Dealmaking activity in the pharmaceutical and biotechnology industries remained strong in 2016, in contrast to M&A levels in many other sectors. Surveying the landscape for this year, four dealmakers say the market will stay resilient and could even see robust growth under the right conditions.
Mergermarket: M&A activity declined considerably in aggregate last year from the record highs of 2015. Yet dealmaking in the pharma and biotech sector – especially in the middle market – showed resilience. According to Mergermarket data, there were at least 98 mid-market deals for pharma and biotech companies in North America last year, an increase of one from 2015. Given your knowledge of the market and the deal pipeline, what do you see happening in 2017?

D. Crean, Objective Capital Partners: One possible reason for the resilience is that M&A in healthcare, pharma, biotech is often countercyclical. From a dealmaking perspective, it’s a great place to be when everything else is not doing as well. The reason is that people still need medical treatment and innovation regardless of the economic cycle. Larger bio-pharma companies are always going to be seeking new ways to expand inorganically and to consolidate to remain competitive and grow their top-line and earnings. That being said, when you look at pharma and biotech M&A across valuations, 2016 was definitely down from 2015.

As we move into 2017, we expect deal activity to pick up again. We’re seeing slower growth at the global biotech and pharma companies, and many of them have significant amounts of cash on hand. If you look at some of the bigger ones, they have more than US$75bn in cash on their balance sheets. They need to deploy that, and one of the main ways they can do that is by spending on inorganic growth and to fund research and development. Together with the cash already on hand, there is an expectation that the Trump administration could pass tax changes that would allow for the repatriation of overseas profits. That could add

When looking to replace revenue, the easiest path for the large global pharmaceutical and bio-pharma companies is through bolt-on acquisitions, as opposed to the much slower process of organic growth and building internal programs.

Ryan Murr, Gibson, Dunn & Crutcher
a significant amount of money to companies’ balance sheets either for M&A deals, other capital investments, or perhaps stock buybacks.

**Kelly Lisbakken, Wedbush:** We think that 2017 will be very similar to 2016 in terms of M&A dollar value in the pharma and biotech space. As of early February, we were already at approximately 10% of last year’s public bio-pharma M&A value. And recall that roughly half of last year’s public bio-pharma M&A value came from the Shire-Baxalta deal alone. So if you were to take that out, we’re actually in really good shape. From our perspective, public company dealmaking looks like it will be pretty consistent, and I don’t think the private deals will sway the numbers very much in either direction.

One confounding factor on the private side is that there is an increasing number of deals that are done as options to acquire. So technically, these are not going to count as an M&A deal up front – even though they are potential M&A deals in the future. Celgene was one of the first companies to start employing this structure, but many more have picked it up – they have become very popular in the space. I would say that could artificially reduce the number of private M&A deals we see.

**R. Murr, Gibson, Dunn & Crutcher:** While M&A activity was down from the heights seen in 2015, last year was nevertheless still a very solid year for M&A in the pharma sector. Although there was a bit of a slowdown around the election due to uncertainty regarding healthcare reform, price controls and regulation, the uncertainty has largely lifted and I think people are feeling optimistic about the outlook for M&A over the next 12 months.

Much of this optimism springs from the fact that macro trends continue to augur in favor of more deals. As David pointed out, the large pharmaceutical companies remain well-capitalized and are continuing to look to replace revenue for a variety of reasons. In some cases, blockbuster drugs are going off patent; in others, they are facing continued pricing pressure from Medicare and other third-party payers; and then most recently, we’re starting to see the introduction of biosimilars (akin to generic versions of biologic drugs), which presents new challenges — as well as opportunities.

When looking to replace revenue, it is often easiest to do so inorganically through bolt-on acquisitions, as opposed to the much slower process of organic growth and building internal programs. This bias toward inorganic growth is also a function of cost-savings efforts undertaken by many of the large global pharmaceutical companies several years ago — cutting internal R&D spending in favor of outsourcing and growth through acquisitions.

I also agree with David that tax reform could be a major driver of M&A in 2017, particularly if there is a deal worked out to allow companies to repatriate offshore cash. The global pharmaceutical companies have billions of dollars parked offshore.

