Deloitte.

Traditional exits and value creation

Deloitte Advisory, March 2019

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Traditional exits:

Mergers and Acquisitions

Initial Public Offerings

Buy-outs / recaps

Considerations to prepare for a successful exit:

Have a POV on what you're worth before seeking an exit

Be able to define what financial success looks like

Model structured transactions to understand their implications

Life Science industry key drivers and challenges

Drivers

Aging Population

- Increasing demand for treatments of age related diseases, as global population continues to age

Product and Technological Innovation

- Innovative products are expected to be launched in the near-term.
- Six of the top ten tech giants are diversifying into the industry with over $4 trillion in cumulative value.

Tax Reform

- Favorable tax rates for repatriated foreign earnings may accelerate M&A activities.

Rise in Pharma Spending

- Global pharmaceutical spending is predicted to outpace overall health care spending. Worldwide prescription drug sales are expected to rise from US$900 billion in 2019 to US$1.2 trillion by 2024.

Rise in M&A due to Recalibration of the Industry

- FDA approvals is showing a decreasing trend since 2015 and this could result in large scale mergers.
- Consolidation is driven by higher demand for generics, biosimilars, and patent cliffs.

Challenges

Trade War

- Uncertainty about trade policy could cause disarray in supply chains.
- In 2019, a lack of a clearly foreseeable end to the US-China trade war could put future investments at risk.

Price Pressure

- Pricing pressures are predicted to continue, driven by governments, patent losses, and increased promotion of generics and biosimilars.

High Capital Expenditure

- High costs of R&D pose a substantial obstacle for new companies. There are high capital investment hurdles for new entrants or new products.

Heightened Regulatory Activity

- Government regulatory policies also pose a significant barrier to entry, with pharmaceutical industry being among one of the most highly regulated industries.

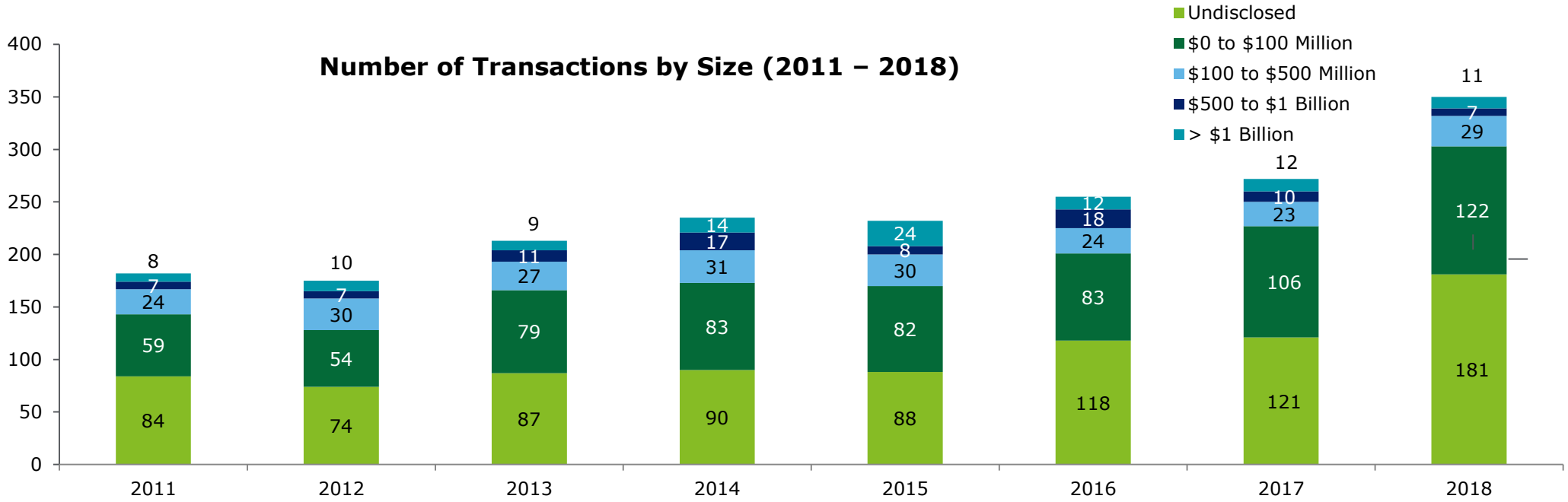
Tech Giants

- With the entry of tech giants, the status quo can be disrupted. As a result, tech giants are in a position to possibly create disturbance in the coming years.

