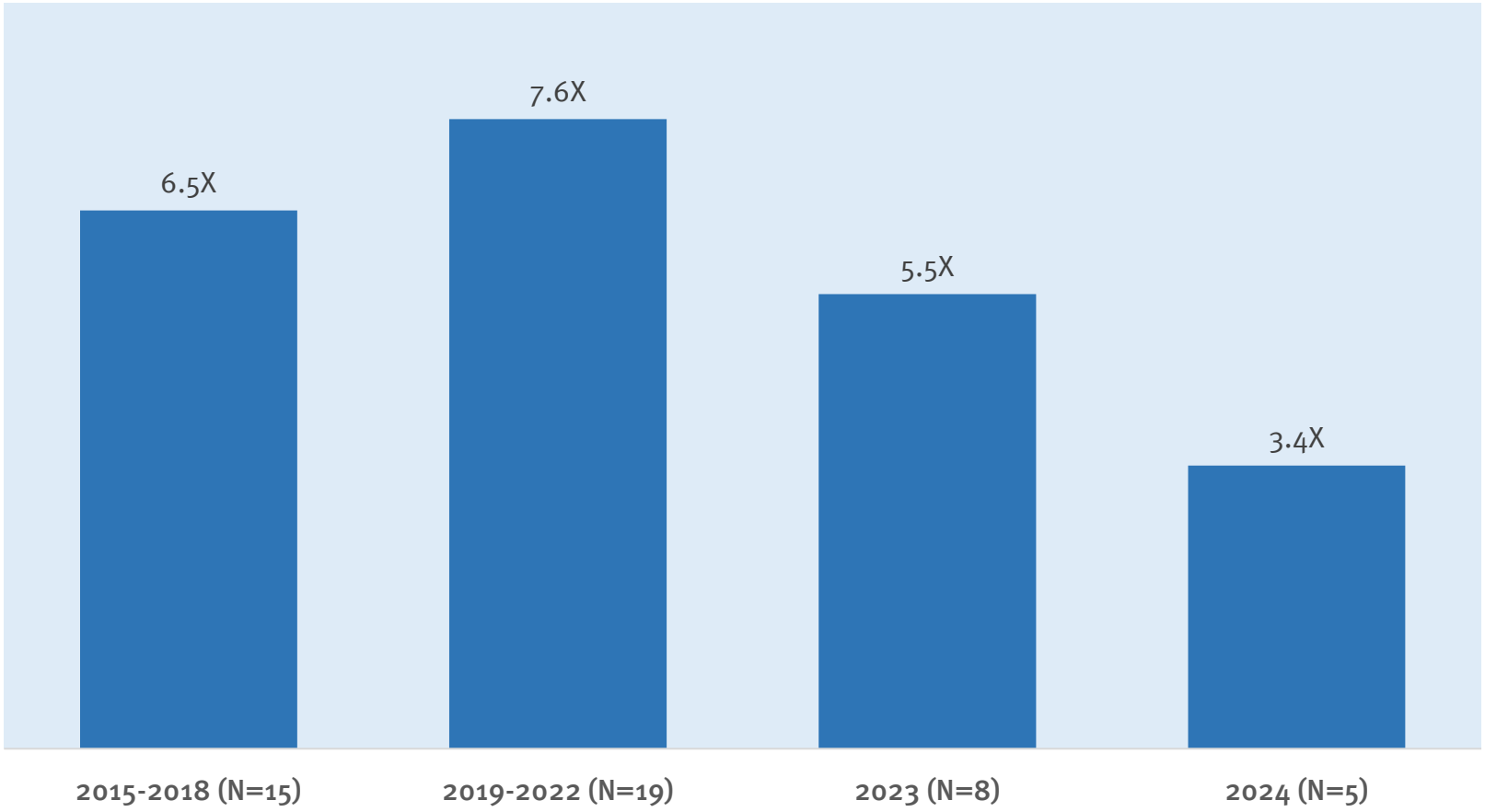
Average Control Premium (day after announcement compared to value at close day before deal announcement)
Public Oncology M&A Deals, 2015 to 2024



Source: Stifel oncology transaction database, DealForma and S&P CapIQ.

. . . While Forward Revenue Multiples on Oncology M&A Deals Have Declined Since 2022

Average Multiple of Revenue Enterprise Value Paid for Target Versus Revenue Forecast in Five Years, Public Oncology M&A Deals, 2015 to 2024



There is a clear pattern in the data on oncology M&A.