**S. Waxler, LockeBridge:** At LockeBridge we believe there are several dynamics currently and potentially fueling both near- and long-term M&A activity in the pharma and biotech sector. A few of the principal drivers favoring near-term M&A activity include pressure on drug pricing, tighter reimbursement criteria resulting in lower organic growth, and corporate repatriation if the new US administration encourages it via a low one-time fee. I would agree with David and Ryan on this last point – we believe that acquisitions will be viewed as a relatively favorable use of this repatriated capital.

One last factor I would mention is the unmet demand for therapeutics. The aging of the population is creating an increased demand for new drug development, and when you combine this with material increases in R&D costs, there is a favorable environment for technology acquisitions to productively fuel the drug pipeline.

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$98bn
Estimated amount of cash held offshore by biopharma firms*

Mergermarket: In recent years, there has been a steady increase in M&A deals for companies with lead assets at early stages of development. In 2016, just 19% of deals were for companies with lead assets that had already been approved, compared to 49% five years ago, according to a report by Clarivate Analytics. What has been driving this trend, and do you expect it to continue over the coming year?

D. Crean, Objective Capital Partners:
I think there are numerous reasons and key drivers as to why earlier stage deals are getting done, and I would anticipate that 2017 will have plenty of early-stage deals. From a buyer’s perspective, they are increasingly eager to take earlier and multiple shots at their goal. They may have various patent expiries to cope with and want to diversify their approach to treating a given disease. Also from a buyer’s perspective, if you can purchase an earlier stage company rather than something that is maybe in Phase 2 or 3, you may be able to get it at a lower valuation. Of course, you’re also going to be taking the risk, so these lower valuations for early stage assets can be deceptive.

One notable consequence of this trend toward buying early-stage companies is the rise in valuations in general for bio-pharma companies. Cheaper credit and an industry-wide scramble to boost product pipelines have together inflated what pharma buyers have to pay these days. I don’t see that trend coming to a halt anytime soon. We may see a bit of modulation in price expectations, but in general, I think people are going to be paying a healthy premium for assets, even when success can’t really be assured.

Now from a seller’s perspective, many small companies I meet with say they want to be the next Amgen. They want to develop a company into a fully integrated pharmaceutical firm. And often I try to give them guidance that maybe they should think about an exit strategy, or about getting to a certain value inflection point and then selling, rather than thinking about trying to develop a commercial infrastructure. The reason is that developing that infrastructure is very, very expensive. It can often be more advantageous to partner with or sell to a larger company that has that

A combination of increased demand due to aging demographics; pressure on price increases for mature drugs; and margin pressure from follow-on biosimilars – especially in emerging markets – has increased the attractiveness of assets in early development stages.

Scott Waxler, LockeBridge

Top three mid-market biopharm targets in North America in 2017*

$172m
Derma Sciences

$171m
Sentynl Therapeutics

$115m
Savara Inc.

*Data as of 3/1/17
infrastructure and is willing to spend, rather than trying to create a company that’s going to compete against it.

Kelly Lisbakken, Wedbush: We’re seeing a real barbell effect in bio-pharma M&A. Companies are either acquired at a relatively early stage or at quite late stages, with commercial assets already in hand. There’s not a whole lot of activity happening in the middle. And we think this reflects pharma’s desire for new and disruptive science, as well as a desperate need for revenue.

We would argue that the science coming out of early stage companies right now is as compelling as ever, so we do not see any abatement in the near future for early stage deals. My only caveat to that would be once again these option-to-acquire deals. In many cases, you see these early stage companies get tied up in these types of deals, so they may not count officially as acquisitions, even though the intent is there.

In these deals, the pharma company and the biotech firm will work together, and the biotech will get some amount up front to pay for the option to acquire the company. That will likely defray development costs through the next significant milestone, and usually at that next significant milestone, you’ll see a trigger where the option period opens up.

R. Murr, Gibson, Dunn & Crutcher: To some extent, the proliferation of early-stage acquisitions has been driven by the higher level of competition for late-stage assets, which has been driving up valuations and frequently ending with multiple losing bidders. In contrast, acquisitions of early-stage assets are often less competitive, with buyers being able to pay less (albeit with greater execution risk post-closing) and having greater certainty in their ability to successfully bid for an asset. Additionally, many of the early-stage assets that are being acquired have relatively short and certain development paths and timelines, such as would be the case for drug candidates targeting rare diseases, where clinical trials are smaller, development timelines are shorter and the certainty of success may be higher. Finally, there are some emerging fields, such as gene therapy and immunotherapies, where the science is so hot that the global pharmaceutical companies may be more willing to bear development risks in order to gain access to these technologies.