Sources: EvaluatePharma

North America Pharmaceuticals M&A by deal size

The number of transactions increased by 29% in 2018



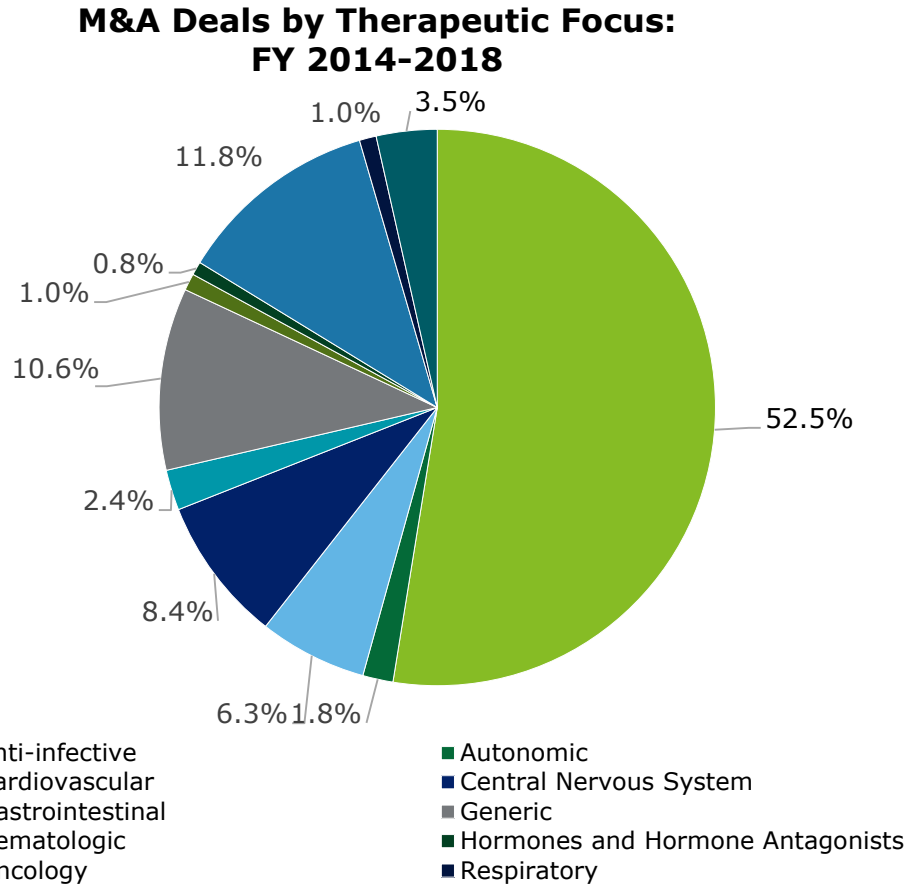
	2011	2012	2013	2014	2015	2016	2017	2018
Volume	182	175	213	235	232	255	272	350
Value (US$ Billion)	40.3	38.0	43.8	182.5	140.7	106.1	69.2	63.7

- In 2018, there were 4 blockbuster closed deals above US$5.0 billion-plus in value.
- In 2019, there has already been 2 blockbuster announced deals, including Bristol-Myers Squibb's acquisition of Celgene nearing $100 billion in total enterprise value (TEV) and Danaher's acquisition of GE Biopharma of over $20 billion in TEV.

Source: Capital IQ

World prescription drug and OTC sales by Pharmaceutical Products

Anti-infective drugs continue to dominate prescription drugs with Oncology forecasted to become a dominant therapy segment



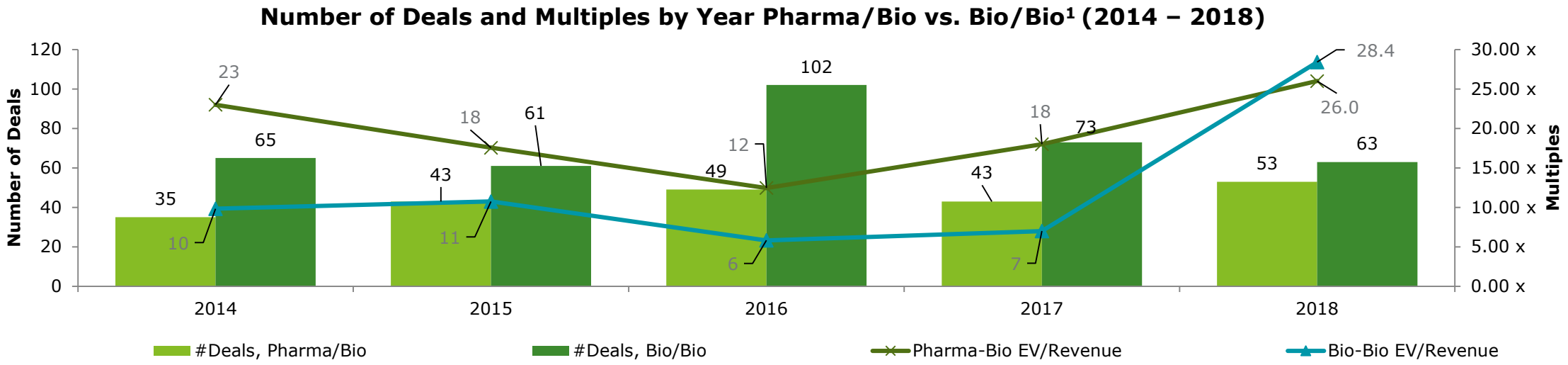
Source: Capital IQ

Observations

- Oncology (11.8%) has been and is expected to be the dominant sector with Merck's Keytruda as one of the largest growth drivers. In addition, Bristol-Myers Squibb will likely become a major player if the acquisition of Celgene goes through.
- With recent breakthroughs, such as the approval of immune checkpoint inhibitors, leading pharmaceutical companies are highly active in both M&A and other deals for immuno-oncology assets.
- Another trend which has emerged in M&A deals in recent years is the shift in the developmental stage of the assets when the deals were announced.
- More assets are being acquired at earlier stages of development. One of the key reason for this shift is that most-promising late-stage candidates have increasingly been acquired, which is forcing the companies to re-look at their product pipelines.
- The slowdown in FDA approval also requires more internal investment by large pharmaceutical companies. To counteract this earlier stage products can be acquired and tucked into the therapeutic area to help reduce necessary R&D spend.

