Navigating the right deals in oncology

Recent oncology dealmaking trends provide insights on strategies for dealmaking in the current market.

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Oncology is by far the most important area for dealmaking in the biopharma industry. The value of cancer deals for which financial details were disclosed reached $73.1 billion in 2021 and $93.1 billion in 2022 (*Nat. Rev. Drug Discov.* **22**, 92–93; 2023). Here, we analyze the economics of disclosed partnering, licensing and acquisition deals in the oncology field from 2015 through 2022 (Box 1). The analysis provides pointers about the requirements to pursue a deal, the right timing, how to maximize deal value and how to adapt to the current challenging market.

Deal economics

Early dealmaking appears to be the norm in oncology nowadays, as 73% of non-acquisition deals from 2015 to 2022 involved preclinical ventures (Fig. 1).

Focusing on preclinical deals, for which sufficent data are available for analysis, the mean potential deal value of a preclinical acquisition ($359 million) was much lower than that for a preclinical licensing deal ($540 million) or partnering deal ($985 million) (Fig. 2). However, partnering or licensing deals were considerably more backloaded than acquisitions, as mean upfront payments for acquisitions ($130 million) were 2.5–4.2-fold higher. Biotechs and their backing investors likely prefer deals with upfront payments that provide good initial return on investments, rather than going for bigger deals that are mostly based on contingent milestone payments.

Indeed, based on our previously reported estimate for the invested capital in preclinical oncology ventures, an upfront payment of $130 million would return more than four times the typical invested capital (*Nat. Biotechnol.* **39**, 1048–1054; 2021).

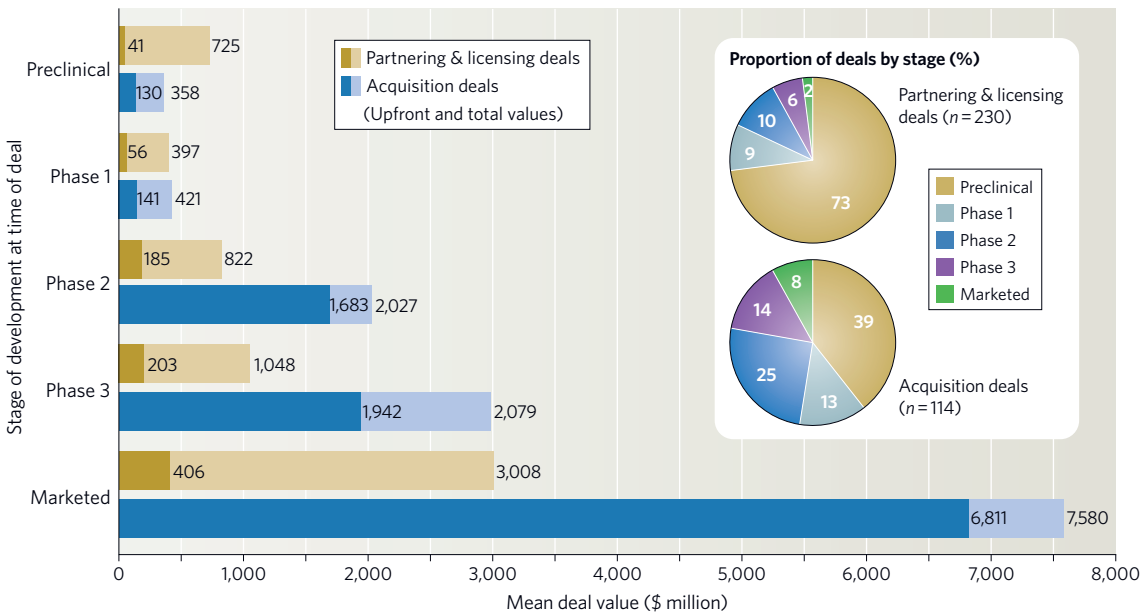

Fig. 1 | Trends in oncology deals: 2015–2022. Mean deal values by deal type and proportions of oncology deals by stage of development. See Box 1 for details of the dataset and analysis.

