



Biopharma deals of 2019

2019 has seen a boom in high-value M&A and licensing deals, with oncology and rare diseases as prominent themes.

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BioPharma Dealmakers

With the announcement of a mega-merger in January—Bristol-Myers Squibb (BMS)'s \$74 billion acquisition of Celgene—2019 was set early on to be a big year for dealmaking. Licensing deals were also plentiful, with the top 10 licensing deals in 9 months of 2019 having a total disclosed deal value of \$34 billion, an increase of 10% from the \$31 billion in the corresponding period in 2018. In this feature, we highlight some of the major mergers and acquisitions (M&As) and licensing deals in 2019, with the help of data and analysis from Clarivate Analytics (see Box 1).

M&As make their mark

The \$74 billion acquisition of Celgene by BMS is the top deal of any type in 2019 (Fig. 1) and one of the largest ever. The merger brought together BMS's extensive immuno-oncology (IO) pipeline with Celgene's blood cancer portfolio—which includes potential chimeric antigen receptor (CAR)-T cell therapies gained in Celgene's \$9 billion purchase of Juno in 2018—to create a new major force in the oncology area.

January also saw the announcement of another oncology-focused M&A: Eli Lilly's \$8 billion takeover of Loxo Oncology, a pioneer in the development of cancer drugs for tissue-agnostic indications. The acquisition provided Eli Lilly with a number of investigational

candidates, including selpercatinib, which has since shown promise in a trial involving patients who have rare *RET* fusion mutations.

Another high-value M&A focused on oncology was Pfizer's acquisition of Array Biopharma for more than \$11 billion, announced in June. Through the deal, Pfizer is gaining Array's small-molecule drug portfolio, including the BRAF kinase inhibitor Braftovi (encorafenib) and the MEK inhibitor Mektovi (binimetinib), which are approved for use in combination for the treatment of *BRAF*-mutant melanoma and have recently generated promising clinical data in *BRAF*-mutant colorectal cancer.

Also in June, AbbVie announced the second largest M&A of the year, a \$63 billion acquisition of Allergan to create a company with a portfolio covering immunology, hematologic oncology, medical aesthetics, neuroscience, women's health, eye care and virology. Sales from products such as Allergan's Botox could help AbbVie plug revenue gaps as its mega-blockbuster Humira (adalimumab)—currently the world's best-selling drug with 2018 revenues of ~\$20 billion—begins to face competition from biosimilars.

Another notable M&A announced this year was Roche's proposed acquisition of Spark Therapeutics for \$4.3 billion in February. Spark Therapeutics developed the first in vivo gene therapy to be approved

