Medtech Insight
Issue 53
medtech.pharmamedtechbi.com
Pharma Intelligence Informa
July 24, 2017

M&A ANALYSIS:

Philips Inks Trio Of Deals As Activity Levels Heat Up

CATHERINE LONGWORTH catherine.longworth@informa.com

Medtech deal activity continued to pick up in June, with the market showing no signs of a summer slump. Twenty-one transactions were announced and closed during the month, a surge in activity compared to the 12 deals recorded in the same period last year, and surpassing the 17 recorded in May. (See Figure 1.)

June's uptick in activity boosted total deal volume for the first half of this year, with *Medtech Insight*'s M&A Deal Tracker recording 89 transactions. If activity continues at the same rate, 2017 is on track to be a better year for M&A than 2016.

PHILIPS TRIPLES UP

It was a particularly busy month for Dutch health-care giant Philips, which scored a hat trick of acquisitions. The conglomerate is on a mission to grow its health-care business and has inked six deals to date in 2017. Earlier this year the group acquired Australia Pharmacy Sleep Services, a sleep testing services provider, and RespirTech, a US firm that markets airway clearance therapy vests.

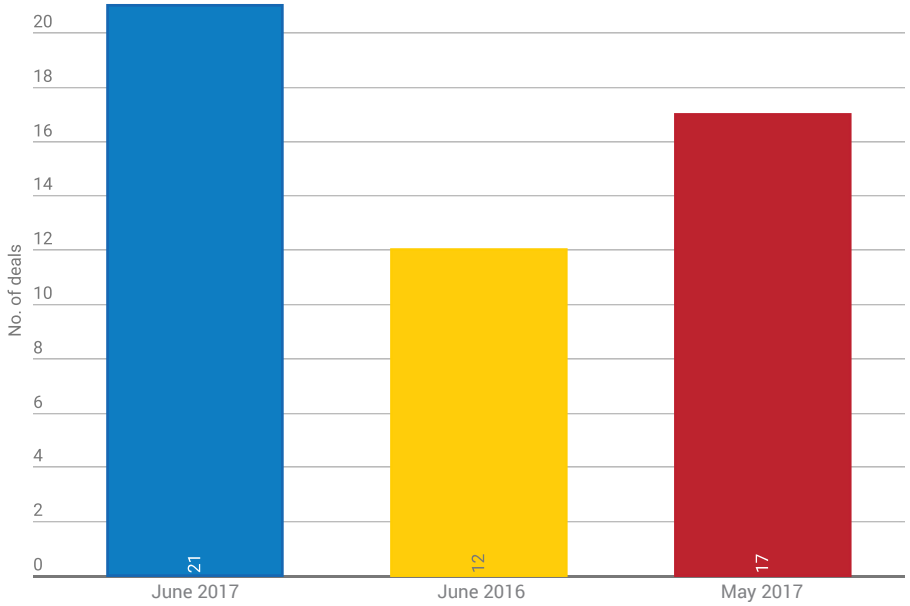
In the biggest deal of June, **Philips** agreed to buy **Spectranetics Corp.**, a maker of devices to treat heart disease, for $2.16bn including debt, as it expands its image-guided therapy business. *(Also see "Philips Grows Image-Guided Intervention Focus With Spectranetics Buy" - Medtech Insight, 28 Jun, 2017.)* Spectranetics is a leader in vascular intervention to treat coronary and peripheral artery disease, and in lead management for the minimally invasive removal of implanted pacemaker and implantable cardioverter defibrillator (ICD) leads. The company's portfolio includes a range of laser atherectomy catheters for treatments of blockages in both coronary and peripheral arteries.

Under the terms of the agreement, Philips will offer $38.50 per share in cash, 27% above Spectranetics' June 27 closing value. The deal will strengthen Philips' position in heart disease therapy following its acquisition of vascular imaging company **Volcano** in early 2015. In a statement, Frans

CONTINUED ON PAGE 16

FIGURE 1

M&A Deal Volume, June '17 vs June '16 vs May '17



Source: Medtech Insight M&A Deal Tracker

FROM THE EDITORS OF: **THE GRAY SHEET, CLINICA, START-UP** AND **MEDTECH INSIGHT NEWSLETTER**

POLICY & REGULATION
Medtech spending on "Open Payments," p. 7

COMMERCIAL
GUT FEELING: Nestlé pours more money into microbiome, p. 20

R&D
Nexstim eyes US depression market, p. 23

Over 100 event types

Over 100 catalyst types

Over 5,000 products

Meddevicetracker
Pharma intelligence | informa

Double **the Power**

Meddevicetracker with Medtech Insight reports is a new interactive real-time source of in-depth medical technology market intelligence

Meddevicetracker brings you closer to the medtech market, helping you to:

- Identify upcoming device regulatory events/filings
- Search for medtech clinical trial starts and data
- Find historical and forecasted procedure volumes data
- Monitor drug delivery technologies and identify partnership opportunities
- Quantify the market size for devices or diseases
- Discover forecasted market share of devices by type
- Understand the device competitive landscape and identify unmet clinical needs

Request your free demo today:
please visit - **www.meddevicetracker.com**


13


14


16

explore more:

exclusive online content

New kids on the block
http://bit.ly/29zivFF
Read our analysis of US and non-US product approval trends for June and find out what notable technologies have entered the market.

Medtronic's IT hiccup
http://bit.ly/2ul4x24
Will the recent computer crash at Medtronic, affecting its ability to fulfil orders globally, have any impact on the medtech giant's top-line next quarter?

Compliance Corner
http://bit.ly/2ulShht
Check out our latest expert tips on quality and compliance matters, including a piece on software validation.

Off-label chatter
http://bit.ly/2uaMOP9
Legislation has been introduced in the US Congress to provide clarity and more latitude in off-label communications by manufacturers about devices and drugs.

Device Week
http://bit.ly/2ula6xt
Our weekly podcast, where *Medtech Insight* journalists discuss topics they are covering that impact the device and diagnostics sector.

medtech.pharmamedtechbi.com

inside:

Medtech insight

DAVID FILMORE @MEDTECHDAVID
david.filmore@informa.com
TINA TAN @MEDTECHTINATAN
tina.tan@informa.com
SHAWN M. SCHMITT @MEDTECHSHAWN
shawn.schmitt@informa.com
REED MILLER @MEDTECHREED
reed.miller@informa.com
AMANDA MAXWELL @MEDTECHAMANDA
amanda.maxwell@informa.com
MARION WEBB @MEDTECHMARION
marion.webb@informa.com
SUE DARCEY @MEDTECH_INSIGHT
sue.darcey@informa.com
FERDOUS AL-FARUQUE @MEDTECH_DANNY
danny.al-faruque@informausa.com
ELIZABETH ORR @ELIZABETHJORR
elizabeth.orr@informa.com
CATHERINE LONGWORTH @MEDTECHCATE
catherine.longworth@informa.com
ASHLEY YEO @ASHLEYPYEO
ashley.yeo@informa.com
MAUREEN KENNY @SCRIPREGMAUREEN
maureen.kenny@informa.com
NEENA BRIZMOHUN @SCRIPREGNEENA
neena.brizmohun@informa.com
VIBHA SHARMA @SCRIPREGVIBHA
vibha.sharma@informa.com
JANET HANIAK SENIOR DESIGNER
GAYLE REMBOLD FURBERT DESIGN SUPERVISOR
RICHARD FAINT HEAD OF MEDTECH
richard.faint@informa.com
PHIL JARVIS MANAGING DIRECTOR

Editorial office:
52 Vanderbilt Avenue, 11th Floor, New York, NY 10017
phone 240-221-4500, fax 240-221-2561

CUSTOMER CARE:
1-888-670-8900 OR 1-908-547-2200
FAX 646-666-9878
clientservices@pharmamedtechbi.com

▶ join the conversation

We are tweeting, chatting, liking and sharing the latest industry news and insights from our global team of editors and analysts — join us!

@Medtech_Insight

Zimmer Biomet Names New CEO Amid Disappointing Earnings

REED MILLER reed.miller@informa.com

Zimmer Biomet Holdings Inc. announced a leadership change following another disappointing preliminary sales and earnings report.

Effective July 11, David Dvorak stepped down as president and CEO and gave up his seat on the orthopedics giant's board of directors. He will stay on with the firm in an advisory capacity for an unspecified period of time and will be entitled to compensation and benefits following his departure under his existing contract.

The board picked Daniel Florin, the company's current senior vice president and chief financial officer to also serve as interim CEO until a permanent successor can be found. Florin will also serve on Zimmer Biomet's board, but is not expected to be appointed to any committees of the board, according to a July 11 8-K filing with the US Securities and Exchange Commission.

Florin has been senior-VP and CFO since Zimmer merged with Biomet in June 2015, after serving as CFO of Biomet for eight years. Before that, Florin served as VP and corporate controller of **Boston Scientific Corp.** for six years, and previously he held various other financial positions at Boston Scientific after coming to the firm from CR Bard in 1995.

Immediately after announcing the leadership change, Zimmer Biomet released preliminary sales and earnings results for the second quarter of 2017.