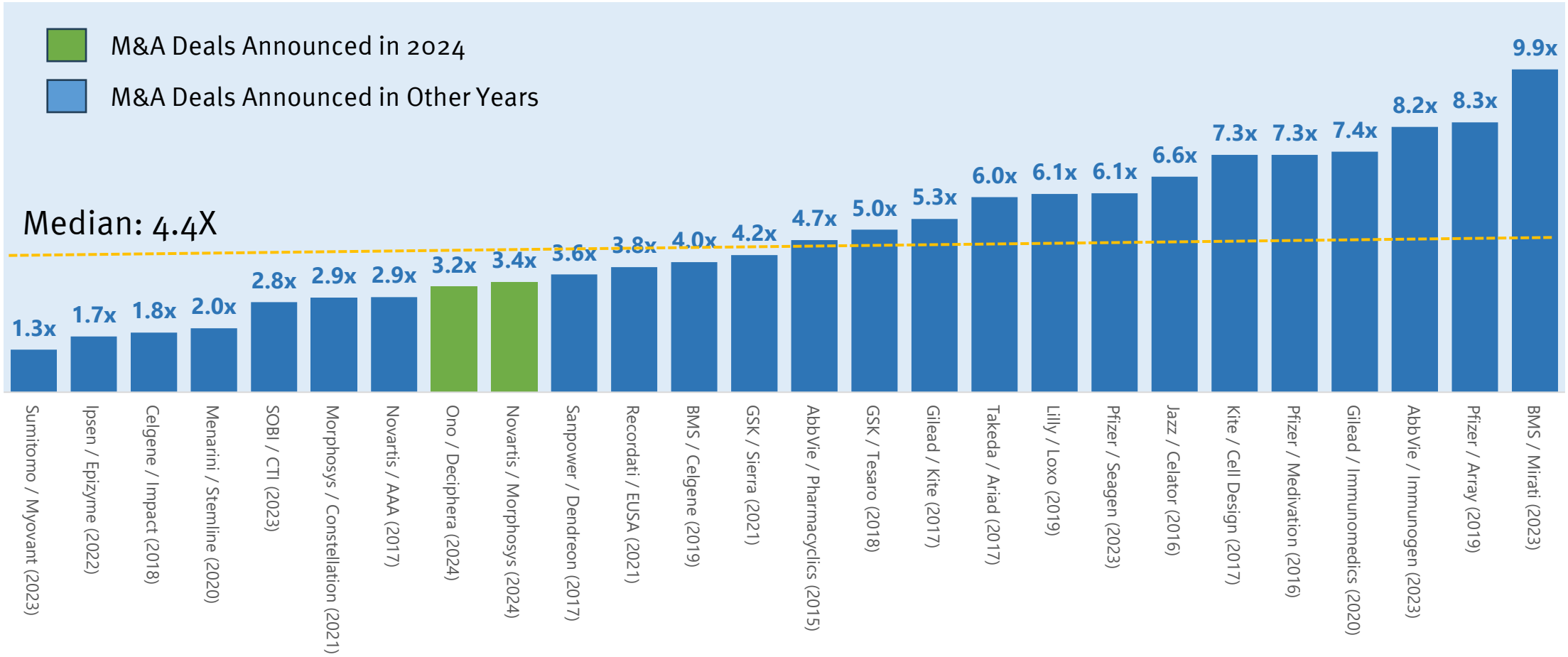
Oncology M&A deals are getting done at lower fundamental values (assuming EV multiple to five-year forward expected revenue is a reasonable proxy for fundamental value).

We think this is a reflection of several factors: (1) prices have come down substantially since the Pandemic and (2) after passage of the IRA, buyers are simply not willing to pay as much for assets.

Source: Stifel oncology transaction database and S&P CapIQ.

Commercial Stage Deals Done in 2024 Have Been at Below Median Forward Revenue Multiples

Enterprise Value / Revenue Estimate Five Years Later on Commercial Stage Oncology M&A Deals with a Public Target, 2017 to 2023



Source: Stifel oncology transaction database and S&P CapIQ.

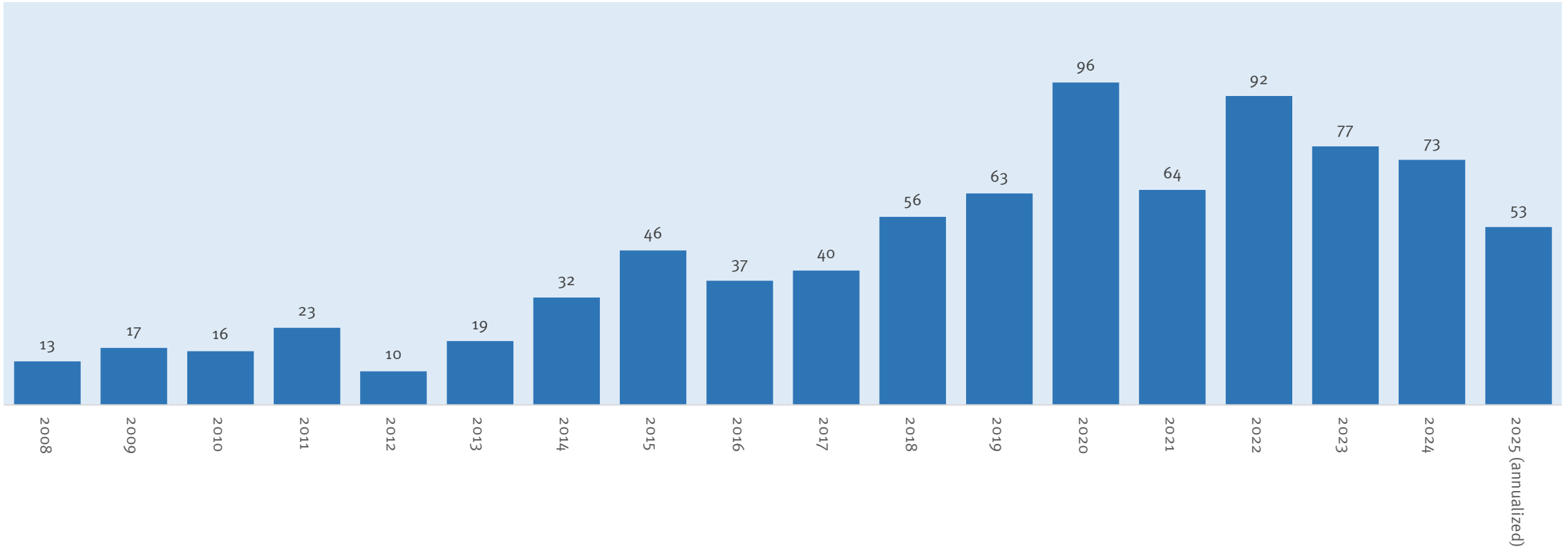
Global Licensing Activity in Oncology

Oncology Global License Deal Count Up in 2025…

The total number of oncology licensing deals in the first half of 2025 (annualized) is down substantially from the peak year of 2020.