Volume of deals and transaction multiples

Pharma/Bio deals present systematically higher multiples than Bio/Bio deals



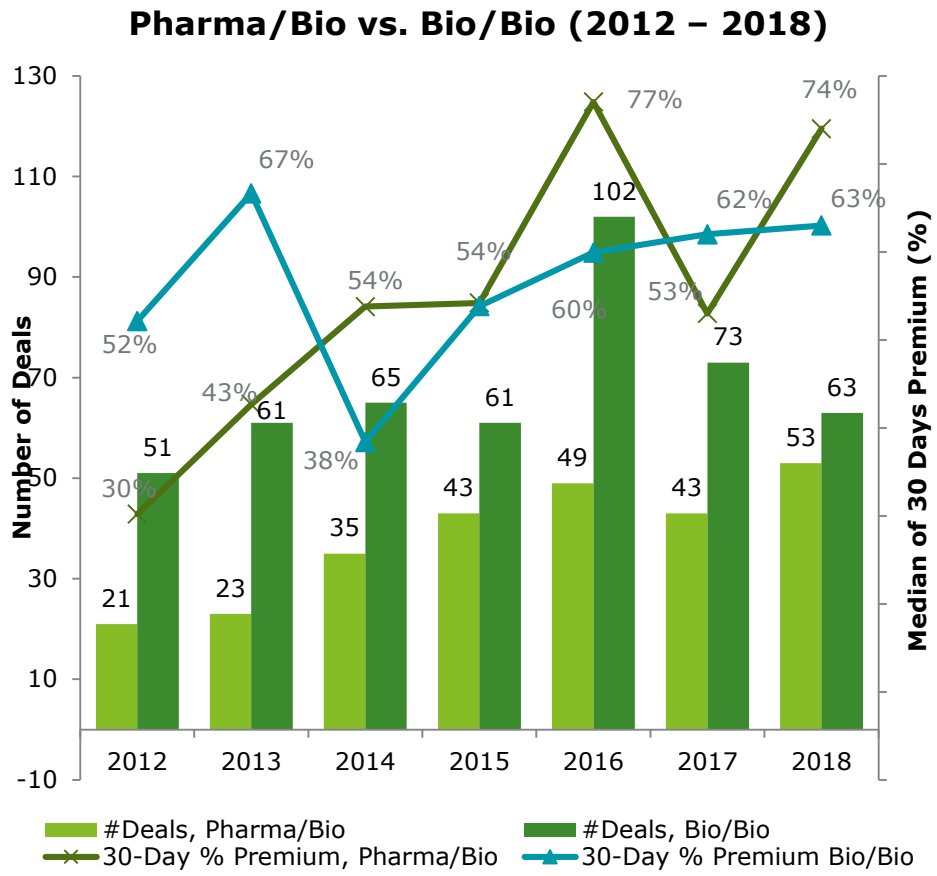
Observations

- Many of the transactions included above include pre-revenue or developmental stage targets. As such, there are many transactions with multiples that wouldn't be considered typical of a transaction involving a mature stage target.
- The revenue multiples of pharma/bio deals decreased from 2014-2016 and increased from 2017-2018, while the revenue multiples of bio/bio deals show relative volatility from 2014-2018.
- In terms of volume, bio/bio deals have consistently exceeded pharma/bio deals.
- Although the volume of deals in pharma/bio is less than bio/bio, pharmaceutical companies continue to perceive biotechnology firms to have greater worth, paying higher multiples than biotechnology acquirers paid from 2014-2017. The multiples appears to be converging in 2018.
- In 2019, the major deal of Bristol-Myers Squibb and Celgene showed a revenue multiple of 6.1x, due to the robust earnings of Celgene.

Note 1. The EV multiples for this chart is taken as average of annual average EV multiples for pharma/bio and bio/bio deals.
Source: Capital IQ