Zimmer Biomet projects its second-quarter revenues will be about $1.954bn, up 2.1% year-over-year on a constant currency basis. This falls within the previously projected range of $1.940bn to $1.960bn. Excluding the acquisition of **LDR Holding Corp.** in July 2013, Zimmer Biomet's second quarter 2017 revenues are down 0.3% on a constant currency basis from the second quarter of 2016, which is below the company's previously stated guidance range of growth of 0.0% to 1.0% *(Also see "Zimmer Biomet Buys LDR To Boost Spine Revenue Growth" - Medtech Insight, 27 Jun, 2016.)*.

"While production output increased at our legacy Biomet manufacturing site in Warsaw, Indiana, during the second quarter, certain brands did not achieve targeted production levels as quickly as anticipated. We also experienced slower than expected sales recapture from previously affected customers in the United States," Florin said in a release "As we look toward the second half of 2017, we are focused on restoring full product supply and improving customer engagement, while continuing to progress on our quality enhancement efforts."

The company expects adjusted diluted earnings per share for the second quarter near the low end of its previously issued guidance range of $2.08 to $2.13, but the exact number will not be known until the company finalizes the tax accounting related to recently acquired businesses among other complicating factors.

These disappointing results come a quarter after the company downgraded its full-year sales and earnings projections and told analysts that the integration of Biomet into Zimmer, especially impacting the sales of certain "legacy Biomet brands," was not going as smoothly as hoped. *(Also see "Earnings Winners and Losers: JNJ, MMSI, ABT, ZBH, SNN, EW, Plus Round-Up" - Medtech Insight, 8 May, 2017.)*

The Warsaw, Indiana, company has also been working to resolve manufacturing deficiencies at a Warsaw facility that was originally run by Biomet. The company said it began remedying these problems even before the US FDA found extensive violations of the Quality System Regulation in the fall of 2016. *(Also see "Zimmer: Surprised By Biomet Quality Problems, But Responded Before FDA Arrived" - Medtech Insight, 26 Jun, 2017.)*

"We think that investors will likely view the management change as positive, but believe that finding the right CEO is critical to restore investor confidence in the company," Wells Fargo analyst Larry Biegelsen writes in a July 12 note. "The weak Q2 results show that Zimmer Biomet's supply constraints persist and recapturing sales lost to competitors over the last several quarters may not return as quickly as expected."

Biegelsen says the company will likely have to again downgrade its full-year 2017 earnings guidance during its upcoming July 27 earnings report. In April, the company projected full-year 2017 revenue would be up 2.0% to 3.0% over 2016 and in a range of $7.835bn to $7.915bn, which was a decrease from the previous quarter's prediction of 2.2% to 3.2% growth and $7.855bn to $7.930bn total revenue in 2016.

Zimmer Biomet's stock price jumped from $126.73 shortly before both announcements on July 11 to open on July 12 at $128.46, but then settled down again closer to $126 on the afternoon of July 12.

Goldman Sach analyst Kathleen McMahon writes that investors, most of whom anticipated this CEO change, may already be too optimistic about the firm's 2018 earnings prospects. "Consensus still calls for 9% [earnings per share] growth in FY18, which we think looks increasingly unrealistic," she writes in a July 12 note.

"Competitive pressure will accelerate. We expect share loss in hips/knees to increase as sales force uncertainty mounts and competitors seek to capitalize on the situation. Meanwhile, regulatory issues remain difficult to handicap given the 2Q miss," McMahon predicts. "Uncertainty is likely to increase. Assuming a new CEO is appointed quickly, we think that person will likely need to spend months staffing a new management team, re-engaging the sales force, vetting competitive risks, working with regulators, and finding ways to accelerate debt service. We think all of these events would preclude long-term guidance for shareholders."

Published online 07/12/17

Medtronic Expects Settlements Of Infuse Suits

ELIZABETH ORR elizabeth.orr@informa.com

Medtronic has reached agreements to settle almost all of the 6,000 pending personal injury lawsuits related to controversial spinal surgery product *Infuse*, the company announced in a recent filing with the US Securities & Exchange Commission.

The filing states that Medtronic had reached agreements to settle "substantially all" of the filed or threatened claims as of June 1. While the value of the confidential settlements wasn't announced, the company noted that it had set aside $300m to cover all legal fees and settlements for the fiscal year.

A St. Louis judge had ruled in January to let an Infuse patient's complaint against Medtronic move toward a jury trial. Court testimony and documents could have given ammunition to other plaintiffs, some observers say.

Medtronic had previously announced settlements in about 4,000 additional personal injury suits related to the use of Infuse, including $22m to settle 950 such claims in 2014. Other Infuse-related legal bills included $40m to the US Department of Justice in 2006 to resolve a whistleblower suit alleging the company paid kickbacks to doctors who promoted Infuse, and $85m to shareholders in 2012 to resolve allegations that it failed to reveal that most sales of Infuse were for off-label surgeries.

The company has denied wrongdoing in each suit.

But the filing reveals that settling the product safety suits won't completely close the book on Infuse litigation. Medtronic says it is cooperating with subpoenas and other requests from the attorneys general of Massachusetts, California, Oregon, Illinois, and Washington looking for sales, marketing, clinical, and other information relating to Infuse.

In addition, a separate case filed by insurers Humana, Inc., accused Medtronic of committing racketeering violations through its off-label marketing of Infuse. A Tennessee federal court dismissed the case in 2015, but later gave Humana permission to refile. That case isn't included in the planned settlements because its ultimate costs are not yet known. The company is also still facing at least two shareholder suits regarding the fraudulent promotion of Infuse. *(Also see "Court Revives Medtronic Stock Fraud Case" - Medtech Insight, 5 Jan, 2017.)*

Infuse, which uses a genetically engineered biological product to encourage bone fusion after spinal surgery, has been at the center of several controversies relating to its safety and effectiveness, clinical developing and marketing practices. A 2013 analysis of clinical data found that the treatment offered little advantage over bone grafts, and in 2011 researchers learned that Infuse had a real adverse event rate of up to ten times more than shown in published studies. Reviews have also found that Medtronic had an inappropriate level of control over published studies of Infuse. And in April 2016, the *Minneapolis Star-Tribune* alleged the company hadn't properly reported known adverse events involving Infuse to FDA – a charge Medtronic disputes. *(Also see "Medtronic Refutes Claims Of Gaps In Infuse Adverse-Event Reporting " - Medtech Insight, 12 Apr, 2016.)*

Published online 07/12/17

'OPEN PAYMENTS' PEEK:

Device, DX Company Payments To Physicians Slightly Down In 2016

SUE DARCEY sue.darcey@informa.com

The top-20 spenders among medtech and diagnostic companies gave slightly less to physicians in 2016 than they did in 2015 in terms of royalties, consulting fees, food and beverage, and other items of value, according to data from the US Center for Medicare and Medicaid Services Open Payments database. Research payments by medtech firms were also a little bit lower for the top-20 spenders in 2016 than in the prior year, according to the database.

Companies are required to report payments of value to doctors and teaching hospitals annually to CMS under an Affordable Care Act provision, which also mandates that CMS collate and post the total payments for items including continuing medical education, sales-related payments, research costs, and clinical trials tabs by company (or company division) on the publicly available Open Payments website each year. *(Also see "Company Payments To Teaching Hospitals Hard To Distinguish In Open Payments" - Medtech Insight, 2 Aug, 2016.)*

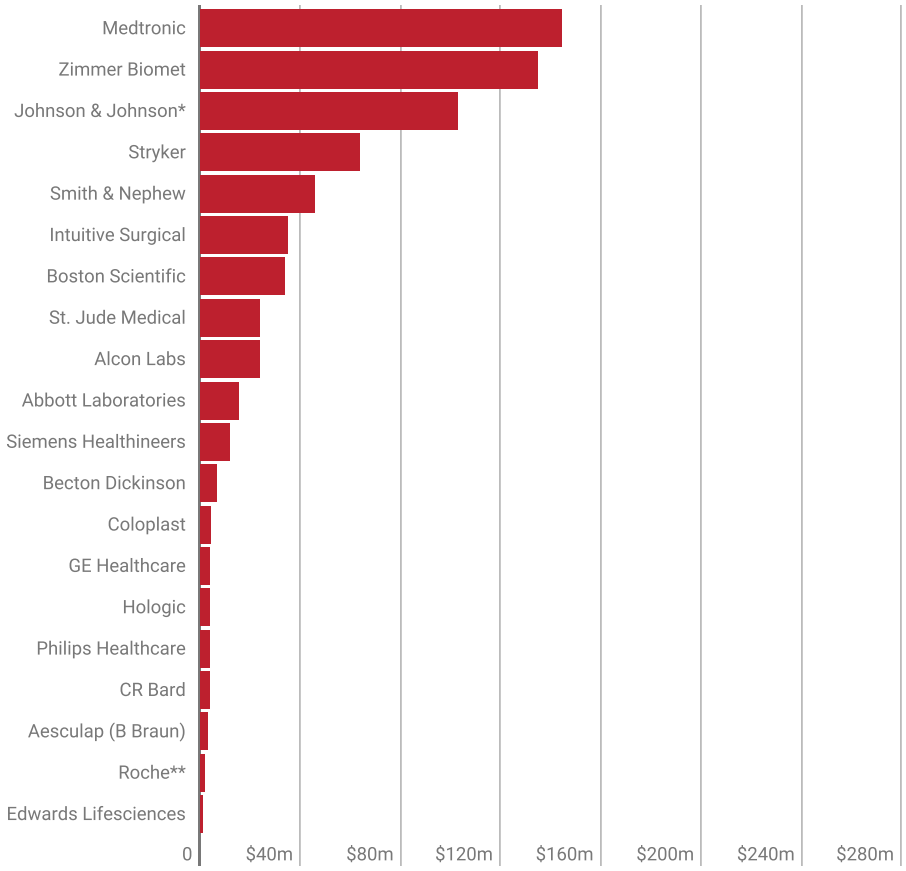
GENERAL PAYMENTS TO PHYSICIANS

A targeted peek at just "general payments" dollars spent on physicians last year compiled and analyzed by *Medtech Insight* shows that the 20 biggest spenders among device and diagnostic firms reported payments totaling approximately $667.17m in 2016, dipping a little bit below the roughly $679.05m combined payments from the same firms provided to doctors in 2015.