Oncology Licensing Deal Count by Year, 2008-2025 (annualized)

(Transactions with $3mm or more upfront)



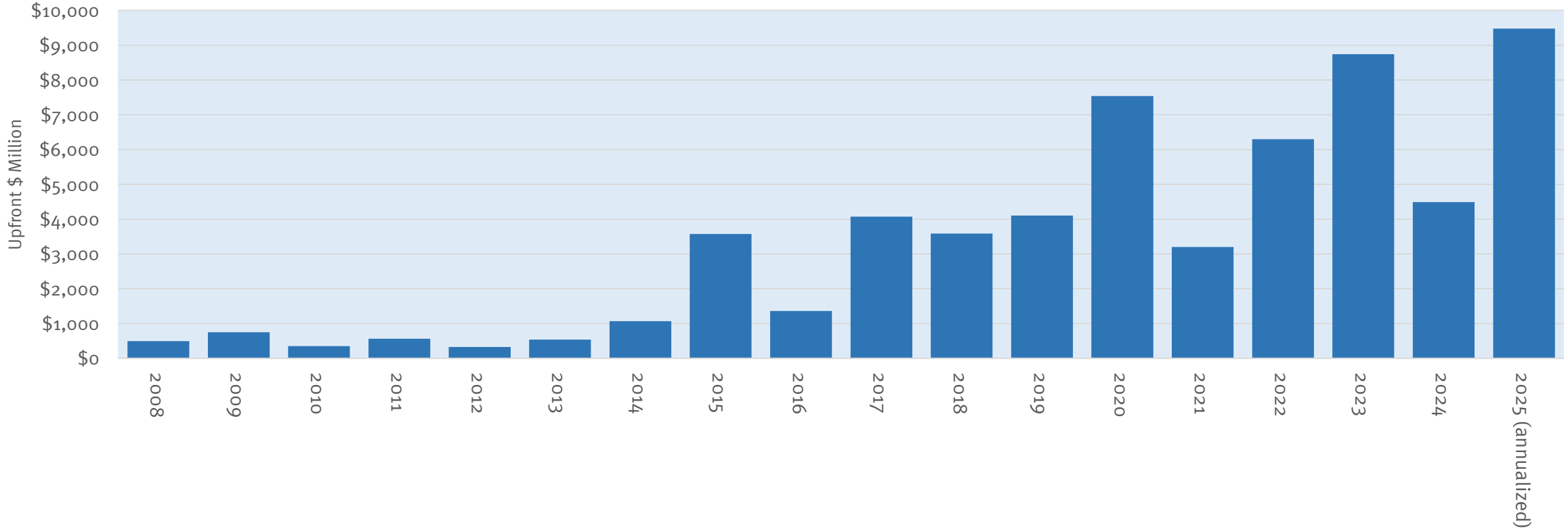
Source: DealForma

…But Dollar Volume is at a Record Level Pace in 2025

With multiple deals for $500mm upfront in 2025 we are on a pace to shatter the previous dollar record for upfronts in oncology deals. In many ways the oncology licensing market is starting to become comparable to the M&A market.

Total Upfront Cash in Oncology License Deals by Year, 2008 to 2025

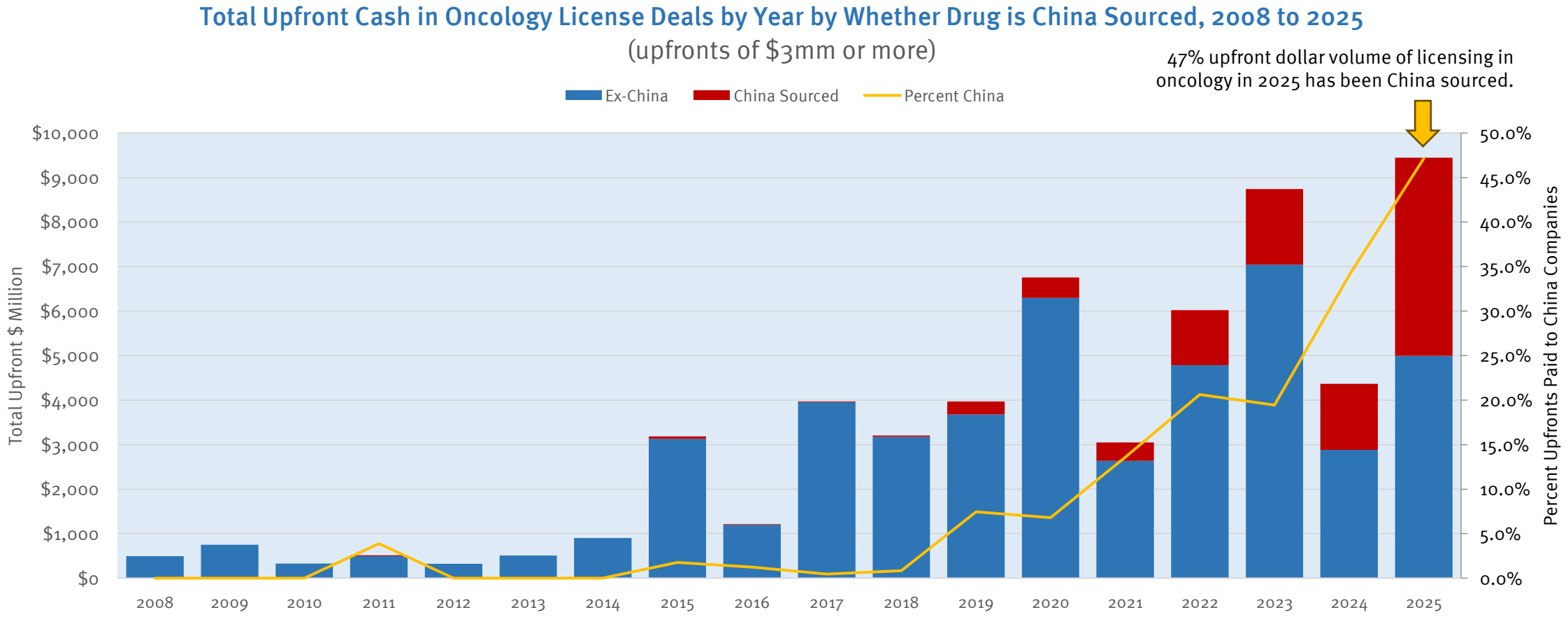
(annualized for 2025 as of June 2, 2025, upfronts of $3mm or more)