Volume of deals and premiums paid

Pharma/Bio deals are paying higher premium than Bio/Bio Deals in 2018



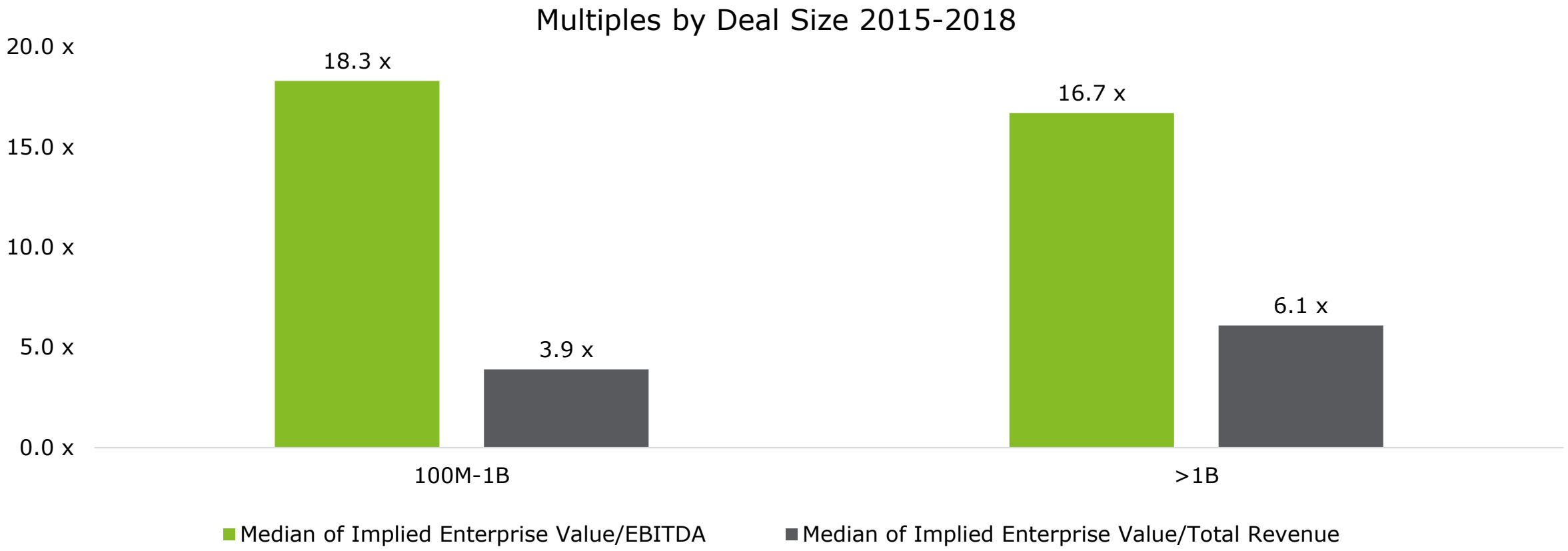
Observations

- In terms of total volume of deals, combined Bio/Bio and Pharma/Bio deals from 2017 to 2018 has remained relatively steady.
- In recent years, median of annual 30-day stock premiums paid in pharma/bio deals have experienced a greater volatility than in bio/bio deals.
- The premiums paid for targets in pharma/bio deals reached its peak in 2016.
- The premium difference between pharma/bio and bio/bio deals appears to be fluctuating from 2016 to 2018.
- As the pharmaceuticals and biotechnology space continue to grow, we expect an increase in deal flow.
- In January 2019, Bristol-Myers Squibb's acquisition of Celgene revealed a 41 percent 30-day premium, a lower premium compared to past trends.

Note: The pharma/bio and bio/bio deals taken here represent deals with buyers being only pharmaceuticals and biotechnology firms respectively.
Source: Capital IQ

Increasing value proposition

High value deals are getting higher median revenue multiples

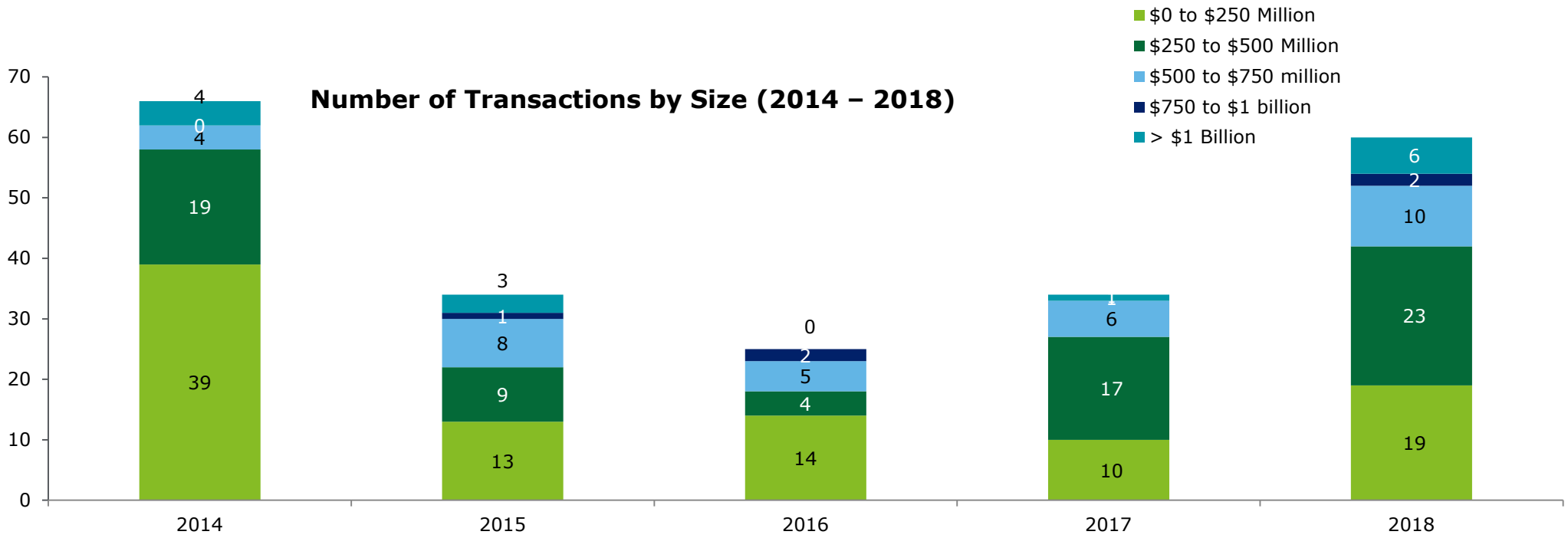


Note 1. Target's Operating Expenses is calculated as (Revenue-EBIT), obtained from latest annual published figures of each company.
Note 2: The multiples omit revenue multiples greater than 15x and EBITDA multiples greater than 50x.

Source: Capital IQ

Life science IPO volume size

The number of transactions increased by over 70% in 2018



Volume	66	34	25	34	60
Value (US$ Billion)	19.8	14.2	7.7	13.1	41.7

- After lower volume in 2015 and 2016, the number of transactions is increasing with over 60 life sciences IPO's in 2018.
- In 2018, there were multiple IPO's with implied IPO valuations of US$1.0 billion-plus in value.