General payments include consulting fees, compensation for services other than consulting, gifts, food and beverages, travel and lodging, education, royalty or license, and compensation for serving as faculty or a speaker for continuing medical education (CME), among other categories.

FIGURE 1

Top 20 Device, Dx Firms: General Payments To Physicians, 2016



*All device divisions

**Roche Diagnostics; Roche Molecular

Source: CMS Open Payments database

Among the top payers to providers in 2016 for general payments were orthopedic, cardiovascular, and surgical market leaders, including **Medtronic PLC**, **Zimmer Biomet Holdings Inc.**, **Johnson & Johnson**, **Stryker Corp. Smith & Nephew PLC**, and **Intuitive Surgical Inc.** (See Figure 1.)

The list of top 20 medtech firms in physician payment spending overlaps heavily with the top 20 companies listed in *Medtech Insight*'s MTI 100 ranking by sales (2014-2015), but the ranking order is much different. (See Table 1, p. 8.)

Five companies, for instance, that are in the top-20 of the MTI 100 list were not among the top 20 Open Payment spenders – **Danaher Corp.**, **Omron Corp.**, **3M Co.**, **Olympus Corp.** and **Baxter International Inc.** Among those, no 2016 payments could be found in Open Payments for Danaher and Omron.

RESEARCH PAYMENTS TO PHYSICIANS

In a separate category tracked in Open Payments – research – a similar list of 20 companies reported a combined $221.21m in "research payments" to physicians in 2016, down slightly from the $243.75m in combined payments reported in 2015. Research payments are defined by Open Payments as those made for different types of research activities, including enrolling patients into studies of new devices. As might be expected, the list of top-20 payers for research services reflects those companies heavily engaged in research and development on medtech products, and not necessarily the top sales-getters. (See Figure 2 on p. 9.)

For example, **Edwards Lifesciences Corp.**, primarily a cardiovascular device company, which ranked 20th in 2016 in the general payments Open Payments category, was number two in research spending among medtech firms on Open Payments. Similarly, test manufacturer **Roche Diagnostics Corp.** (combined with genetic-based test maker **Roche Molecular Diagnostics** in the tally) was ranked 19th for general payments last year, but jumped up to 10th place for research dollars spent on physicians.

On the other hand, Intuitive Surgical spent heavily on physician education, a category within general payments, in 2016, helping it reach the 6th position among top-spending medtech firms in general payments. But Intuitive ranked as 20th place in research payments last year. US FDA pushed Intuitive, which manufactures the *da Vinci* system surgical robot, to upgrade its training and provide more education of surgeons to successfully use its surgical robots, following a rash of adverse events incidents with the systems in 2013 and 2014. *(Also see "FDA Raises Design, Training Questions With Surgical Robots" - Medtech Insight, 16 Jul, 2015.)*

TABLE 1

Open Payments v. MTI 100 Medtech Rankings

RANK	TOP 20 DEVICE AND DIAGNOSTIC FIRMS, 2016 GENERAL PAYMENTS, OPEN PAYMENTS DATABASE	RANK	TOP 20 DEVICE AND DIAGNOSTIC FIRMS, RANKED BY SALES, MTI 100
1	Medtronic	1	Medtronic
2	Zimmer Biomet	2	Johnson & Johnson
3	Johnson & Johnson	3	GE Healthcare
4	Stryker	4	Siemens Healthineers
5	Smith & Nephew	5	Cardinal Health (medical segment only)
6	Intuitive Surgical	6	Philips Healthcare
7	Boston Scientific	7	Roche Diagnostics (diagnostics sales only)
8	St. Jude Medical	8	Danaher (life sciences, diagnostics and dental)
9	Alcon Laboratories	9	Becton Dickinson
10	Abbott Laboratories	10	Stryker
11	Siemens Healthineers	11	Abbott Laboratories
12	Becton Dickinson	12	Boston Scientific
13	Coloplast	13	Baxter International
14	GE Healthcare	14	Omron
15	Hologic	15	B Braun
16	Philips Healthcare	16	Zimmer Biomet
17	CR Bard	17	St. Jude Medical
18	Aesculup (B Braun)	18	3M
19	Roche (Roche Diagnostics/ Roche Molecular)	19	Olympus Medical
20	Edwards Lifesciences	20	Smith & Nephew

Sources: CMS Open Payments database; Medtech Insight MTI 100

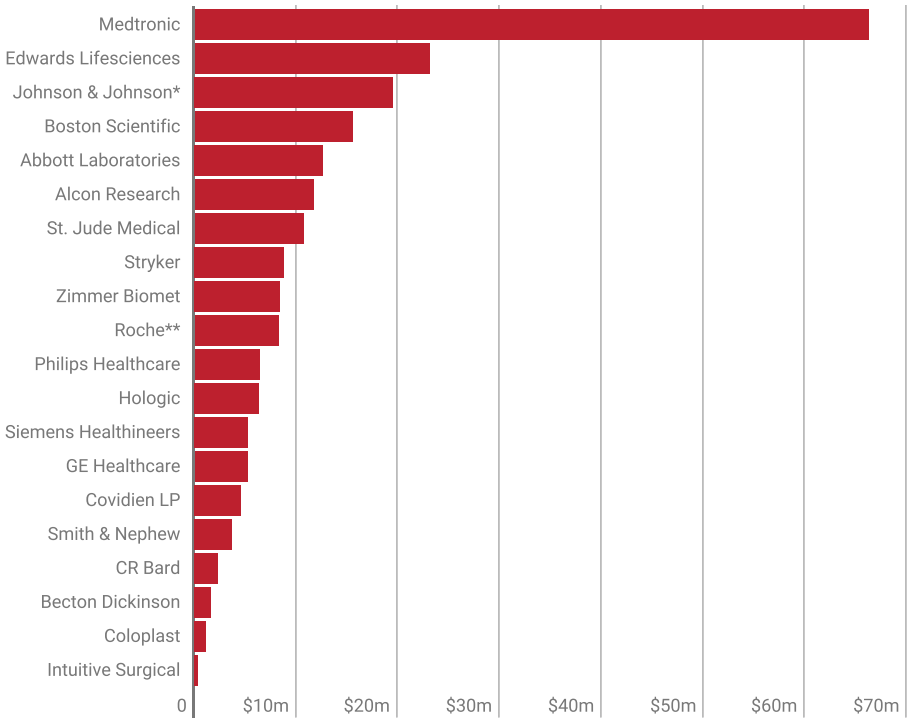
VARYING PAYMENT AMOUNTS IN 2013 TO MORE PREDICTABLE TRENDS IN 2016

With four years' worth of data under its belt, CMS's Open Payments database reveals that vastly differing payment levels in the initial years of reporting by two of the highest-paying medtech companies under the program, have settled down into more predictable trends. (See Figure 3 on p. 9.)

For example, the data depicted below shows in 2013, all of Johnson & Johnson's combined medical device divisions (including **Ethicon Endo-Surgery Inc.**, **Biosense Webster Inc.**, **DePuy Synthes Spine Inc.**, among others) spent $308.30m on general payments to physicians, but in the following years, 2014, the J&J parent company and all its device-related divisions dropped its payments by more than half, down to $117.84m.

FIGURE 2

Top 20 Device, Dx Firms: Research Payments, 2016



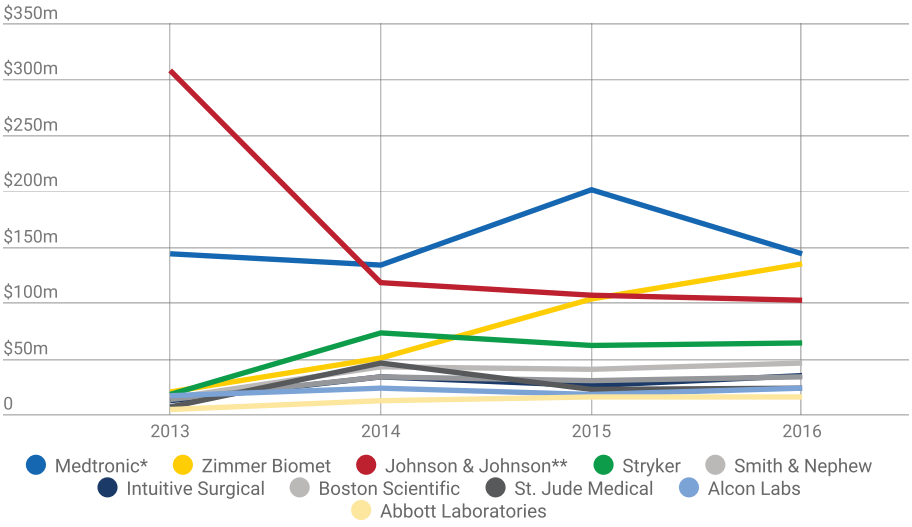
*All device divisions

**Roche Diagnostics; Roche Molecular

CMS Open Payments database

FIGURE 3

Four Years Of 'General' Payment Trends To Providers, Top 10 Firms



*Includes Covidien divisions for 2015 and 2016

**All device divisions

Source: CMS Open Payments database

Medtronic, which in 2014 paid out $134.11m to physicians, dramatically increased its spending to $200.91m in 2015, a rise that may be explained by its merger with **Covidien Ltd.** in January of that year.