Source: DealForma

China Sourced Assets Soaking Up 47% of Upfront Dollars in Licensing Deals So Far in 2025

With large upfronts for oncology assets paid this year to 3SBio, Innovent and Harbour, China is having a great year, garnering roughly half of all upfronts paid in cancer drugs. No past year has been close in terms of the relevance of China assets.

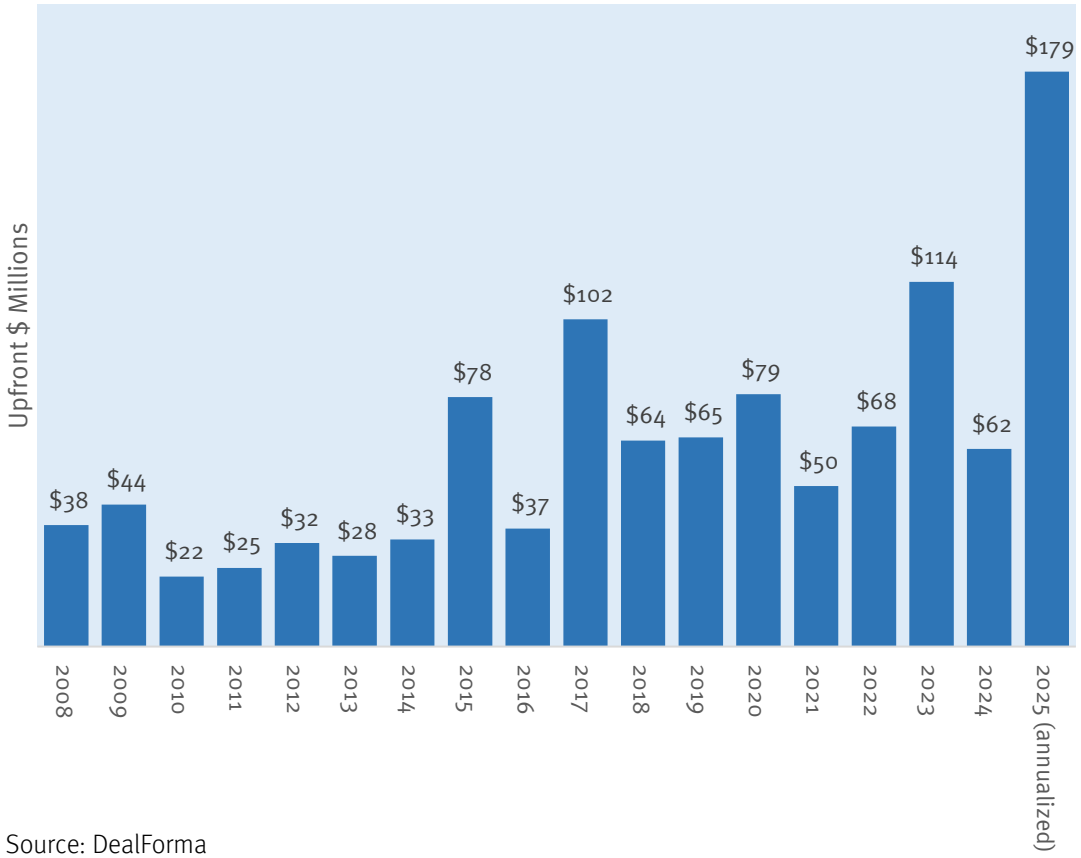


Source: DealForma

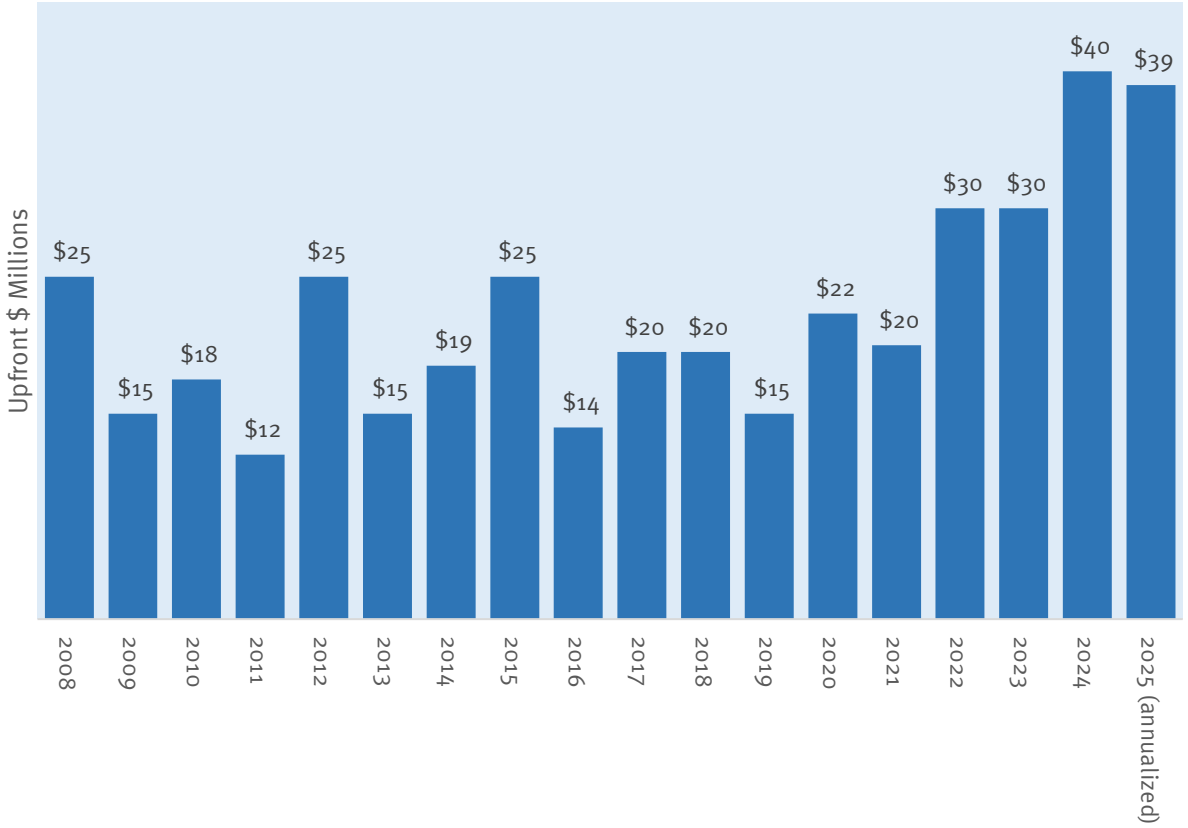
Average and Median Licensing Upfronts Have Been Rising

Average upfronts paid (even after being annualized) are higher in 2024/2025 than in most past years.