Source: Capital IQ

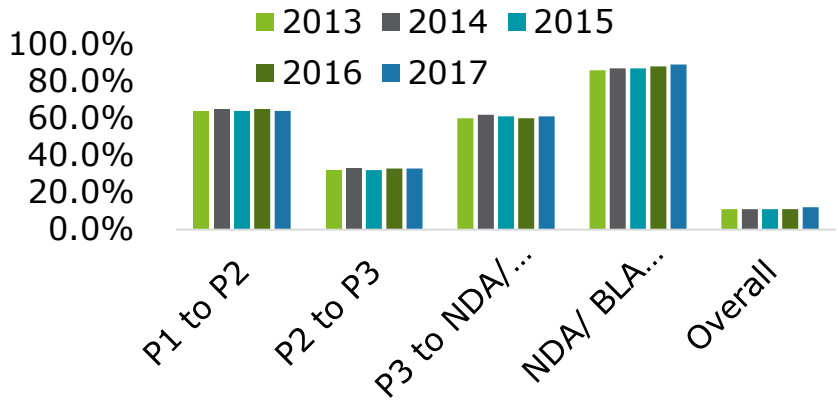
Modeling is an essential tool for estimating price and defining transaction structure

Cash flows are affected by probabilities of success and phase of development

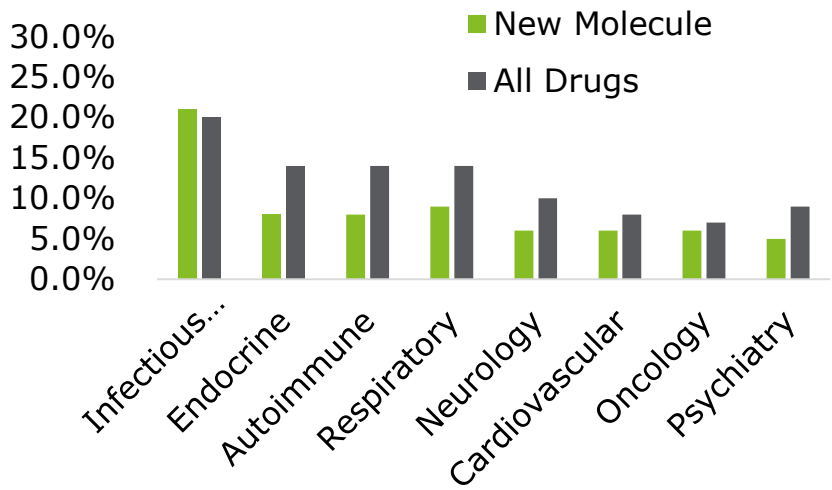
PTRS = probability of spend x POS

	Probability of Spend	Probability of Scucces	Cumulative PTRS
Pre-Clin	100.0%	100.0%	100.0%
IND	100.0%	100.0%	100.0%
Phase I	100.0%	64.4%	64.4%
Phase II	64.4%	33.2%	21.4%
Phase III	21.4%	61.0%	13.0%
Approval	13.0%	89.1%	11.6%