Box 1 | Data and analysis

A database was obtained from GlobalData, consisting of completed, 100% acquisitions and majority acquisitions (M/A), as well as licensing and partnering deals (L/P), in the oncology field between January 1, 2015, and December 31, 2022. A total of 521 M/A and 831 L/P deals were identified. Exclusion criteria were applied, which included deals with no reported values, companies with more than five therapy areas besides oncology, companies with no reported drug pipeline, and deals that were not globally applicable. As a result, 285 M/A and 508 L/P deals were excluded. The remaining 236 M/A and 323 L/P deals were curated using multiple sources, including the websites of the acquiring and acquired companies, HBM Partners, Crunchbase, the website of the US Securities and Exchange Commission, and Pitchbook. The primary source of information in cases of discrepancy was the company's press releases. Additional exclusion criteria were implemented to remove deals involving companies without a focus on oncology, companies involved in the development of generics, companies engaged in diagnostics development, and companies working on a platform technology with no clear focus on oncology. Ultimately, the final database consisted of 114 M/A and 230 L/P deals. Deal press releases were used to stratify deals other than full acquisitions into license deals (no contribution by the licensor) or partnering deals (cash and/or in-kind contribution by the partner).

Early exits are also preferred by most investors as their funds often have closed-end terms that are difficult to reconcile with long earn-out structures. Furthermore, early exits provide an early validation of a fund's performance, greatly facilitating the raise of a next fund.

In the acquisition deal dataset, only a small uptick in value (from $358 million to $421 million) was observed when oncology companies become clinical-stage (Fig. 1). The mean deal values of partnering or licensing deals occurring at phase 1 were even lower than those occurring at the preclinical stage, though the upfront payments were slightly higher. Contrary to the common belief, the data suggest that oncology ventures don't become a lot more valuable once they enter the clinic. Companies that are about to transition to the clinic should therefore raise financing that will bring the company to the next deal inflection point in phase 2, including the funding needed for at least phase 1b studies with cohorts large enough to draw conclusions on drug tolerability, preliminary efficacy and patient responder biomarkers.

Whilst 25% of the acquisitions for oncology ventures occurred at phase 2, which was the second largest portion after preclinical acquisitions (Fig. 1), only 10% of the partnering and licensing deals occurred at this stage. The mean deal values are $822 million with an upfront payment of $158 million for a partnering and licensing deal, and $2,027 million with an upfront payment of $1,783 million for an acquisition deal, respectively. The fierce competition among big pharma and biotech for oncology drugs and the high valuations of phase-2-stage companies presumably drives pharma to make earlier-stage deals—instead of buying one phase 2 company, a big pharma could acquire or partner with many more preclinical ventures, accepting that several of them may fail. Moreover, by engaging with these ventures early on, pharma companies can determine a program's direction and fund more clinical programs, improving the odds of success.

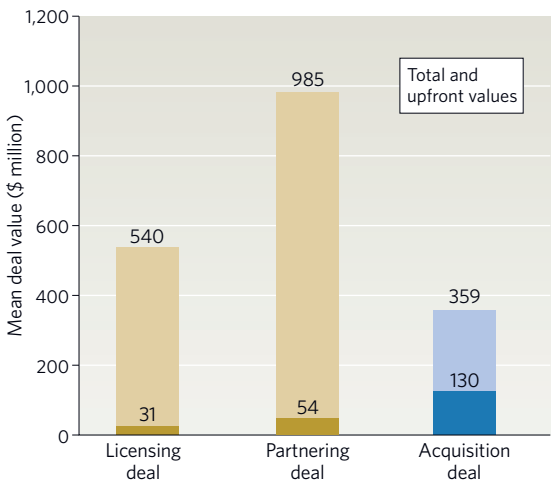

Fig. 2 | Economics of preclinical oncology deals in 2015–2022. See Box 1 for details of the dataset and analysis.