Average Upfront Cash in Oncology License Deals by Year, 2008 to 2025
(upfronts of $3mm or more)



Median Upfront Cash in Oncology License Deals by Year, 2008 to 2025
(upfronts of $3mm or more)



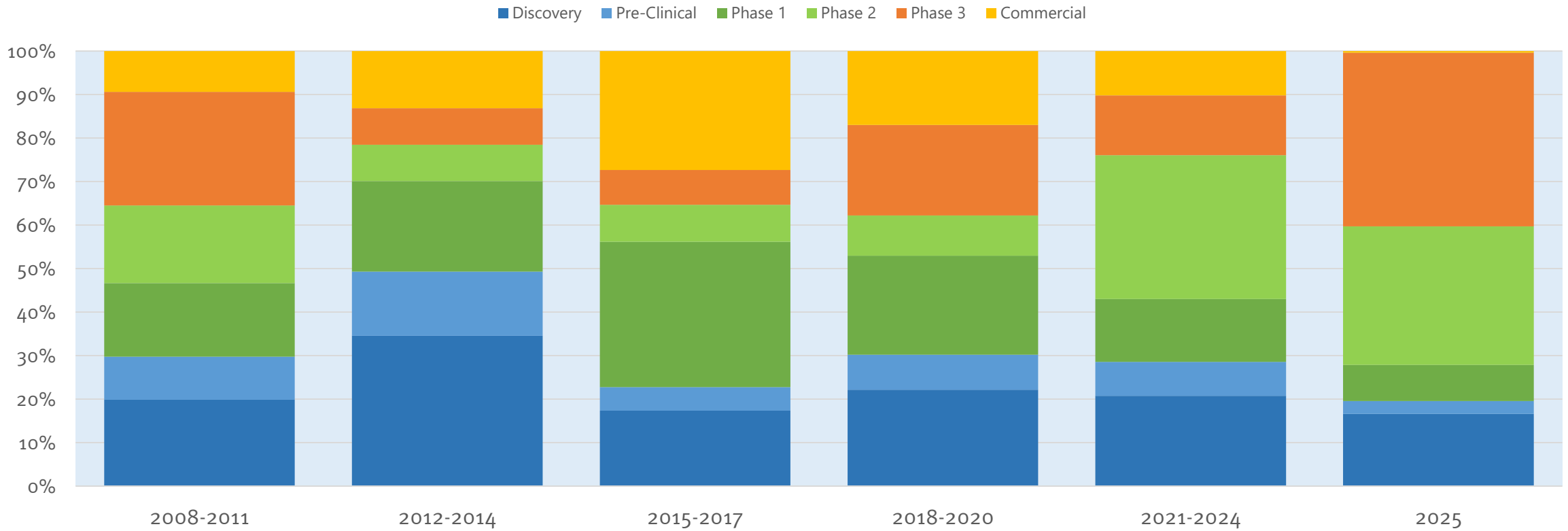
Source: DealForma

More Early Deals in the 2008 to 2015 Time Period. In 2025 we are Seeing More Dollars Spent at Phase 2 and Phase 3 Stages.

The total dollar volume (by upfront payments) of oncology licensing deals in the Phase 2 and Phase 3 stage has risen on a relative basis in the last two years.