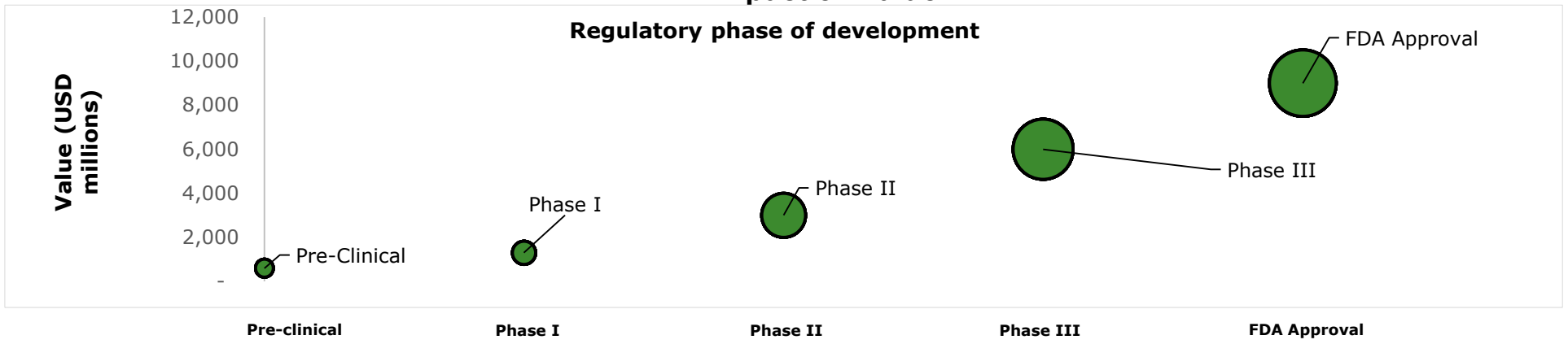
POS by year for all indications



Overall success rates by therapeutic area



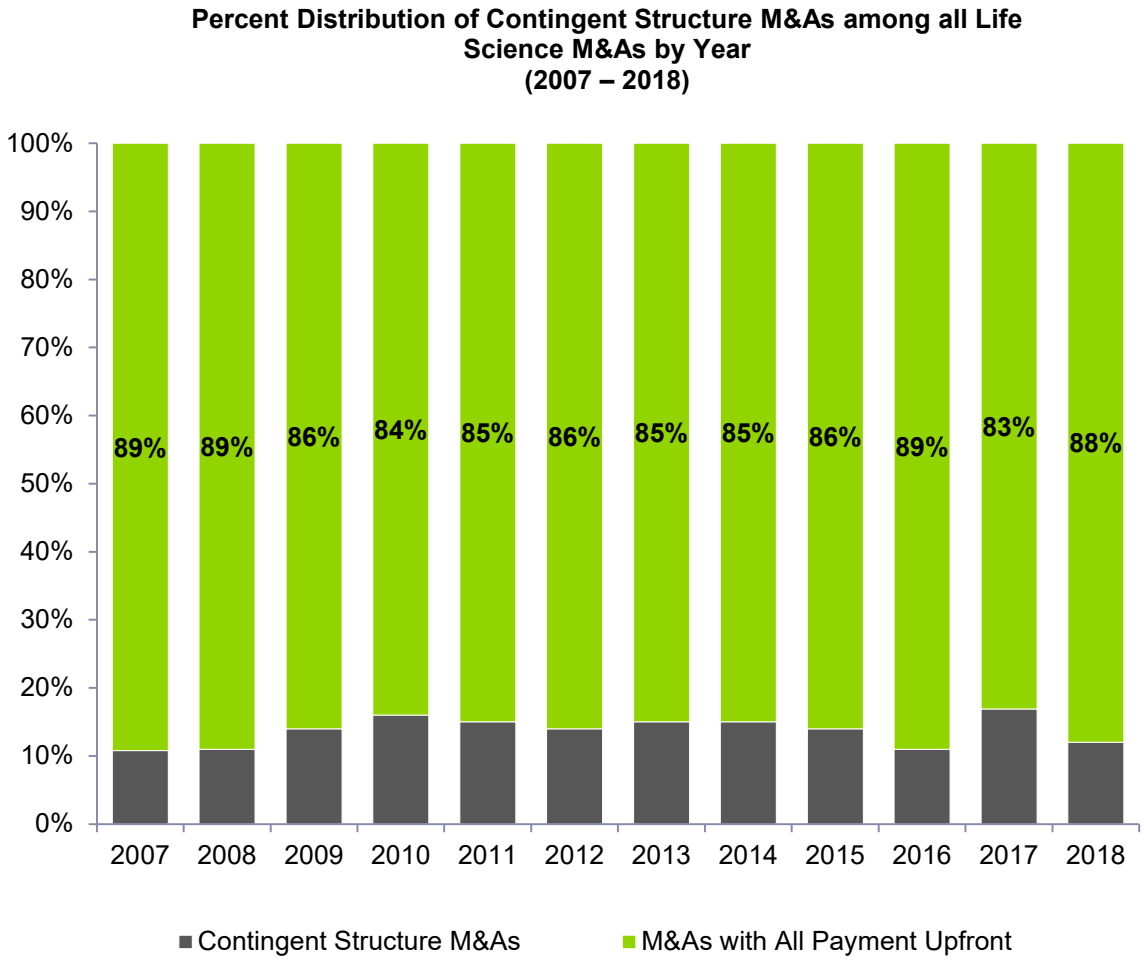
Phase of development & POS / impact on value



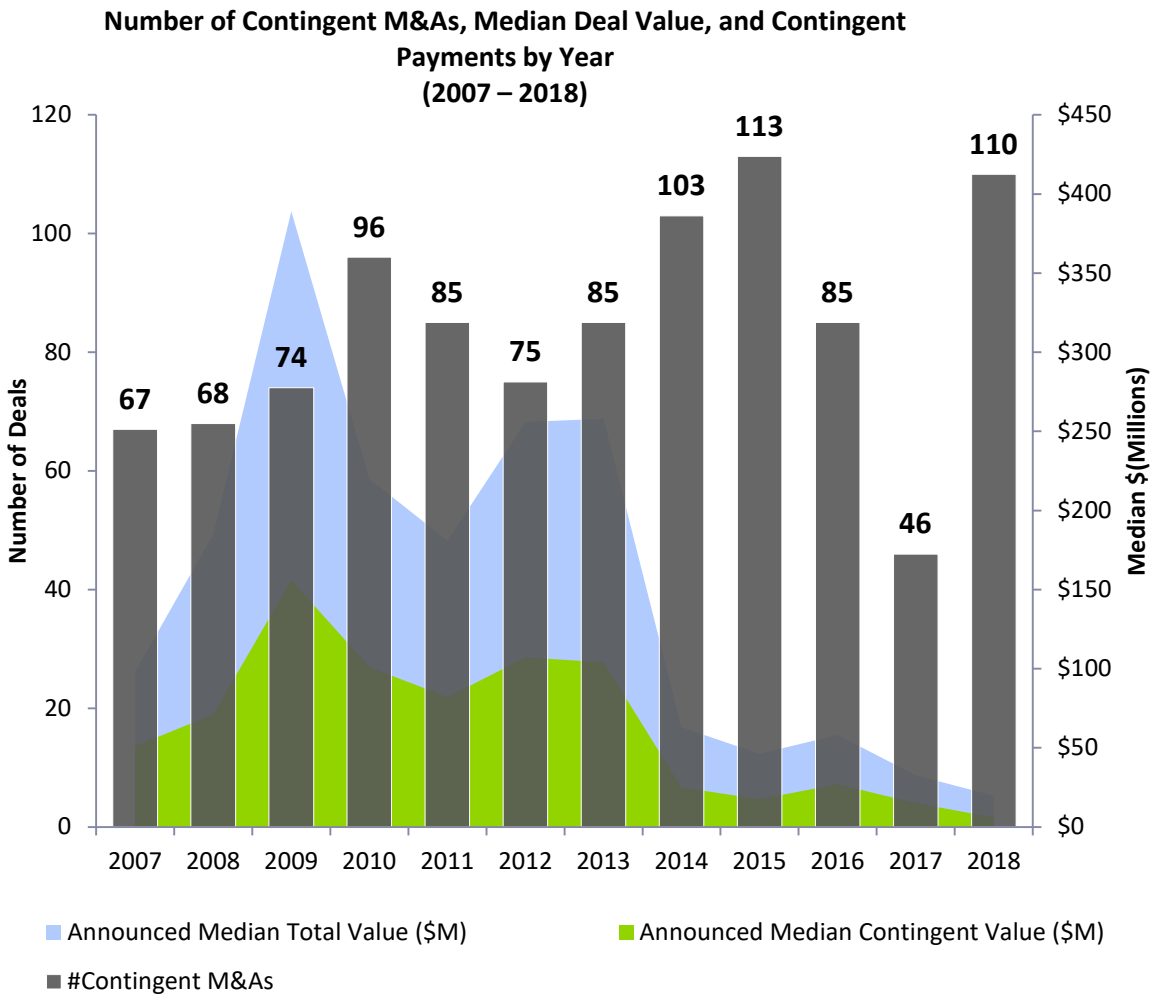
Deal structuring trends (Biotech)

Pharma deals are mainly structured as upfront payment with increasing number of contingent considerations

Percentage of deals with contingent payments has stayed fairly consistent over the past 12 years.