But in 2016, both J&J's and Medtronic's payments to providers, have been more in line with what the other top-10 spending device companies paid annually for general payments to physicians, between $25m – $150m total.

Also, one the top 10 spenders, Zimmer Biomet, has steadily increased its general payments to physicians from 2013, when it spent $19.75m, to 2016, when its payments rose to $144.14m. Meanwhile, most of the other 10 firms showed steady – almost flat-line payments to doctors between 2013 and 2016. The rise of payments at Zimmer Biomet was likely impacted by the 2015, $13bn merger of orthopedic firms Zimmer and Biomet. *(Also see " BUSINESS BITES: Zimmer becomes Zimmer Biomet; Amendia grows spine portfolio; Mindray MBO gathers pace" - Medtech Insight, 25 Jun, 2015.)*

A LOOK AT FIVE COMPANIES' SPENDING, BY CATEGORY

Not every company's spending on physicians and teaching hospitals follows the same patterns. In some cases, firms may have more invested in royalties, or consulting fees, to support devices they have developed and marketed, while other firms have been placing more financial value on education, or training sessions that may require heavy expenditures of travel and lodging, or food and beverage payments to physicians.

Figure 4 (p. 10) illustrates how five companies spent their "general payment" dollars on physicians in 2016.

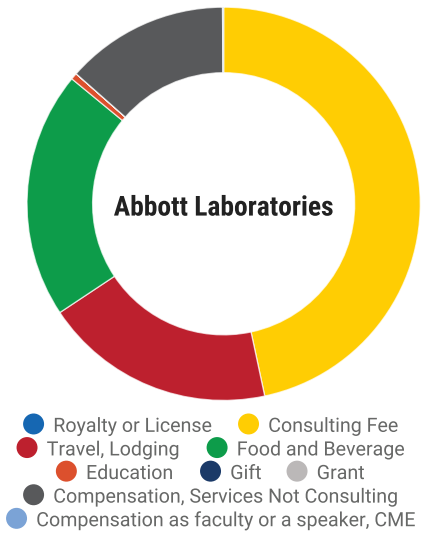
OVERALL SPENDING REACHED $8.18BN

Overall, 2016 Open Payments data showed that device and drug companies reported a total of $8.18bn in payments to physicians and teaching hospitals last year, including items of value that 1,481 companies gave to 631,000 total physicians and 1,146 teaching hospitals.

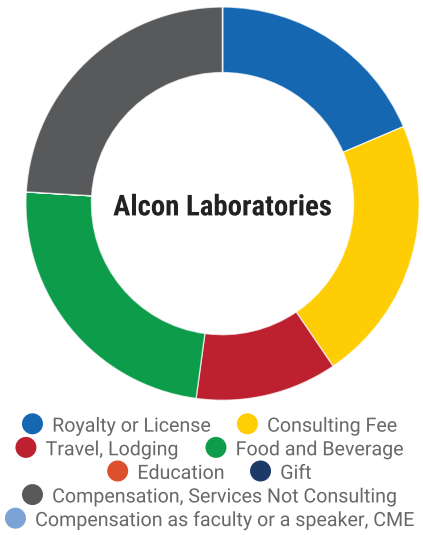
FIGURE 4

How Five Firms Paid Docs, By Category, In 2016

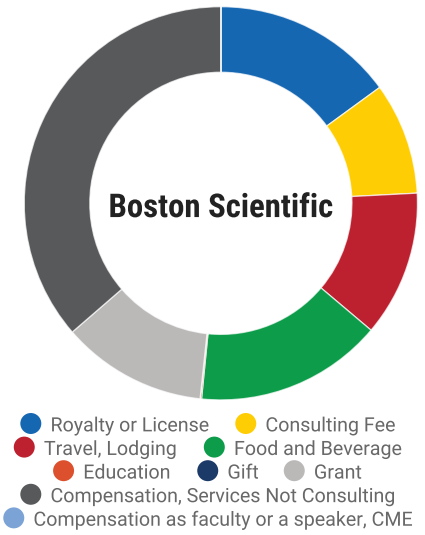
Abbott Laboratories



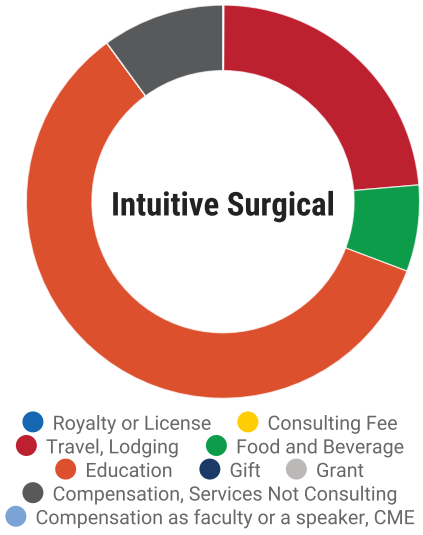
Alcon Laboratories



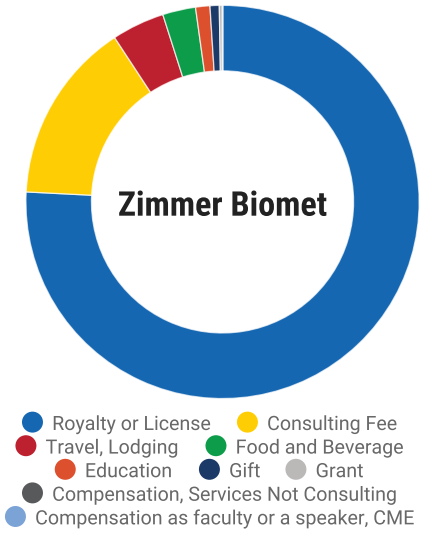
Boston Scientific



Intuitive Surgical



Zimmer Biomet



Source: CMS Open Payments database

For the 2016 reporting year, CMS also added more graphics, making make it easier to see how much each physician received on a comparative sliding scale to other physicians. The new tools also provide total payments by companies to physicians, broken down by "nature of payment" into easily accessible pie charts.

Published online 07/13/17

US FDA User-Fee Bill Will Pressure Budget In 2023

DERRICK GINGERY derrick.gingery@informa.com
SUE DARCEY sue.darcey@informa.com

An apparently unprecedented restriction of future FDA spending is slated to be included in user-fee reauthorization legislation, and could impact the ability of the agency to recruit and retain the nation's best scientists and device reviewers.

Beginning Oct. 1, 2023, the agency will not be able to rely on user-fee money for building maintenance and other related areas like furniture acquisition or fixtures. Fee revenue would be limited to only leasing costs and "necessary scientific equipment," according to the FDA Reauthorization Act, which passed the House July 12, and is heading to the Senate. *(Also see "US FDA User-Fee Bill Swiftly Passes US House, Now Moves To Senate" - Medtech Insight, 12 Jul, 2017.)*

The provision, which would apply to the medical device user fees, prescription drug, generic drug, and biosimilar user-fee programs, is included in the final section of the FDARA bill, appearing on page 229 of the 230-page document.

Rep. Frank Pallone, D-N.J., House Energy and Commerce Committee ranking member, complained about the "troublesome language" during floor debate, saying it prohibits FDA from making investments it needs as part of future user-fee agreements.

"It's important that the FDA maintain a work environment that allows the agency to recruit and retain the world's best and brightest," Pallone said. "I am concerned that this final agreement preserves language advanced in the Senate that will make it difficult in the future for FDA to make the investments needed to recruit personnel and meet the performance goals set out in the user-fee reauthorizations."

When MDUFA IV launches in October, FDA will allocate user-fee money toward recruitment of hundreds of new employees, a move that FDA Commissioner Scott Gottlieb heartily endorsed during a House Appropriations Subpanel hearing in May, when he announced the lifting of the agency's hiring freeze on May 25. *(Also see "US FDA's Gottlieb Wants Safety Built Into New Medtech Products, But Budget Will Be Cut To Surveil Older Ones" - Medtech Insight, 25 May, 2017.)*

The restriction on facility spending is concerning because it would cut off a source of money for a specific agency purpose at a time when non-user-fee funding is dwindling.

The latest House appropriations bill offers no increase in FDA's non-user-fee funding for fiscal year 2018. *(Also see "House Budgeters Give FDA Device Center Slight Bump In 2018" - Medtech Insight, 30 Jun, 2017.)*

It is unclear why the provision was inserted into the bill. Interestingly, the issue was not a major point of concern among stakeholders. A spokesperson for the Energy and Commerce Committee's Democratic members said they have not received any industry complaints about user-fee spending on building maintenance.