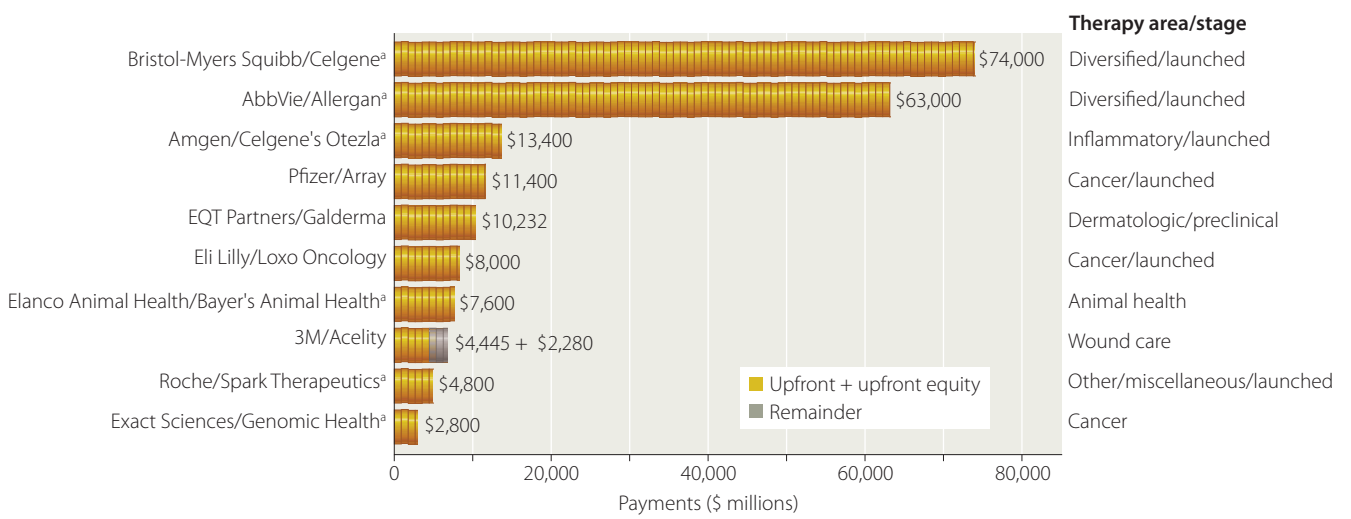


Fig. 1 | The top ten M&As in 2019 so far by value. 'Therapy area' is the main area that the asset is being developed for ('diversified' indicates a focus on two or more areas), and 'stage' is the highest stage of that asset at deal signing. Note: data were collected on 28 October 2019. The chart excludes the Pfizer/GlaxoSmithKline consumer healthcare joint venture, which closed in August 2019, because financial details were not disclosed. ^aDeals not completed.

by the US Food and Drug Administration—Luxturna (voretigene neparovec) for an inherited retinal disorder—and has a pipeline of gene therapies based on the adeno-associated virus (AAV) platform for inherited retinal disorders and other rare diseases such as hemophilia. However, concerns from the US Federal Trade Commission have delayed completion of the acquisition.

The third largest deal in Figure 1 was actually a product divestment, with Celgene selling Otezla (apremilast), an oral therapy for psoriasis, to Amgen for \$13.4 billion. Otezla, which was Celgene's third highest-selling drug in 2018, with sales of \$1.6 billion, was apparently sold in order to satisfy competition concerns related to the acquisition of Celgene by BMS, which is also developing oral drugs for psoriasis.

Two specialty deals also made it into the top 10 in Figure 1. 3M's \$6.7 billion purchase of Acelity—a private wound-care products company that had sales of \$1.5 billion in 2018—was the largest in the company's history. Finally, the divestiture of Nestle's skin-care business, Galderma, into a large, stand-alone dermatology company in a transaction valued at more than \$10 billion was announced in October 2019.

Licensing trends

The year also saw multiple high-value licensing deals. Seeking to diversify from its core antiviral disease franchise, Gilead was the most active company among those involved in the top 10 deals (Fig. 2), acting as the buyer in three deals with different companies that have a total projected value of \$10.9 billion, representing 32% of the overall value of the top 10 transactions. Ranked by value, the biggest deal was Gilead's \$6.5 billion collaboration with Galapagos, signed in July. The deal, which included a \$3.95 billion upfront payment plus \$1.1 billion in equity, involves a portfolio of drugs including a phase 3 candidate for idiopathic pulmonary fibrosis known as GLPG1690. Another deal, signed in June 2019, saw Gilead's entry into the burgeoning field of targeted protein degradation through a potential \$2.35 billion deal to license Nurix's technology, including \$45 million upfront. Completing the set, Gilead and Goldfinch signed a deal in May to discover and develop drugs for kidney diseases. The deal, which included a \$55 million upfront payment, \$54 million in research support and almost \$2 billion in potential milestones, will see Goldfinch apply its kidney genome atlas to identify targets and drug candidates, with Gilead taking responsibility for development of selected candidates.

Leading the top 10 (Fig. 2) was AstraZeneca's \$6.9 billion deal in March to codevelop and commercialize Daiichi Sankyo's anti-HER2 antibody-drug conjugate, trastuzumab deruxtecan for breast and other cancers, which included an upfront payment of \$1.35 billion. The third deal in the list, GlaxoSmithKline's potential \$4 billion partnership with Merck KGaA, was also in the oncology area. Through the deal, which included a

Box 1 | Data and analysis

- The analysis is based on data from Cortellis Deals Intelligence and Cortellis Competitive Intelligence (data extraction performed 28 October 2019).
- Only deals with a start date between 1 January 2019 and 30 September 2019 for which financial terms have been publicized were included.
- The 'M&A' cohort includes deals with the transaction types 'whole or majority acquisition', 'merger', 'reverse merger', and selected asset purchase or company asset purchase deals that are related to M&A activity. Only active and completed transactions for which the buyer or seller is a pharma or biotech company were included.
- The 'licensing' cohort includes deals with the transaction type 'licensing', with the exception of supply-only deals.