2018 posts an increase in median value of contingent M&As compared to the past couple years.

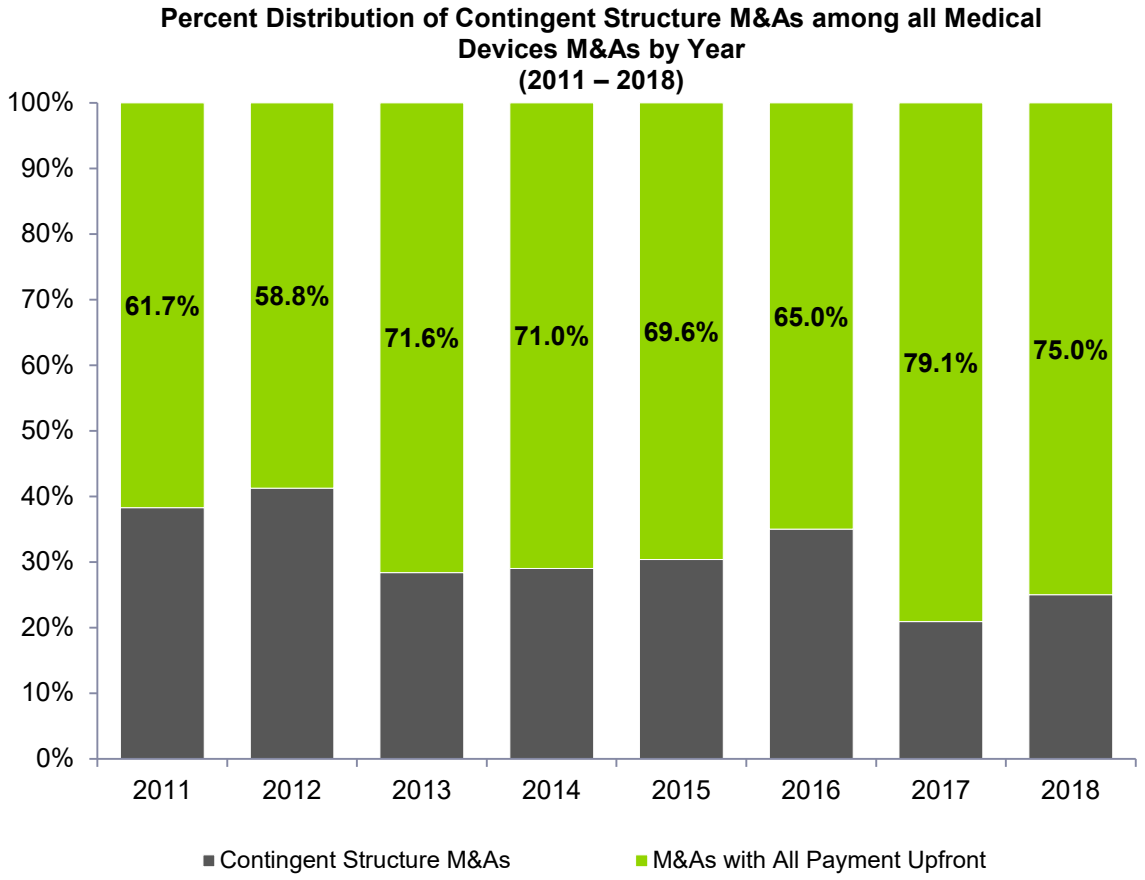


Source: Capital IQ

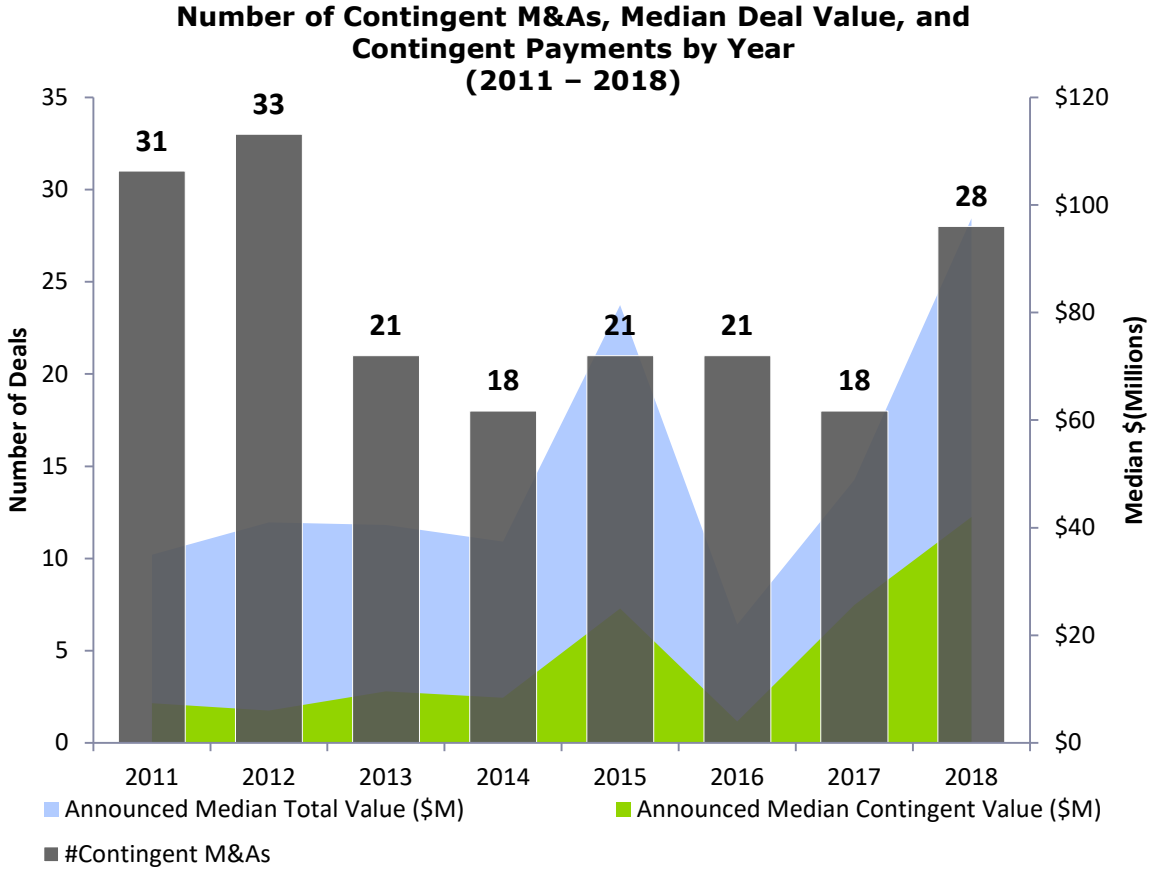
Deal structuring trends (Med Tech)

Medical devices deals are primarily structured with upfront payment than contingent payment

Percentage of deals with contingent payments has stayed fairly consistent over the past 8 years.



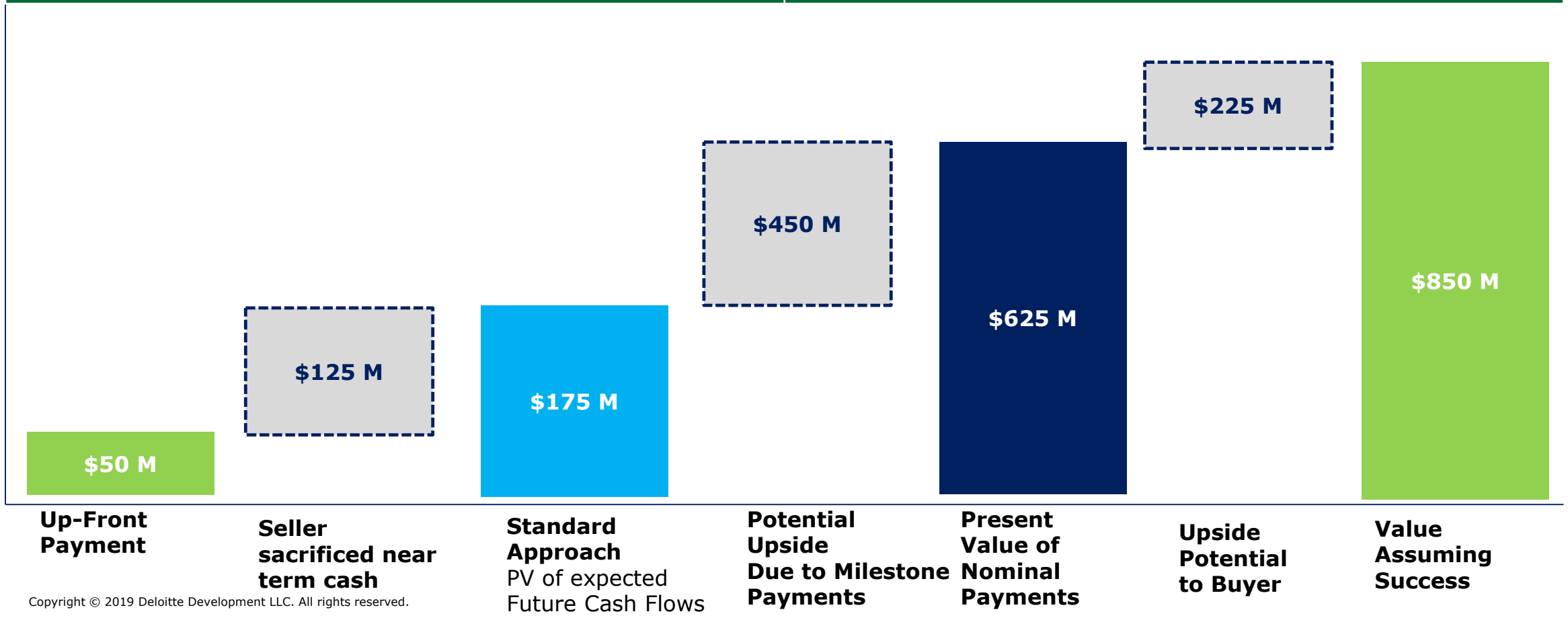
Average 2018 contingent payments increasing in both volume and value.



Source: Capital IQ

Contingent consideration transaction economics

Transaction Structure	
Up-Front Payment - $50M	**Total Potential Payments - $700M**
Total Regulatory Milestone Payments - $350MM	**Present Value of Payments - $625M**
Commercial Milestone Payment - $300M	**Transaction IRR – 11%**



Q&A

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