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Medtech dealmaking and financing trends in 2016

Although the volume and value of merger and acquisition (M&A) deals in the medtech industry both increased in 2016 compared with 2015, M&A activity declined during the year, reflecting the challenges that the industry faces.

Amanda Micklus & Maureen Riordan

Medtech companies, facing increased pressure to innovate in health care delivery while reducing costs, experienced a slowdown in M&A deal activity as 2016 progressed. This phenomenon was not restricted to the medtech industry, as the biopharmaceutical sector also came up against pressures related to pricing and changes in the political environment in the United States that affected dealmaking and drove down deal volume (*Nat. Rev. Drug Discov.* **16**, 161–162 (2017)).

Nevertheless, 2016's M&A figures showed an increase in both the volume and the value of deals in the medtech space (which broadly includes companies developing medical devices, diagnostics or research tools) compared with 2015. There were 154 M&A deals in 2016, together worth $72 billion for the subset of deals with disclosed values, according to Informa's *Strategic Transactions*, whereas 2015 saw 115 deals with a disclosed value of $53 billion. Still, over the course of 2016, both deal volume and deal value generally declined quarter by quarter. The only exception was an uptick in the value of M&A deals to $33 billion in the second quarter—the strongest quarter of the year (**Fig. 1**).

The outlier second quarter was primarily a result of the largest acquisition of the year in the medtech industry: Abbott Laboratories' purchase of fellow cardiovascular competitor St. Jude Medical for $25 billion (**Table 1**). The deal, paid for with cash and Abbott equity, makes Abbott an even stronger competitor to the other leading companies in the cardiovascular medtech area—Boston Scientific and Medtronic—especially in the markets of cardiac rhythm management, heart failure and neuromodulation.

Besides its purchase of St. Jude Medical, Abbott was also involved in two other big transactions in 2016 (**Table 1**). One was its divestiture in its noncore area of ophthalmic devices, through the sale of Abbott Medical Optics (AMO) to Johnson & Johnson for $4.3 billion in September 2016. AMO—a 2002 spin-off from Allergan for which Abbott paid nearly $3 billion in 2009—recorded sales of over $1 billion in 2015, and provides Johnson & Johnson's Vision Care division with assets in cataract surgery, laser refractive surgery and consumer eye health.

> **Similar to the increase in M&A volume and value year over year, there was also growth in the medtech industry's fundraising during 2016.**

In the third-largest acquisition of 2016, Abbott bought Alere for $5.8 billion to gain additional diagnostics capabilities, including point-of-care and rapid tests. This deal, though, has proven contentious, and Abbott has been trying to back out owing to a major recall of Alere's device for monitoring the effects of the anti-coagulant warfarin, plus claims of Medicare and Medicaid fraud. The acquisition is still not closed, and Abbott is filing suits to cancel it. In addition to these major transactions, Abbott also made a smaller acquisition in 2016, buying the private electrophysiology company Kalila Medical.

Serial acquirer Stryker was the most active buyer during 2016. It penned six deals in total, placing it ahead of CooperSurgical and Zimmer Biomet, which each made five acquisitions. Stryker's take-overs span many markets, including critical care, musculoskeletal disorders and neurosurgery. In its largest deal, the company paid $2.8 billion in cash for Sage Products (**Table 1**). Owned by the private equity firm Madison Dearborn Partners, Sage produces disposable hospital products related to the prevention of 'never events' such as