The language could be intended to motivate FDA to review and potentially change its policy.

Sen. Richard Burr, R-N.C., had complained during the reauthorization process that FDA should be held more accountable for its user-fee spending.

Burr proposed a claw-back provision be added to the user-fee agreements that would take non-user-fee dollars from FDA's budget if it did not meet review performance goals. *(Also see "US FDA Might Face Funding Penalty For Missing User-Fee Goals" - Medtech Insight, 5 Apr, 2017.)*

That provision did not make it into FDARA, but the bill does require a study of FDA spending on facility maintenance and renovation from FY 2012 through FY 2019 and an analysis of the agency's ability to "further its public health mission and review medical products by incurring the expenses."

> "It is important that the FDA maintain a work environment that allows the agency to recruit and retain the world's best and brightest," says Rep. Frank Pallone, D-NJ.

NOT ENOUGH TO STOP BILL PASSAGE

Pallone's concern was not enough to derail the bill or have the provision removed. FDARA was pre-conferenced with the Senate, meaning leaders in both chambers signed off on the final language before it reached the House floor. The Senate likely will not make changes when it takes up the legislation to ensure swift passage.

If the user-fee programs are not reauthorized before August, FDA would have to notify thousands of employees that they could be laid off should the user-fee programs not be renewed.

FDA and stakeholders likely will spend time during the MDUFA IV program cycle (FY 2018-2022) to determine whether or how to get the provision removed or adjusted.

FEES PLANNED FOR BIG PORTION OF FY 2018 WHITE OAK EXPENSES

FDA allocated millions in user-fee revenue for its White Oak (Maryland) headquarters maintenance in recent fiscal years. And President Trump planned to fund most of the White Oak budget with user-fee revenue in FY 2018. (See table, "FDA's White Oak Budget.")

In its FY 2018 budget request, the agency said its White Oak campus is aging and operating costs are increasing. It asked for

FDA's White Oak Budget

FISCAL YEAR	BUDGET AUTHORITY	USER FEES
FY 2014 Actual	$58.04m	$3.56m
FY 2015 Actual	$43.04m	$3.64m
FY 2016 Actual	$48.04m	$900,000
FY 2017 Continuing Resolution	$47.95m	$3.81m
FY 2018 Budget Request	$12.56m	$44.32m

Source: FDA FY 2018 budget request, congressional justification

money in addition to standard repair and improvement allocations to address the problems.

FDA accommodated more than 10,500 employees at White Oak in 2016, many more than expected. But even though the agency is running out of space there, in 2016, senators told FDA to come up with innovative financing options to meet its construction plans or alternative space ideas, stating that no additional money was available.

FDA opened new lab and office space at White Oak in 2014, which allowed employees working in leased space offsite to relocate to the main agency campus. Parking and space problems have persisted as FDA's employee count grew.

Published online 07/13/17

Health-Care Location Coding Could Cut Medtech Rebate Errors, Pilot Finds

ELIZABETH ORR elizabeth.orr@informa.com

Unified location coding could help resolve two-thirds of chargeback and rebate issues in the medical device industry, outcomes from a pilot project conducted by standards organization GS1 and the Health Care Industry Distributors Association (HIDA) show. The groups have issued two documents, a proof of concept paper and a best practice guide, detailing the effort and results.

GS1's Global Location Number (GLN) system, which lets GS1 members assign standardized numeric identification codes to specific locations, has been rolled out across a range of industries. The system can be granular enough to assign codes not just to individual buildings, but to specific rooms within a facility. But while it's seen adoption in areas such as the restaurant industry, usage in health care has been slow.

To change that, GS1 and HIDA joined forces to see how GLN could help the medical device industry resolve rebates and chargeback issues. The problem arises because different providers contract with manufacturers to pay different prices for medical devices and supplies. The distributor pays one fee up front, and if the provider's payment is below what the distributor paid, it's up to the distributor to go back to the manufacturer to ask for the additional money back.

But if the distributor, the manufacturer and the customer don't have a set code for the ultimate client location, it can be hard for distributors to get the refund they deserve. Historically, each party in a transaction has used its own proprietary system to code locations.

"There's a lot of activity that goes on reconciling a rebate request back to the manufacturer," says Beth Gibson, GS1's senior director of industry development for medical devices. "And it's always driven by sales; they have to show the manufacturer, 'I sold 10 cases of this product to hospital X, therefore I need $5,000 back from you.'" And the complications only grow if, as is common, a contract includes different prices for different individual facilities covered under a single contract, she said.

"There's a lot of activity that goes on reconciling a rebate request back to the manufacturer," explains Beth Gibson, GS1's senior director of industry development for medical devices.

Jeff Girardi, director of industry affairs, HIDA, said his group was drawn into the project due to member concern over the contracting process in health care. "[Contracting] is fragmented; there's so much inefficiency, there's a ton of waste, and it's been like that for decades," he said. "In the past, people tried to see what they could do at one fell swoop, and we decided to focus on manufacturer-distributor communication and see what we could improve there." Working with GS1 fit into that ongoing initiative, he said.

GLN allows the manufacturer, provider and distributor to all use the same code, which may even let them do away with proprietary systems. Because providers often don't have or need established GS1 memberships, the group has set aside a bank of prefixes that group purchasing organizations can assign to their clients.

HIDA's Girardi said that standardized location codes, such as GLNs, fill a known need. "Industry knows there needs to be one standard; everyone's just been waiting for the data to be there." One cause of the delay, he said, has been the lack of regulation to force a standardized system.

"The silver lining with the new [Unique Device Identifier] rule is, it's forced manufacturers to comply with these labeling require-

ments, so if people are already incentivized to standardize their labels with the G10, they're asking why they can't do the same thing for customer location," he said.

BIG BENEFIT: PRICING ACCURACY

The GLN proof-of-concept pilot program involved five participants: Two device manufacturers, two distributors, and one group purchasing organization. Each participant submitted data that used a proprietary custom identifier. During the trial, using a GLN to identify the customer resolved 31% of rebate discrepancies. An additional 35% could be reconciled with GLN and minor additional effort.

Gibson suspects the remaining 34% could also be resolved with a more thorough use of GLN. "It's the same problem, but it would take a synchronization effort between manufacturers and providers to get the hierarchy accurate and complete," she said.

While the distributor has the greatest financial interest in GLNs, Gibson also sees benefits for manufacturers. "We know that once the manufacturer and distributor are aligned, the other beneficiary is the provider, because they'll get the right price on their invoice every time," she said. "And invoice error has always been one of the biggest complaints of providers. This would go very far to help provider pricing accuracy, which could be a big distinguishing factor for manufacturers in contracting."

Girardi said GLNs would also save manufacturers as well as distributors money by eliminating inefficiencies, rework, and time lost on payment rejections or disputes.

As a follow-up to the proof of concept, the GS1-HIDA workgroup is developing a quick-start guide for the health-care industry explaining how to implement GLNs in the rebate and chargeback process, Gibson said. The guide is expected by the end of the year.

Published online 07/17/17

MRI Coverage Policies Reconsidered By US Medicare Agency

DAVID FILMORE david.filmore@informa.com

The US Centers for Medicare and Medicaid Services has decided to reconsider its national coverage policies for magnetic resonance imaging services.

CMS opened a national coverage analysis for MRI on July 12. The tracking sheet posted by the agency does not provide many details as to what prompted the coverage review or what changes it might consider making to covered or noncovered MRI indications. But medical imaging device manufacturers says it sees the step as a promising opportunity.

The Medical Imaging and Technology Alliance "appreciates this opportunity to update CMS on the latest research regarding MRI," said MITA Executive Director Patrick Hope in a statement to *Medtech Insight*. "We look forward to working with the agency to ensure Medicare beneficiaries have access to the latest technologies."

The coverage analysis is labeled as internally generated, meaning CMS decided to conduct the review on its own rather than in response to a stakeholder request. "CMS is opening this national coverage analysis to reconsider coverage indications for MRI," the tracking sheet states. MRI has been covered by Medicare since 1985 for a "number of uses," according to CMS.

The agency has conducted three prior reconsiderations of MRI coverage since 2009, but those have been very targeted in focus. In 2009, CMS removed "blood flow measurement" from the list of noncovered MRI indications, and, since then, the agency has expanded coverage of MRI in some instances for patients implanted with cardiac pacemakers and implantable cardioverter defibrillators. *(Also see "Physicians Push For Less Restricted MRI Coverage For Pacemaker-Implanted Patients" - Medtech Insight, 30 May, 2011.)* Aside from those exceptions, the tracking sheet notes, "MRI is generally noncovered when certain patient-specific contraindications are present, including, among others, patients who have implanted cardiac pacemakers."

Shutterstock: Tyler Olson

Comments to CMS in response to the reconsideration are due Aug. 11. CMS anticipates issuing a proposed decision by Jan. 12, and to finalize a new policy by April 12 of next year.

This is the second internally generated national coverage analysis CMS has opened for a medical device service in recent months. On May 30, the agency announced it was reconsidering its coverage policies for ICDs.

Published online 07/14/17

With EU Notified Body Numbers Tumbling, How Do Manufacturers Ensure Seamless Transition To MDR?