\$342 million upfront payment to Merck, the companies will collaborate on the development of bintrafusp alfa, a bifunctional fusion protein immunotherapy that is in clinical trials for multiple cancers.

While oncology continues to be a major focus of licensing deals, including 4 of the top 10 deals in Figure 2, deals involving rare diseases were similarly popular. As already noted, the Gilead/Galapagos deal includes a program targeting the rare lung disorder, idiopathic pulmonary fibrosis, and the Mallinckrodt/Silence and Alexion/Zealand deals focus on early-stage oligonucleotide or peptide candidates for complement-mediated diseases, which include rare autoimmune disorders (see the feature on page B8–9).

In the gene therapy field, Neurocrine Biosciences signed a deal potentially worth \$1.8 billion—including a \$165 million upfront payment—with Voyager Therapeutics to acquire development and commercialization rights to four gene therapy programs. The deal includes VY-AADC, a phase 2 asset for Parkinson disease, and VY-FXN01, which is in preclinical development for Friedreich ataxia. Both gene therapies are based on the AAV platform.

Finally, another notable trend was that the majority of the top deals concentrated on preclinical or discovery-stage assets (60%), indicating the continuing importance of early access to innovation. Among those in Figure 2, a notable example is Genentech's deal with SkyHawk signed in July. Potentially worth more than \$2 billion, it involves the application of SkyHawk's platform to identify compounds that target RNA, an emerging area of small-molecule drug discovery that has provided the basis for several companies to be formed in recent years.

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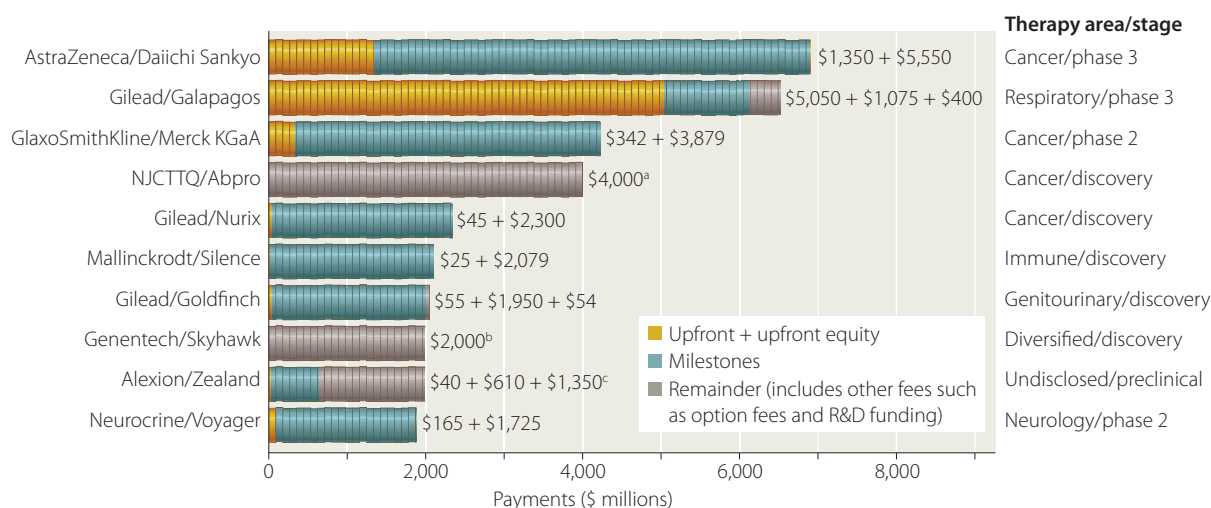


Fig. 2 | The top ten licensing deals in 2019 so far by value. 'Therapy area' is the main area that the asset is being developed for ('diversified' indicates a focus on two or more areas), and 'stage' is the highest stage of that asset at deal signing. ^aThe NJCTQ/Abpro deal includes \$60 million in near-term R&D funding, and the balance in the form of milestones and royalties. ^bThe Genentech/Skyhawk deal includes an undisclosed upfront payment, as well as opt-in fees, milestones and royalties. ^cThe Alexion/Zealand deal includes a potential \$1.35 billion in opt-in fees, milestones and royalties for three additional targets. Data collected on 28 October 2019.