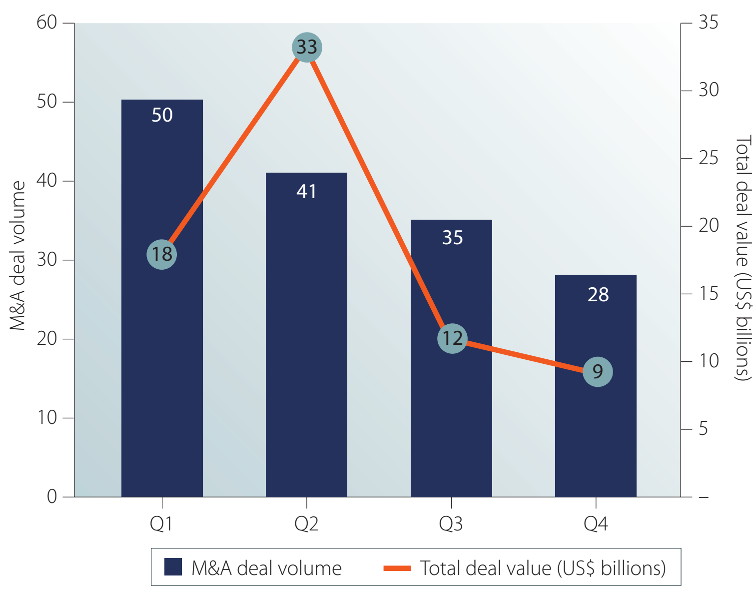

Figure 1: 2016 medtech M&A activity by quarter. M&A deal volume declined steadily over the year, but Q2 had the highest aggregate deal value, mainly owing to Abbott Laboratories' purchase of St. Jude Medical for $25 billion in the largest deal of the year. Source: Informa's *Strategic Transactions*.

Table 1: Top ten medtech mergers and acquisitions of 2016 by value

Month	Acquirer	Target	Deal value (US$ millions)	Deal summary
April	Abbott Laboratories	St. Jude Medical	25,000	Abbott Laboratories purchases the cardiovascular medical device company St. Jude Medical in the largest medtech acquisition of 2016.
March	Canon	Toshiba Medical Systems	5,965	Seeking to grow in the medical imaging market, Canon purchases the medical equipment subsidiary of Toshiba.
February	Abbott Laboratories	Alere	5,800	Abbott Laboratories agrees to buy *in vitro* diagnostics specialist Alere; however, the deal has not yet closed, and Abbott is taking action to cancel it.
September	Johnson & Johnson	Abbott Medical Optics (AMO)	4,325	Abbott Laboratories divests its ophthalmics division AMO to Johnson & Johnson.
May	Thermo Fisher Scientific	FEI	4,200	Electron microscope maker FEI acquired by Thermo Fisher Scientific for integration into its analytical instruments division.
September	Danaher	Cepheid	4,000	Danaher acquires molecular diagnostics specialist Cepheid to strengthen its existing diagnostics business.
December	Allergan	LifeCell	2,900	Allergan acquires Acelity's regenerative medicine unit, LifeCell, including its portfolio of dermal matrix products.
December	Svenska Cellulosa Aktiebolaget (SCA)	BSN Medical	2,850	Swedish SCA agrees to acquire BSN Medical, which focuses on products for wound care, compression therapy and orthopedics, from the private equity group EQT Partners.
February	Stryker	Sage Products	2,775	Sage Products, which produces disposable hospital products, is purchased for cash by Stryker from the private equity group Madison Dearborn Partners.
January	Thermo Fisher Scientific	Affymetrix	1,300	Thermo Fisher Scientific acquires Affymetrix to strengthen its expertise in cellular and genetic analysis and expand its antibody portfolio.

Source: Informa's *Strategic Transactions*.

hospital-acquired infections. In this area of never-events prevention, Stryker also completed the purchase of Patient Safety Technologies in 2014 for $120 million. Stryker's other billion-dollar acquisition in 2016 was of Physio-Control, for $1.3 billion in an all-cash transaction. A former division of Medtronic that was sold to Bain Capital in 2011, Physio-Control sells defibrillators, CPR-assist (cardiopulmonary resuscitation) devices and other products that will be added to Stryker's Emergency Medical Services operations.

Medtech financing surge

Similar to the increase in M&A volume and value year over year, there was also growth in the medtech industry's fundraising during 2016. Full-year medtech financing—including debt raising, initial and follow-on public offerings (IPOs and FOPOs, respectively), private investment in public equity (PIPE) and venture capital (VC) funding—reached $12.6 billion from 308 transactions, with a surge in activity and a 54% rise in dollar value compared to 2015's $8.2 billion from 248 transactions (**Fig. 2**).

Debt raises were the most popular financing vehicle in 2016, escalating from 2015, when debt was the second-least common financing type. The debt category made up 41% of the annual aggregate and generally had the highest dollar amounts quarterly, except for Q4, when it accounted for just 9% of the total and was overshadowed by IPOs and late-stage VC rounds. Through the year, there were 12 debt deals of $100 million or greater, capped by wound-care device maker Acelity's $1.75 billion senior secured note sale in September. That, along with Insulet's $334 million convertible debt sale in the same month and Foundation Medicine's $100 million credit facility from Roche in August, caused a spike in the Q3 overall dollar value. Acelity, which also sold senior secured notes of $190 million in June and $400 million in February, will use the proceeds to repay previous senior term credit facilities.