ASHLEY YEO ashley.yeo@informa.com


Shutterstock: Phovoir

EU medical device manufacturers must think they have done something really bad in a former life: making the huge adjustments necessary *en route* to complying with the Medical Device and IVD Regulations (MDR/IVDR), in force since May 25, 2017, is a big enough challenge.

But add to that the uncertainties of Brexit and the growing pressures on their notified body (NB) partners, and medtechs might just see it as a costly journey of indeterminate length, in an uncertain direction and probably with delays. And when they eventually arrive, it could be in the company of a different NB partner to the one they started out with.

In spite of the uncertainties of the MDR and Brexit, preparation is everything. That was the clear message from a Hogan Lovells double-handed webinar this week on "Preparing for Brexit and the new MDR and IVDR." The speakers convened by the law firm described a landscape of huge change that medtechs not only need to master themselves, but also ensure that their stakeholder partners – authorized representatives (ARs), distributors, importers, suppliers and NBs – can handle what is expected of them.

UK BREXIT REPEAL BILL IN DEBATE SOON

And although there is a creeping sense of a conditional tense being timidly applied to Brexit (or at least to "hard Brexit"), the UK government is keen to press on unabashed. Yesterday, it published its Great Repeal Bill (aka the European Union (Withdrawal) Bill), which will cancel the European Communities Act of 1972 and remove the supremacy of EU law. *(Also see "UK Being Edged Toward The EU's Back Door – Is It So Simple?" - Medtech Insight, 28 Nov, 2016.)* It will probably be debated in the fall, and will need to be passed by March 29, 2019, when the UK is scheduled to leave the EU.

Between now and then, medical technology companies will need to have resolved many issues that could well harm their competitive positions. And under current schedules, with Brexit due to take place before the MDR and IVDR come into full application (May 26, 2020 and 2022, respectively), Hogan Lovells recommends companies factor Brexit as well as MDR/IVDR compliance into decision making as of now.

NB'S CONFORMITY ASSESSMENT COSTS SPIRAL

NBs' conformity assessment costs are expected to rise two to three times higher than present levels, as NBs transition to the MDR/IVDR. Clinical study/evaluation costs could rise four-fold. *(Also see "EU MDR Set To Rack Up Costs For Industry, German Medtechs Say" - Medtech Insight, 13 Jul, 2017.)* And there will likely be fewer, more specialized NBs. Hogan Lovells suggests the number of EU NBs accredited under the MDR could drop to 35 (under the Medical Devices Directive, 93/42/EC), from 57 at present.

This substantial drop may create big problems for manufacturers if the NBs they are using decide not to apply for re-designation under the new regulations. NBs can only apply for this "relicensing" as of November 26. IVD-accredited NB numbers are expected to remain stable, at around 20 (from 22 at present). But some device and IVD manufacturers will need to look for new NBs as soon as possible, mindful that their NB might also reduce its scope or withdraw from the sector entirely. *(Also see "EU Notified Bodies 'Under Pressure And Scared'" - Medtech Insight, 3 Jul, 2017.)*

WAITING LISTS FOR NEW CLIENTS AT NBS

Some NBs are reportedly not taking on any new clients at present, and waiting lists are said to be reaching 6-9 months.

Another potential complication is that auditing re-designation may take up to 12 months, so it is possible that an NB may not be able to start conformity assessment work until late 2018/early 2019 – leaving only 18 months for them to complete their compliance work under the MDR. Furthermore, NBs are reportedly saying that it will take 18-24 months to transition *all* their clients under the MDR.

This gives an indication of NBs' ability, in general, to work within the timeframes of the MDR and IVDR. Another question is

how do NBs prioritize their work for manufacturers – first come, first served? Largest first? NBs are actively seeking guidance on this so that customers can be treated fairly.

And as to the Brexit question and how it affects the UK's five NBs – BSI, LRQA, Amtac, SGS and UL – they have considered if setting up an operation in another (EU) country, for instance, the Netherlands, might provide solutions for them and their clients in matters of continuity of business. *(Also see "UK Medtech One Year Post-Brexit Vote: Still In The Land of Uncertainty" - Medtech Insight, 4 Jul, 2017.)*

MANUFACTURERS' STRATEGY: TEAMWORK, PLANNING, INCLUSIVENESS

It's clear that to minimize disruption to business, manufacturers must understand the potential issues for NBs that could lead to delays in conformity assessment. Hogan Lovells advises them to evaluate their portfolios, plan well and budget properly for the transition to MDR/IVDR, which means engaging internally and externally, setting up a transition team of several people (including management), and including independent third parties, for balance. Whether that transition is seamless depends on how much they can do now.

> "The substantial drop in notified bodies may create big problems for manufacturers if the NBs they are using decide not to apply for re-designation under the new regulations.

But there might also be business opportunities for some companies in all the confusion. MDR/IVDR-inspired portfolio evaluations might lead some companies to drop certain products that might then be picked up by third parties. Equally, companies' competitive positions might be improved by rivals leaving an industry sector, simply because they don't have the resources. Companies dropping out of certain markets is thought to be a fairly likely scenario in the IVD sector.

And some companies use CE marking to ease their entry into other, global markets. This happens for some 30% of CE-marked devices, says Hogan Lovells.

The unspoken warning is medtech manufacturers may think they are at the start of the MDR/IVDR and Brexit journey, but time – and their potential NB options – are already running out or narrowing.

Published online 07/14/17

Indian Medtech Finds Errors In New Draft List Classifying Devices, IVDs

VIBHA SHARMA vibha.sharma@informa.com

The medtech industry has found discrepancies in India's device classification list

Shutterstock: RuthChoi

Indian medical device industry association AiMeD says it has identified errors in the Central Drugs Standard Control Organization's recent draft list that classifies over 700 medical devices and *in vitro* diagnostics.

During its initial review of the list, the trade association noticed that some of the devices had been classified incorrectly, according to AiMeD forum coordinator Rajiv Nath. For example, a scalp vein set for administering parental fluid/medication into a patient's vascular system has been classified as a Class C device, whereas as per its intended use and according to the rules, it should be categorized as Class B, Nath said.

Nath told *Medtech Insight* that the association has circulated the draft list to its member companies for review and comments. The list, when finalized, will help with the implementation of India's new Medical Device Rules, which are slated to come into force in January 2018. *(Also see "India Clarifies Classification Plans For Over 700 Devices & IVDs" - Medtech Insight, 12 Jul, 2017.)(Also see "India Can Do More To Align New Medtech Regulations With Global Norms, Says Industry" - Medtech Insight, 6 Feb, 2017.)*

The new medical device rules will require all devices and IVDs to be classified according to the risk-based system developed by the International Medical Device Regulators Forum: Class A (low risk), Class B (low moderate risk), Class C (moderate high risk) and Class D (high risk). Most of the devices and IVDs on the draft list at present appear to follow the EU medical device directives, said Nath. AiMeD expects the list to be finalized at least three months before the new rules come into effect.

Consultancy firm Brandwood Biomedical said the CDSCO's approach to classifying devices and IVDs "is reminiscent of the practice in China – where classification rules exist but they are applied by the regulator to develop a classification catalog." This, Brandwood said, is in contrast to the approach in the EU and elsewhere, where manufacturers apply the rules and then justify their approach to the regulator.

Nath explained that under the new rules, the authority to classify all devices and IVDs has been given to the regulator "to ensure uniformity." Nath does not expect there will be any problems with this approach, "provided [the] classification rules are correctly applied. We would suggest to regulators to involve all the stakeholders, in the process of classification."

Published online 07/17/17

CONTINUED FROM PAGE 1

van Houten, CEO of Philips, said: "Spectranetics' highly competitive product range, integrated with our portfolio of interventional imaging systems, devices, software and services will enable clinicians to decide, guide, treat, and confirm the appropriate cardiac and peripheral vascular treatment to deliver enhanced care for patients with better outcomes."

Just a day later, Philips announced the acquisition of US company **CardioProlific**, a developer of catheter-based thrombectomy devices, and the proposed divestiture of its image-guided therapy Sonalleve MR-HIFU business to Profound Medical. *(Also see "Philips Keeps The Pace With More Portfolio Shuffling" - Medtech Insight, 30 Jun, 2017.)* CardioProlific's devices will complement the laser atherectomy devices offered by Spectranetics and boost its portfolio of catheter-based therapy devices. Bert van Meurs, business leader of Image Guided Therapy at Philips, said: "We are convinced that the development of CardioProlific's differentiated thrombectomy technologies, combined with our suite of image-guided therapy solutions, will help our customers drive the procedure innovation for the treatment of peripheral vascular disease."

Earlier in the month, Philips inked a deal to acquire Oregon-based neurodiagnostic firm **Electrical Geodesics** for $36.7m**.** The company specializes in non-invasive technology for monitoring and interpreting brain activity, and in 2016 racked up $14.3m in revenue through sales of its electroencephalogram (EEG) hardware, software and acquisition sensors. The deal constitutes a 36% premium over the company's closing share price on June 21 and will see Philips create an integrated neurological imaging, mapping and therapy guidance portfolio. The acquisition is expected to close in the third quarter.

Stryker boosted its Medsurg business by snapping up Canadian firm Novadaq for $701m. Under the terms of the agreement, Stryker will pay $11.75 per share, a 96% premium over the company's closing price on June 16.