S. Waxler, LockeBridge: A combination of increased demand due to aging demographics; pressure on price increases for mature drugs; and margin pressure from follow-on biosimilars – especially in emerging markets – has increased the attractiveness of assets in early development stages.

North American mid-market value and volume, H1 2012 - YTD 2017*

*YTD reflects as of 03/01/17

Source: Mergermarket
Cancer therapies take the spotlight

Therapeutics in the oncology segment may not dominate the list of top-earning pharmaceuticals at present. After all, drugs addressing ailments such as rheumatoid arthritis and diabetes still bring in more revenue. But when it comes to M&A activity, companies with strong cancer therapies are among the most desirable for acquirers.

In 2016, there were 42 deals for firms with an oncology focus, representing 20% of all pharma deals, according to a recent report by Clarivate Analytics. Only companies with a diversified focus were targeted more, making up 25% of the total deal volume.

The broad global appeal of the oncology segment is reflected in the fact that many of the deals have been cross-border in nature. In December, Japan’s Dainippon Sumitomo Pharma paid US$200m for US-based Tolero Pharmaceuticals, which has six programs in the oncology and hematology segments with the potential to help refill Dainippon’s drug pipeline. This year has already seen a significant cross-border transaction in the oncology category as well – China-based Sanpower Group spent US$820m to acquire US cancer vaccine developer Dendreon Corporation from Canadian giant Valeant Pharmaceuticals.

Some of the major pharma companies that specialize in cancer treatments have also been active buyers. Celgene, for example, has made five acquisitions over the last 18 months, including autoimmunity therapeutics developer Delinia for US$775m in January and cancer drug developer Acetylon Pharmaceuticals for an undisclosed sum in December 2016.

Increased activity by the large players can be expected as cancer therapies become more important to their earnings. In January, Johnson & Johnson reported that sales of its best-selling rheumatoid arthritis drug Remicade were down 3.3% year-over-year in Q4, but that revenue from oncology drugs Darzalex and Imbruvica saw solid growth.

Other segments that have drawn significant attention from buyers include neurology (13% of 2016 deal volume), dermatology (8% of volume), and ophthalmic (7% of volume). One major neurology deal in 2017 was Eli Lilly and Company’s US$797m purchase of central nervous system (CNS) drug developer CoLucid Pharmaceuticals, which is working on an oral treatment for migraines that could be approved in 2018. In the eye care category, Swiss major Novartis bought US-based Encore Vision for an undisclosed sum in December. Encore is developing a therapy to treat presbyopia, more commonly known as age-related farsightedness.

What other categories could emerge as ones to watch in 2017? Judging by the first two months of dealmaking, one segment drawing strong interest is gene-based therapies. Two transactions took place for companies in the segment in January: TA Associates’ acquisition of Aldevron for an undisclosed sum and Intrexon’s US$10m purchase of GenVec.
In contrast to M&A and licensing activity, venture funding of life sciences companies declined somewhat last year. In Q3 2016, VC investment fell to US$2.5bn compared to US$3bn a year earlier, according to a PwC report. Would you say this decline is related more to a decrease in available venture dollars or to a decline in companies worthy of investment? And which therapeutic areas have been the most resilient in the biotech space?

**D. Crean, Objective Capital Partners:**

You’re right that venture funding was down. But I think despite this deceleration, there is still a significant supply of quality deals out there and cash to be deployed across the industry. If you look at some of the numbers on biotech funding, it exceeded US$7bn in the US alone in Q1-Q3 2016, and approximately 500 privately-held biotech companies successfully fundraised in that period.

In 2017, I think we’re going to see a lot of continued venture funding, and not just firms going deeper on their current portfolio of companies, but perhaps extending out as well. One bellwether is the annual JP Morgan Healthcare Conference held in January, and coming out of that I was pretty encouraged with the level of optimism.