Distribution Oncology License Upfront Payments Dollar Volume by Stage of Development, 2008-2025

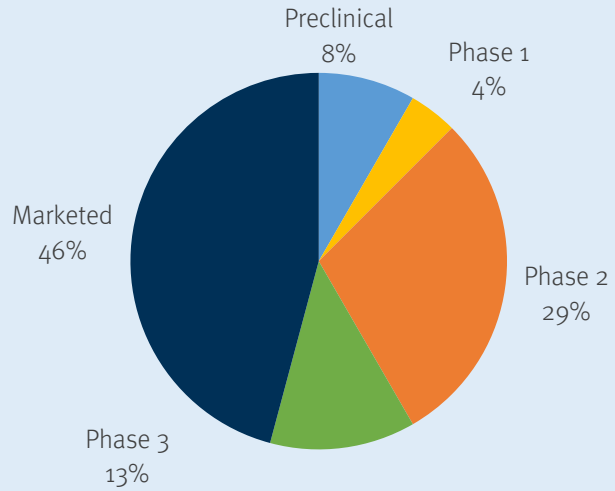
(Transactions with $3mm or more upfront, through Jun 2, 2025)



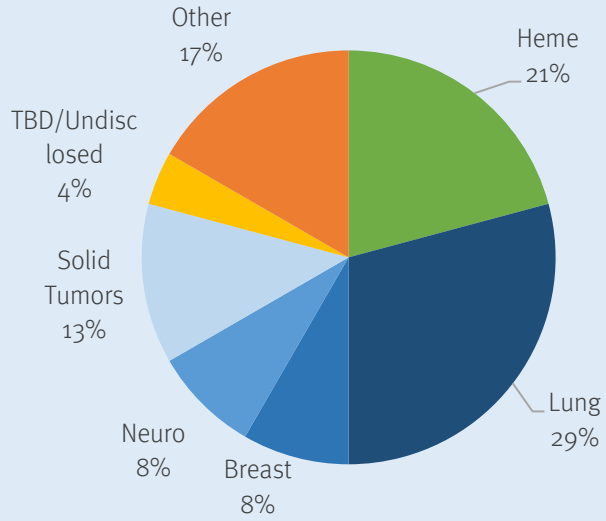
Source: DealForma

Characteristics of 2024/2025 Oncology License Deals (N=24)

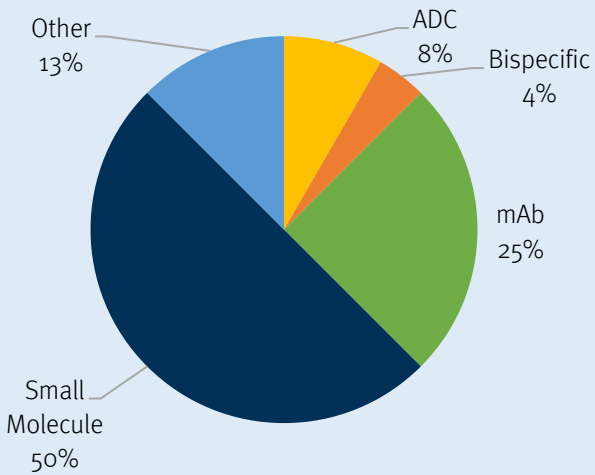
Deals by Stage of Development by Deal Count



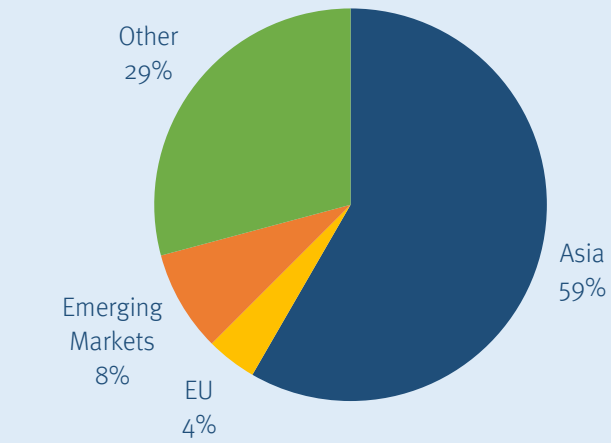
Deals by Cancer Type by Deal Count



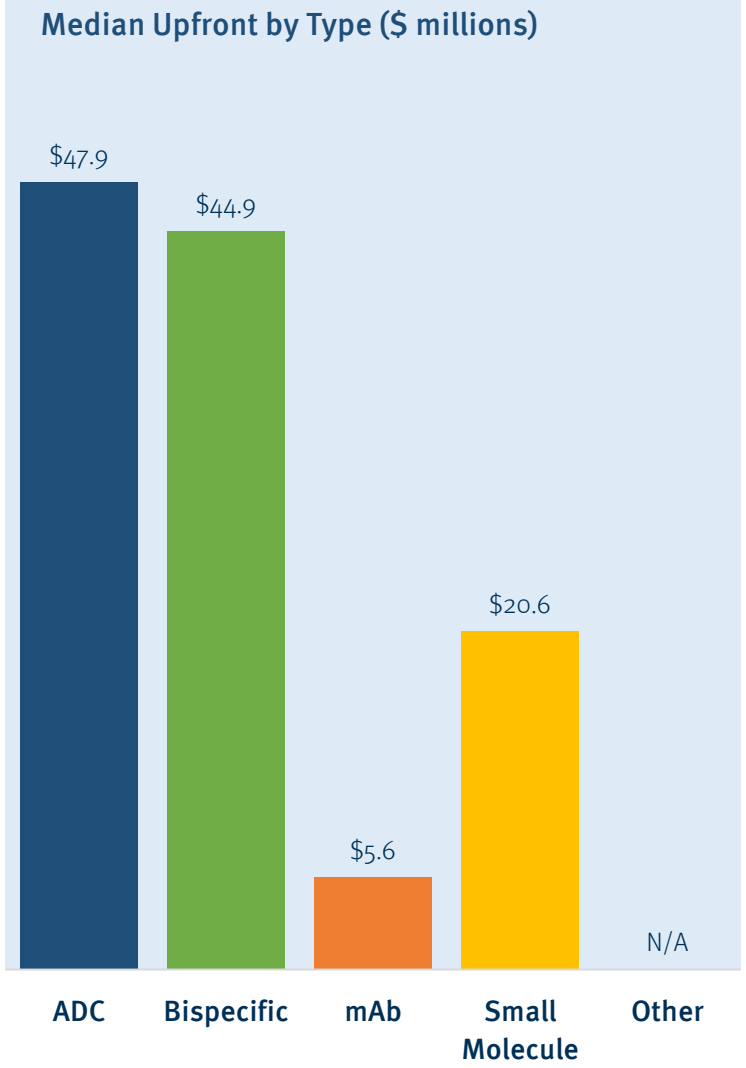
Deals by Modality by Deal Count



Deals by Licensor Region by Deal Count



Deal Terms by Asset Modality



Source: Evaluate Pharma, company press releases. Note: Excludes M&A transactions, licensing and collaboration deals involving global rights, US rights or ex-China/Asia rights, and deals with total consideration undisclosed.