According to analysts at Leerink Partners, Stryker's willingness to pay a hefty premium suggests there could have been a competitive bidding process from other medtech players. *(Also see "Stryker Doubles Down On Novadaq To Boost Medsurg" - Medtech Insight, 20 Jun, 2017.)*

The acquisition will expand Stryker's advanced imaging offerings and give the company an entry point into the open surgical end of the advanced-imaging market, a segment in which it currently holds no presence. The transaction is expected to close at the end of Q3 2017.

Massachusetts-based scientific instruments maker **PerkinElmer** reached a deal to acquire German medical diagnostics company **Euroimmun Medical Laboratory Diagnostics AG** for $1.3bn in cash. The acquisition, which is expected to be completed in the fourth quarter, will allow PerkinElmer to expand into autoimmune, infectious disease and allergy diagnostic markets outside the US, with a focus in China and the emerging markets. *(Also see "PerkinElmer Solidifies OUS Presence With $1.3bn EUROIMMUN Buy" - Medtech Insight, 19 Jun, 2017.)*

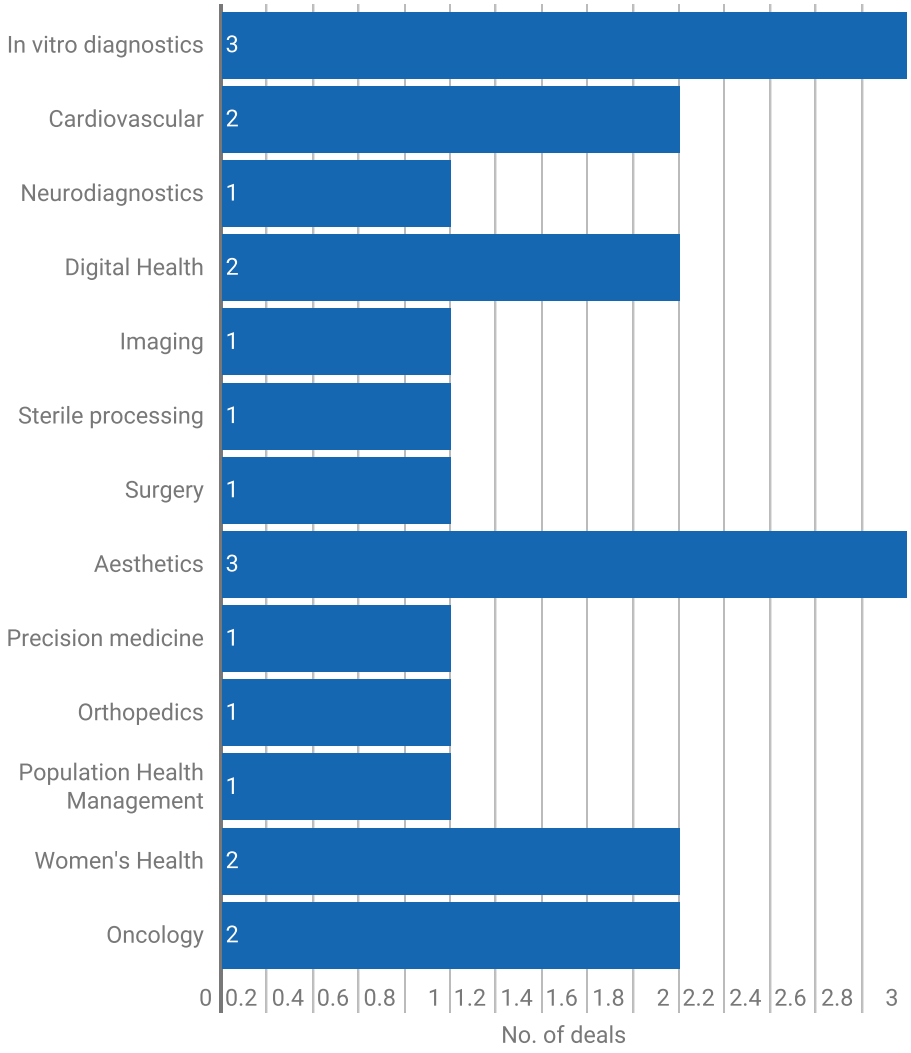
DePuy Synthes bolstered its spinal technologies portfolio with the buy of **Sentio**, a privately held spinal-tech company based in Wixom, Mich. The firm has developed a real-time nerve localization system for spine surgery. DePuy Synthes, a Johnson & Johnson subsidiary, has the second-largest spine business in the world with a broad portfolio of spinal-care technologies, including treatments for aging spine, scoliosis, degenerative disc disease, care delivery innovation and enabling technologies. DePuy Synthes said it intends to leverage its broad network to expand the availability of Sentio's technology to its customers globally.

AESTHETICALLY PLEASING

Aesthetics, a sector that has been witnessing a frenzy of deals this year, saw more robust activity in June. The UK's Sinclair Pharma acquired the *RefineSupport System*, a US FDA-cleared, suture-based product primarily used in breast cosmetic and reconstructive procedures, from **Refine LLC**. Sinclair announced it paid the company up to $11.3m, including regulatory and sales based on milestones and royalties. The system will be incorporated into Sinclair's *Silhouette* portfolio, which includes *Silhouette Instalift* – a nonsurgical "one-stitch" facelift.

FIGURE 2

June 2017 M&A, By Product Type



Source: Medtech Insight M&A Deal Tracker

Big aesthetics player **Allergan** picked up **Keller Medical**, the developer of the Keller Funnel device, a cone-shaped, lubricated plastic funnel that reduces surgeon and patient contact during breast reconstruction procedures. The deal is Allergan's third acquisition of the year in the aesthetics field. The pharma giant has expressed its desire to expand its aesthetics business, which it sees as a massive growth opportunity. In February, the company paid $2.5bn to buy **Zeltiq Aesthetics**, maker of the FDA-approved *CoolSculpting* body-contouring system, and $2.8bn to acquire LifeCell, a regenerative medicine business with a portfolio of products used in plastic and reconstructive procedures.

Israeli aesthetics company Syneron Medical also announced it will be acquired by private equity firm Apax Partners for $397m. Syneron's products include body contouring, hair removal and wrinkle reduction. Steven Dyson, cohead of health care at Apax, said: "We have identified the medical aesthetics market as a highly attractive investment area given its long-term growth prospects."

Published online 07/11/17

VC DEALS ANALYSIS:

Strong In Volume, Soft In Value

TINA TAN tina.tan@informa.com

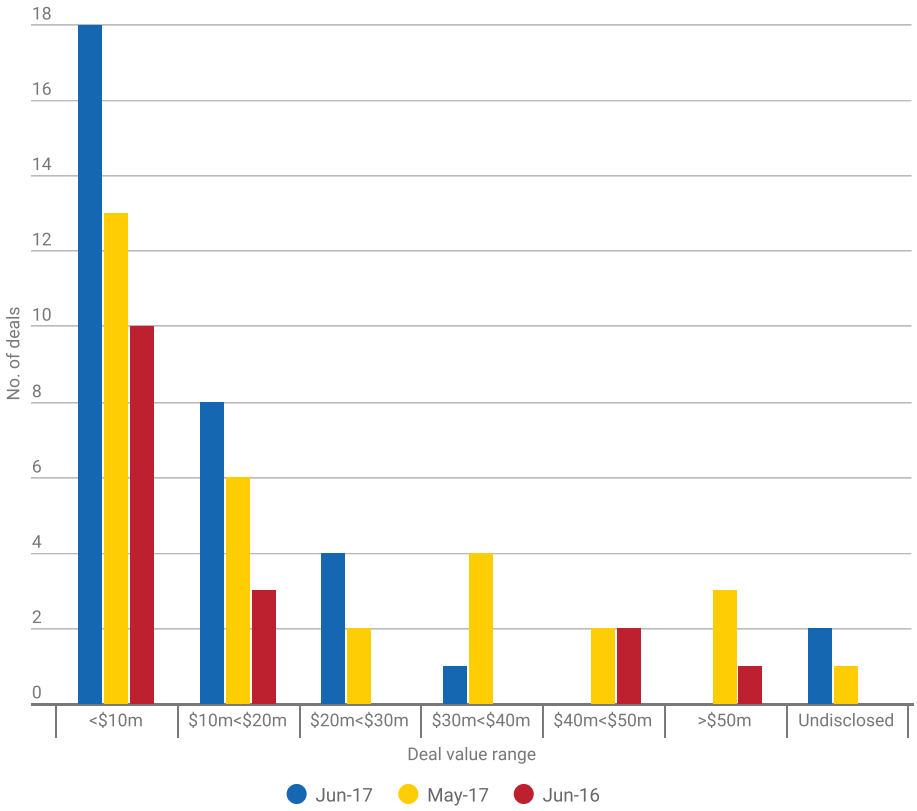
The year 2017 had got off to a wobbly start but the flow of medtech venture funding deals that started picking up in April continued to accelerate and finished the quarter – and the first half of the year – with the highest deal volume seen so far.

Some 33 transactions of $1m and over were recorded by *Medtech Insight*'s VC deal tracker, two more than May's 31 deals and over twice as many as June last year. However, when looking at the deals in dollar terms, a different picture emerges with more than half of June's fundraisings being small single-digit rounds that are relegated to the lowest $10m-and-below range. That said, in spite of the month's modest-sized funding rounds, the strong deal volume made up for the soft deal value. The total raised in June – based on the 31 deals that disclosed financial details – was around $326m, beating its performance a year ago. (See Figure 1.)