**K. Lisbakken, Wedbush:**

What we’ve seen is a concentration of venture dollars among fewer funds in the bio-pharma space as compared to 10 years ago. Venture funds only have so much bandwidth, regardless of the capital at their disposal. Now, even though there are many venture funds on a hiring spree, their capacity to manage deal flow does

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**Global mid-market M&A – volume, value and percentage of world total, YTD 2017**

<table>
<thead>
<tr>
<th>Region</th>
<th>Volume</th>
<th>Value (US$bn)</th>
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<tbody>
<tr>
<td>North America</td>
<td>209</td>
<td>15.9</td>
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<tr>
<td>Europe</td>
<td>207</td>
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<td>Middle East &amp; Africa</td>
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<td>Asia-Pacific</td>
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Source: Mergermarket

*YTD reflects as of 03/01/17
not seem to scale linearly. As such, if there are fewer funds making investments, there are likely fewer deals that are going to get done. That being said, many of the rounds are actually quite large, and they’re certainly above historical norms for a typical Series A or Series B.

In terms of therapeutic areas, oncology and organ diseases continue to be favorites for funding. Central nervous system (CNS) therapies, especially in the area of neurodegeneration, have also been gaining momentum. Autoimmune and inflammatory indications are of interest as well, but the tricky part is selecting the right initial indication to pursue. And then rounding out the top group I would say are dermatological and ophthalmic indications.

R. Murr, Gibson, Dunn & Crutcher: While there has been a decline in the total dollars invested, the sector as a whole is still doing very well and there is no shortage of high-quality companies for VCs to invest in. There are likely several reasons for the funding decline, including less frothy valuations — which may result in smaller rounds, increased use of bridge funding as a stopgap measure between rounds, and delayed financing tranches, allowing companies to achieve inflection points and command higher valuations. I also agree with Kelly’s point about there being fewer funds focused on the space. The bandwidth of the fund managers does limit the number of companies in which these funds can invest. In some cases, we’ve seen this limited bandwidth push promising companies to seek funding from less traditional sources, such as private family office funds and private equity funds. I expect this trend will continue.

S. Waxler, LockeBridge: We have no reason to believe that the number of companies worthy of investment was any different in 2016 vs. 2015. Biotech venture funding, with a three- to six-month lag, seemed to follow the decline in the NASDAQ Biotech Index, which peaked in mid-2015 with a trough in February 2016. The lag is intuitively clear. While M&A and venture funding has a certain momentum due to transactional commitments, trading in the public markets is highly liquid and immediately reactive. We attribute much of the pause in venture funding, along with the sharp decrease in the Biotech Index, to the series of negative headlines regarding several large pharma companies, as well as to the significant political attention on drug pricing.

Mergermarket: Public offerings by biotech companies in 2016 largely struggled after years in which the sector had many top-performing debuts. What do you expect the environment to be like over the coming year?

D. Crean, Objective Capital Partners: I think it’s true that 2016 was not a great year for biotech IPOs. A lot of companies sat on their S-1, and it’s all about timing. Many of the biotech IPOs last year were priced below their offer price, which is not great, and so some IPOs either didn’t go through or are still trading below their offer price.

One aspect worth noting is that IPOs in 2016 were leaning more heavily than ever on existing shareholders buying shares in the offering, rather than going out and getting new ones. If you look at the average portion of an IPO going to an insider, it’s somewhere around 40-45% for the 2016 IPOs. If you look at 2014 and 2015, it was roughly 20% on average to an insider.

As for the coming year, I actually like what I saw just in the month of January. In 2016, there was a big disconnect between public and private valuations, which
IPO Outlook: Lower quantity, higher quality

Many industry observers expressed disappointment in the crop of bio-pharma public offerings in 2016. With the NASDAQ Biotechnology Index remaining nearly flat over the course of the year – even as stocks in many other sectors saw growth – the number of debuts by North American companies dropped from 55 in 2015 to just 28 last year, according to Mergermarket data.

However, the bio-pharma companies that did go public fared better on average than the 2015 class. An analysis by Atlas Venture showed that through September 2016, firms that debuted last year had seen their stock price go up by an average of 16%, compared to a drop of 11% for the companies that made a public offering the previous year. Indeed, the normalization of investor sentiment toward the biotech industry seems to have raised the bar that firms must meet to make a successful debut. This has meant fewer entrants but stronger showings by those companies.

North America pharma & biotech IPO volume and funds raised, 2012 - YTD 2017*

The three firms that raised the most capital on the public markets in 2016 had seen mixed share price results as of February 2017. Myovant Sciences, a developer of therapies for women’s health disorders, raised US$218m – the most of any North American bio-pharma IPO in 2016 – at an offering price of US$15 per share in October. Their stock then dropped to around US$11 by February, despite their announcement in January that they were initiating phase 3 clinical trials for their Relugolix drug. Intellia Therapeutics, a gene-editing company that collected US$108m in its May 2016 debut, has had an even tougher road thus far. After pricing at US$18 per share, it has seen its stock price drop to nearly US$12.