What Pharma Buyers are Looking for in Oncology Deals

What Big Pharma Buyers are Looking For in Oncology

1. We have met with over a dozen pharma buyers in oncology in recent months, with a number of visits at ASCO.
2. The interest is highest in mid and late-stage assets in tumors where there is an unmet need, particularly, lung, breast, CRC and liver.
3. Buyers are looking for efficacy in late-stage assets that would differentiate from the standard of care.
4. We would describe many buyers that we visited with as focused on tumor franchise strategies. We have X drug in Y cancer type and need to find the next drugs that will work with it for Y cancer type.
5. Good progress continues in cancer types such as SCLC (with the B7H3 ADC class), ovarian cancer (with the FOLRα ADC class) and pancreatic cancer (with the PARP, ATR, WEE1 and pan-KRAS classes).
6. This progress has motivated many pharma companies to search for complementary drugs to these emerging classes.
7. This was the most common type of strategic conversation we had.

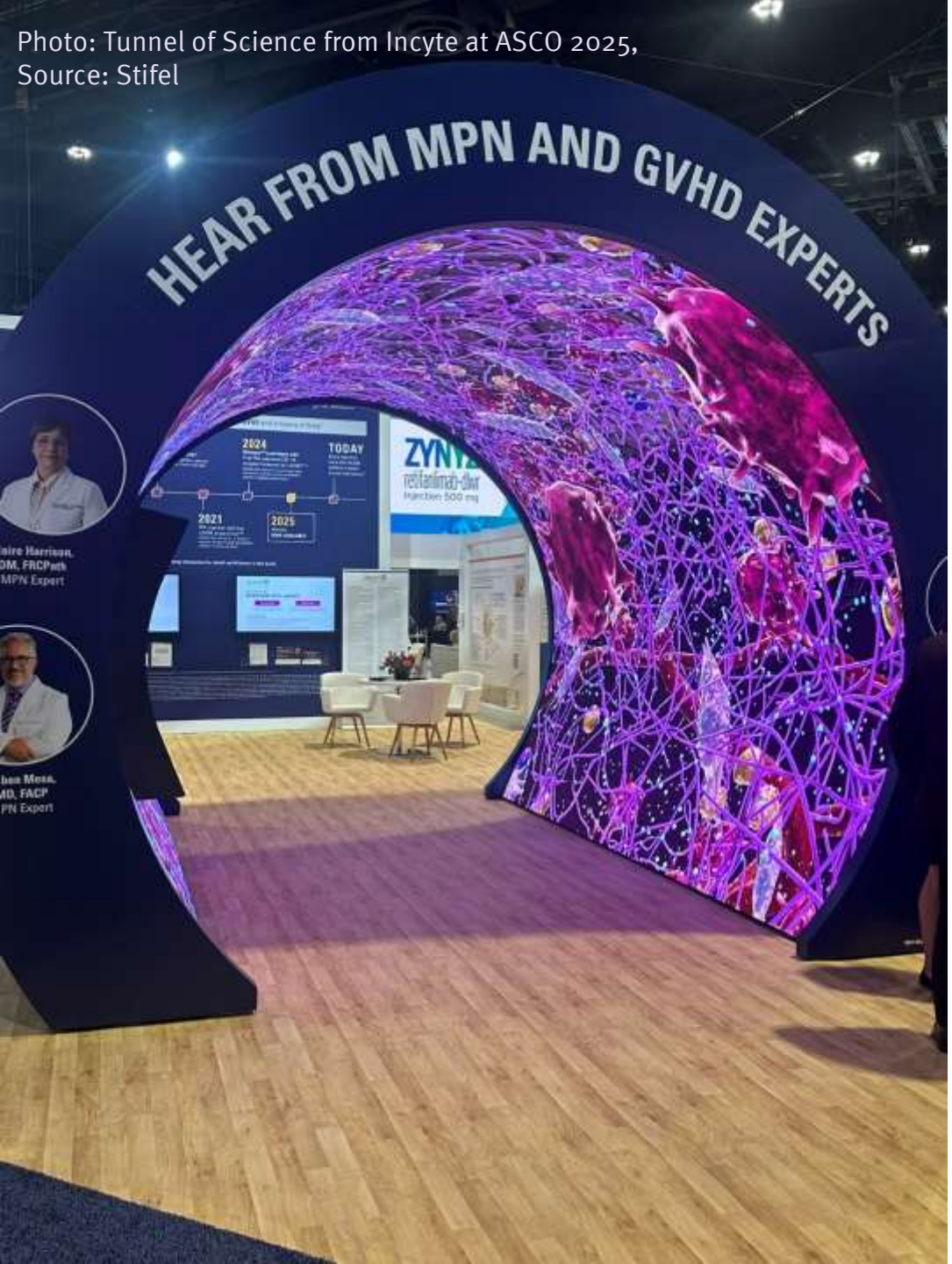


Photo: Tunnel of Science from Incyte at ASCO 2025, Source: Stifel

What Big Pharma Buyers are Looking For in Oncology (cont)

8. Pharma sees most biotechs as focused on tumor types that don't serve enough patients. It's notable that there was only one bidder, for example, for Springworks Therapeutics.