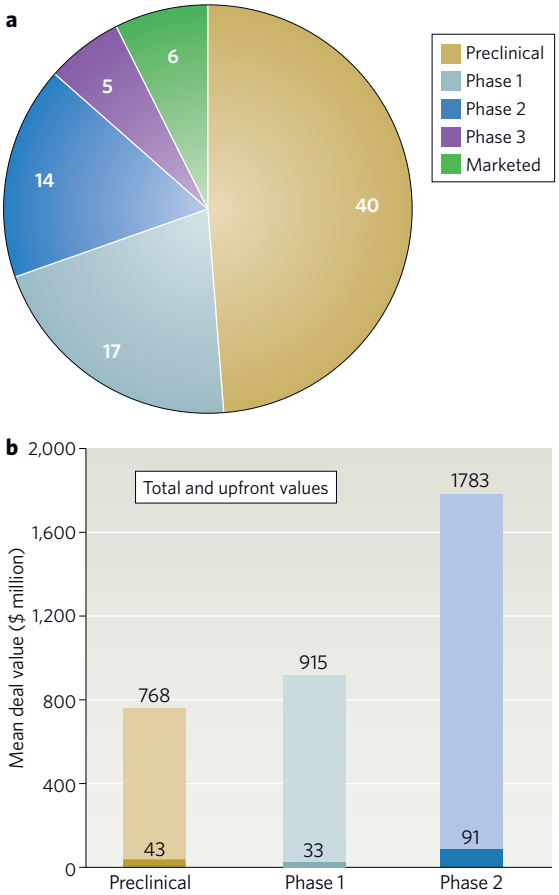

Fig. 3 | Development stage of platform companies involved in deals in 2015–2022. a, The data shown are from a subset of 82 deals in the overall dataset, segmented by the development stage of the most advanced program at the time of the deal. See Box 1 for details of the dataset and analysis. **b**, Deal economics of partnered or out-licensed preclinical asset/technology in relation to the development stage of the most advanced program of the platform company.

Platform trends

A common mantra is that platform companies can only do deals when their platforms are clinically de-risked. To investigate this, deals involving platform companies were filtered (82 deals) and the companies were stratified according to the development stage of their most advanced program. Though the sample size of this dataset was limited, no evidence was found for the necessity to clinically de-risk a platform technology. On the contrary, about half of the platform companies were still preclinical at the time of the deal (Fig. 3).

However, partners and licensors typically paid more than twice as much in deals with phase-2-stage platform companies. Industry likely recognizes that innovative platforms are needed for the

more challenging oncology targets, given that the ones accessible to conventional small-molecule and antibody therapeutics have often been mined already. Given the fierce competition in oncology nowadays, big pharma can no longer afford to sit on their hands waiting for the next-generation technology to be validated in the clinic. This means there is an opportunity for early-stage platform companies to bring a licensor or partner on board already early on, which in turn will help to attract venture funding.

Maximizing value

As discussed above, the mean value of a preclinical partnering deal is nearly three times as much as an acquisition deal, although most of the value is contingent payments. About 35% of milestones in biotech deals are typically achieved, so the risk-adjusted value of these deals is considerably lower (Geilinger, 2020). Nevertheless, the relative value of these partnering deal values is notable given that biotechs do not usually out-license or partner their most promising programs (assuming they have the funding to pursue them as desired), and that partners or licensors only receive the commercial rights to one or more programs, whereas acquirers become the owner of a company's entire asset and intellectual property (IP) portfolio.

Together, the data and these considerations suggest that early-stage companies do not always achieve the most value possible in acquisition deals. Investors such as Atlas have recognized this and developed a different business model for 24% of their portfolio companies, which is called the special purpose vehicle (SPV) or LLC holding company model (Keiper, 2016). In these types of company structures, there is a holding company that has the platform IP and separate subsidiaries (each an SPV) for individual programs that contain target-specific IP. This model is ideal for platform companies and has been successfully used by companies such as Nimbus, F-star and Teneobio.

SPVs can leverage the full economic potential of a platform, but also create tremendous flexibility. A company could progress an SPV to a bigger value inflection point when it has capital available to do so, or alternatively, seek a risk- and resource-sharing partnership to reap more of the commercial benefits. This makes sense when capital from the private and public markets is readily available. Conversely, in cases of economic downturns, like the bear market we are facing right now, a company can focus resources on its mission-critical SPVs and seek licensing or acquisition deals for non-core SPVs. Licensing deals provide the least value, but have the advantage that they do not consume a lot of capacity and resources, allowing a company to weather the storm with a core team. This is crucial in the biotech industry, where the long drug development journey means that companies that survive will be likely to face both bull and bear markets.

In summary, the data show that early-stage dealmaking is the norm nowadays in oncology, meaning oncology ventures can create early optionality to move on to the next stage of business, even in difficult times.

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Competing interests

All authors are employed by or have an affiliation with Aglaia Oncology Funds, which invests in oncology start-ups. Oncopreneur provides consultancy and management services to oncology start-ups. Ernst Geutjes is also a venture partner at Aglaia Oncology Funds and chief business officer for Immagene and Genase therapeutics.