Late-stage rounds were the second-largest financing type in 2016 (accounting for 18% of the annual dollars), led by DNA-sequencing firm Oxford Nanopore Technologies' late-stage raise of $126 million in December; the company has amassed more than $516 million through more than ten VC rounds since its 2005 inception. Late-stage rounds also ranked as the second-most popular financing type in most quarters of 2016, with the exception of Q2, when the early-stage rounds overtook them, owing mostly to large transactions by research-tools company Human Longevity (with a $220 million Series B) and health data firm iCarbonX (with a $155 million Series A).

The highest percentage of VC money overall was raised during Q1 2016, with both early- and late-stage venture rounds together making up $1.6 billion, or almost half (48%) of the full quarter's dollars, topped by a $175 million Series C round by another e-health company, Flatiron Health,

which focuses on software and analytics to connect electronic patient health records. There were also $100 million Series A raises by both Illumina spin-off Grail Bio (which focuses on circulating tumor DNA diagnostics) and Mind Maze (which is developing virtual reality stroke rehabilitation devices). With the increased financing, particularly in private companies, a rebound in M&As is likely in 2017.

The biggest financing event of the year belonged to ConvaTec—a maker of specialty hospital devices, accessories and supplies, and another device player involved in wound care—which completed a $1.8 billion IPO on the London Stock Exchange in October. Similar to Acelity, ConvaTec will use the proceeds to pay back existing debt. Across ConvaTec's four business segments, its advanced wound-care division brought in the largest percentage (33%) of the company's 2015 revenues.

The IPO category made up 16% ($2 billion) of all the 2016 medtech financing dollars, but ConvaTec's IPO accounted for 75% of this total. Although 2016's dollar value was higher thanks to the ConvaTec outlier, only 10 medtech IPOs were done during 2016, versus 22 completed offerings in the 2015 IPO class, totaling $1.5 billion. FOPOs didn't rank highly in the 2016 financing landscape, bringing in an aggregate of $694 million (just 6% of the 2016 dollars); in 2015, in contrast, medtech FOPOs represented the second-highest financing category, making up 20% ($1.6 billion) of the total 2015 money.

Amanda Micklus and Maureen Riordan are based at Informa, 52 Vanderbilt Avenue, New York, New York 10017, USA. Correspondence to A.M. amanda.micklus@informa.com

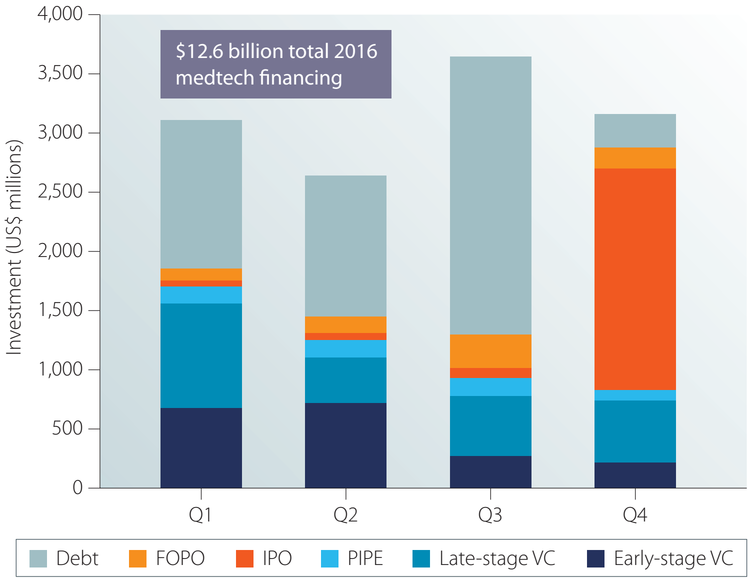

Figure 2: Total investment in medtech in 2016, by quarter and financing type. Debt raises were the most popular financing type during 2016, peaking in Q3, followed closely by late-stage VC funding rounds. Medtech IPOs saw little activity at the start of 2016 but then took the largest share in Q4. Source: Informa's *Strategic Transactions*. FOPO, follow-on public offering; IPO, initial public offering; PIPE, private investment in public equity; VC, venture capital.