9. There continues to be high interest in the very best assets in development. Companies that were mentioned quite a bit as aspirational targets include Nuvalent and Revolution Medicines.

10. Many buyers were budget minded. Companies are more focused on EPS capacity and cost now than we remember before.

11. When we asked buyers about tariff concerns or paralysis due to policy uncertainty, we heard some hesitance linked to this, but it was also clear that most buyers are open to buy assets that fit them strategically and wouldn't be afraid to "shoot the puck" if they saw the right opportunity.

12. Universally, buyers we saw had teams in China looking for assets or had been themselves to China looking at assets. Previous hesitancy about the quality of China assets seems to have largely dissipated.

13. A minority of companies are interested mainly in high science approaches that are pre-clinical. There is particular interest in novel targets for ADC's and engagers.

Photo: BMS “grand medical library” at ASCO 2025, Source: Stifel

What Big Pharma Buyers are Looking For in Oncology (cont)

14. Interest in radiopharma remains really high. Buyers talked about the scarcity of manufacturing, interest in copper/lead platforms and a relentless search for novel radio targets.

15. There remains serious interest in targeted oncology stories. Most frequently mentioned targets were KRAS isoforms, CDK selective isoforms (particularly CDK2) and cMYC. There is a lot going on in stealth right now in MYC – an area of perennial interest.

16. We probed with many buyers about their appetite for cell therapy products. We found little interest in this area. Cell therapy deals have been part of the landscape for the last year and will likely continue but only at a modest pace.

17. In terms of modality, there remains a strong preference for antibodies, ADCs and T-cell engagers. We would order interest here in order as ADC’s, TCE’s and antibodies third.

18. In ADC’s far more discernment over payloads and linkers rather than just new targets. Multiple groups inquired about new payload areas beyond TOPO1 and MMAE.

ASCO: The Lighter Side

One can well imagine that after a day of watching sessions and walking the floor that attendees were looking for something a little beyond a stand on Opdivo®.

Connecting with ASCO Visitors: Let's Talk About What Really Matters

A typical day at ASCO involves listening to a host of presentations on serious topics like emerging therapies for HCC, viewing countless posters, connecting with investigators, running into friends, attending numerous receptions and feeling slightly overstimulated and exhausted.

It is well known that bodily stress can enhance foraging behavior of the organism. Further, exhaustion has an interesting way of directing the species to focus on caffeine seeking behavior. With this in mind, we were struck in the ASCO exhibit hall how many companies were offering free coffee.

In fact, long lines of visitors in front of cappuccino machines let us know visitors real interest through the long-held economist's theory of revealed preference. Far fewer people were going through things like the MPN tunnel or the exhibits on how dual HER2 targeting might work (see right).

We quickly realized that the marketing bloodsport playing out before our eyes at ASCO was much more about connecting with visitors on what they really wanted to engage on: comfort food.

Given this, we wanted to share a few thoughts on this topic with our patient and most loyal readers.

Specifically, we ask **who had the best food at the conference?**

Our Rating of the Conference Noshes

First Place: Labcorp's Bambolini Bar

This wasn't the ADA exhibit hall.

Labcorp *took the gloves off* and gets highest honors for their raspberry jam bambolini. Talk about a punch in the gut to the competition.

Even the most jaded ASCO attendee would be transported to the heavens after savoring one of these babies. We can only say "Wow"!

Conference Noshes (continued)

Second Place: Fresh Donuts from BMS

Bristol-Myers Squibb was taking no chances that visitors to their booth would miss the exhibit on Opdivo® and the power of ABECMA®.

The way it worked is you had to walk *past* the exhibits on these and other drugs. Then, *in the back*, they were passing out hot donuts – some with a mochi flair.

Let's just say that word got out on the exhibit floor that one might want to get over to the BMS booth. And quickly.

To complicate matters, somehow they kept coming up with fresh warm donuts during each day.

The smell in mid-afternoon caught the attention of more than a few conference-goers.

To be clear (for next year's competition) if they had used that injectable thingie that Labcorp had for the bambolini, BMS could easily have taken top honors.

Raspberry Glazed Donut from BMS Was Seriously Good

Conference Noshes (continued)

Third Place: PCF Spread

We had the distinct pleasure of attending the Prostate Cancer Foundation (PCF) dinner on Saturday evening at an elegant downtown venue. The evening featured engaging and insightful conversations with leading investigators and academic experts in the field of prostate cancer research. The culinary experience was exceptional—highlighted by a roast beef carving station with three flavorful sauces, a chilled seafood bar offering enormous gulf shrimp, and an antipasti spread rich with artisanal Italian meats. We also had the opportunity to speak with Howard Soule, head of the PCF, about the latest developments in prostate cancer therapies. He offered high praise for AstraZeneca's contributions, particularly the forthcoming Phase 3 data on capivasertib, and discussed the impressive success of Pluvicto® and the growing field of radiopharmaceuticals. Overall, the PCF dinner proved to be most memorable.

Conference Noshes (continued)

Not Competitive

We noted that many booths offered chocolate chip cookies. Also, ASCO itself offered some amazing take home gifts like an ASCO teddy bear. We saw *few takers* for the cookies and literally *no one* showing interest in the teddy bear, the scarves nor the lovely conference socks. Let's just say that things have gotten ever more competitive at ASCO and we would note that in today's highly competitive world of drug development there are going to be winners and losers. All important to bear in mind for next year's event.

After the bambolini, cold cookies weren't going to get it done.

Disclosure

STIFEL | Healthcare

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