Far brighter results have been seen by Ra Pharmaceuticals, a drug developer focused on diseases caused by the uncontrolled activation of the immune system. After raising US$105m at an offering price of US$13 per share, the company has seen its stock go up to over US$20. It currently has one product in phase 1 and five in the preclinical stage, including a program in which they have partnered with pharma major Merck.

As of mid-February, just two North American bio-pharma companies had gone public in 2017, but both are performing well so far. Jounce Therapeutics, a cancer immunotherapy developer that went public on January 27, saw its share price go up more than 20% in its first month. And AnaptysBio, which debuted just two days before Jounce, had its stock rise more than 60% over the same initial period. Heading into Q2, several more bio-pharma IPOs are in the pipeline, including oncology drug developer BeyondSpring and genomic targeting company Accelerated Pharma.

Overall, it is too early to tell whether 2017 will keep the same pace as last year in terms of IPO volume. One thing that seems more certain is that the deluge of debuts seen in 2015 will not repeat itself.
I think is going to regulate itself out in 2017. Given the US election results, we may also see a 180-degree turn on healthcare policy, which should be stimulative to the equity markets.

**Kelly Lisbakken, Wedbush:** What is your definition of struggled? Last year, the average biopharma IPO premoney was close to US$300m, above the average for 2014 IPOs (roughly US$250m.) And while last year fewer biopharma IPOs priced than in 2014 and 2015, there were still roughly twice as many as in 2012.

So again, I ask, what is your definition of struggled? Good companies can and will get financed in this market. Sure, valuations may swing based on macroevents, data in the space and a few select Twitter accounts, but the window is not shut per se. It’s more of a turnstile — selective, price-sensitive and not every firm will make it through. And that’s probably for the best.

**R. Murr, Gibson, Dunn & Crutcher:** I agree with Kelly’s last point — I think things will continue at a more normal level in 2017. I’d say that from 2012 to ‘15, we saw a lot of very high-quality companies go public because there was a pent-up supply following the Great Recession. Many of those companies would have gone out earlier, but either couldn’t or chose not to because the market was bad and valuations were unattractive.

After that backlog cleared out, the numbers haven’t been quite as large, but have been more in line with what’s sustainable. That being said, I think there are still plenty of high-quality pre-IPO companies out there.

Another interesting trend is the rise of reverse mergers in the bio-pharma sector. There were a number of single-asset companies that went public near the end of the 2012-15 IPO boom in biotech. Many of these companies have found themselves struggling several years later, which has left some of these companies looking for strategic transactions to bring in other assets and make use of their relatively large cash balances and public listings. In many cases, this could mean a reverse merger, with a private company effectively going public through a merger with the public company. There are many high-quality private companies that are considering or pursuing these mergers as an alternative to a traditional IPO, with the reverse merger potentially providing a faster path to going public and more favorable valuations.

**S. Waxler, LockeBridge:** Last year saw numerous external variables that increased perceived risk and hurt the IPO market. With the new US administration, there still remains significant risk, but we believe there are many companies out there that are now closer to completing clinical trials, and as such will require significant capital as they ready themselves for market introduction. This leads us to believe there will be a relatively healthy 2017 IPO market.

### North America mid-market sector breakdown, YTD 2017*

<table>
<thead>
<tr>
<th>Sector</th>
<th>Deal volume</th>
<th>Deal value (US$bn)</th>
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<td>Energy, Mining &amp; Utilities</td>
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<td>Business Services</td>
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*YTD reflects as of 03/01/17

Source: Mergermarket
About Mergermarket

Mergermarket is an unparalleled, independent mergers & acquisitions (M&A) proprietary intelligence tool. Unlike any other service of its kind, Mergermarket provides a complete overview of the M&A market by offering both a forward-looking intelligence database and a historical deals database, achieving real revenues for Mergermarket clients.

For more information, please contact:
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Note on Mergermarket data:
Mid-market deals are defined by Mergermarket as those valued at US$5m to US$250m. Mergermarket does not include deals with undisclosed value in its mid-market figures.
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