With a notable absence of fundraisings in the big-buck range, the largest round in June was a $35m Series C raised by Glooko, a company offering software

FIGURE 1

No. Of VC Deals By Amount Raised, June 2017 vs May 2017 vs June 2016



*Source: **Medtech Insight** VC deal tracker*

TABLE 1

Top 5 VC Financing Deals By Amount Raised, June 2017

RANKING	COMPANY	BASED IN	PRODUCT/ THERAPY SECTOR	AMOUNT RAISED	FINANCING ROUND	TOTAL INVESTMENT
1	Glooko	CA, US	Diabetes management	$35m	Series C	Undisclosed
2	Centogene	Berlin, Germany	IVD	€25m ($28.8m)	Series A	Undisclosed
3	Vertos Medical	CA, US	Orthopedics	$28m	Undisclosed	Undisclosed
4	Monteris Medical	MI, US	Neurology/Surgery	$26.6m	Series C	Undisclosed
5	Earlens	CA, US	ENT	$22m	Second part of a completed $73m Series C	Undisclosed

Source: Medtech Insight VC deal tracker

platforms to improve diabetes management. (See Table 1). Glooko has a couple of well-known diabetes management device players among its list of financial backers – namely medtech giant Medtronic and the lead player in wearable insulin pumps, Insulet – as well as the venture arm of Korean electronics multinational Samsung.

FIRST FOR FIRST-HALF PERFORMANCE

While total takings in June did beat the level seen a year ago, it is not the best-performing June in the last five years. (See Table 2). That said, the first half of this year benefited from two bumper months, March and May which each saw an exceptionally large funding round – Grail's $900m Series B *(Also see "VC Deals Analysis: Big Boost From Bumper Round" - Medtech Insight, 6 Apr, 2017.)* and Guardant Health's much smaller, but nonetheless impressive, $360m round *(Also see "VC Deals Analysis: From Famine To Feast, 2017 Bloats With May Haul" - Medtech Insight, 7 Jun, 2017.)*.

This brought the total takings for the first six months of 2017 to just over $3.5bn, the biggest amount raised in the first half of the year, over the last five years. (See Figure 2.)

This is more than half of the total raised all of 2016, and if monthly deal value continues to fall in the $300m-$350m range for the second half of this year – not a tall order to meet, based on averages from the previous years – 2017 could surpass 2016's performance.

IVD AT TOP BUT DIVERSITY PERSISTS

IVD-related technologies got the most number of financing deals in June with six transactions. However, this was closely followed by companies in neurology and orthopedics, with each sector bagging four deals each. Cardiology/vascular, which usually come second after IVD, recorded three deals and the remainder transactions were spread across a wide range of product and therapy sectors, underscoring investors diversifying interests across the broad medical device field. (See Figure 3.)

TABLE 2

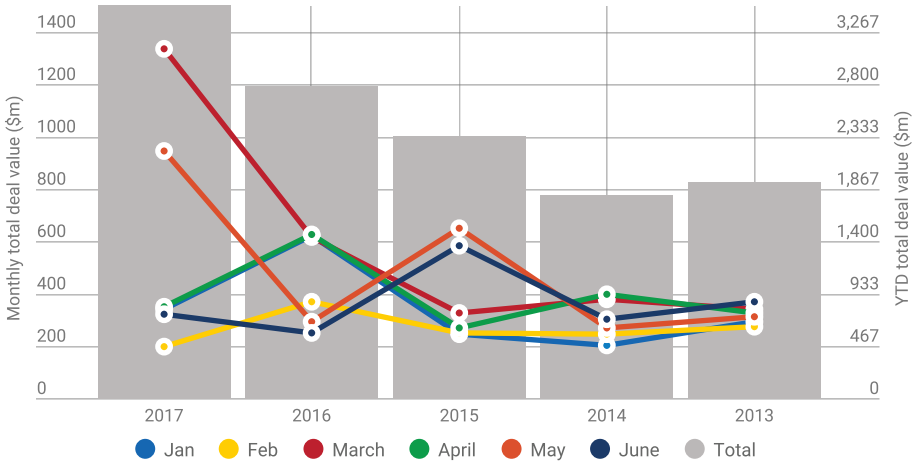
Total Amount Of Venture Financing Raised, 5-Year Trend (June 2013-2017)

	JUN-17	JUN-16	JUN-15	JUN-14	JUN-13
Total VC dollars raised ($m)	325.67	250.9	585	305.8	373.25

Source: Medtech Insight VC deal tracker

FIGURE 2

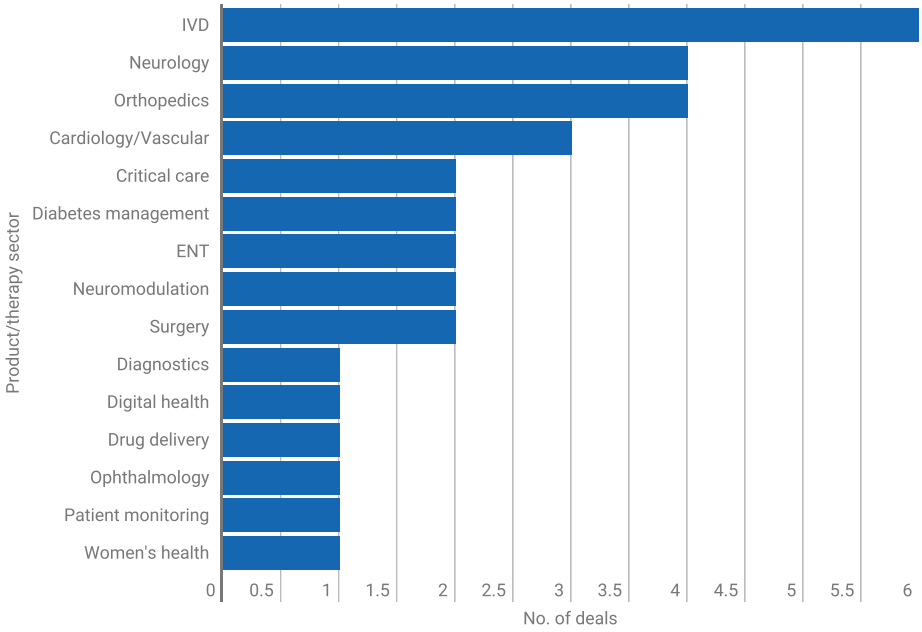
Total Venture Financing Raised, Monthly And YTD, 2013-2017



Source: Medtech Insight VC deal tracker

FIGURE 3

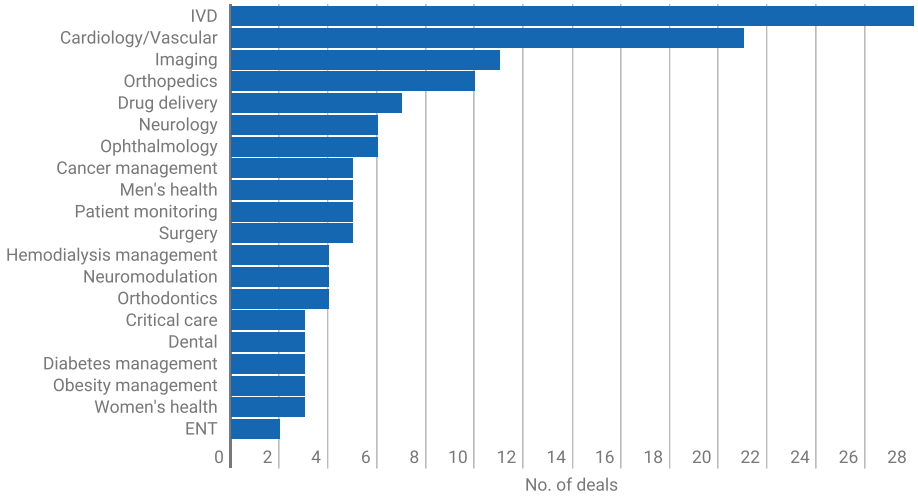
No. Of Venture Financing Deals By Product/Therapy Sector, June 2017



Source: Medtech Insight VC deal tracker

FIGURE 4

Top 20 Investment Areas By Deal Volume, H1 2017



Source: Medtech Insight VC deal tracker

Looking at the year to date, IVD is ahead of the race as the most popular investment space by a much longer lead, with 28 venture financing rounds in total, while cardiology/vascular is not far behind with 21 rounds. Among the top 20 most popular investment spaces in the first half of 2017 (see Figure 4), some of the more notable areas of interest that have emerged this year are hemodialysis management, orthodontics and ENT.

Published online 07/12/17

CLICK
For more about VC deals
Details for past years, go to: https://medtech.pharmamedtechbi.com/datasets/vc-funding

Nestlé's Microbiome Interest Deepens With Enterome JV

CATHERINE LONGWORTH catherine.longworth@informa.com

French microbiome company **Enterome** is teaming up with Swiss nutritionals giant **Nestlé Health Science** to form a joint venture focused on developing microbiome-based diagnostics. Nestlé will invest €20m ($23m) in return for a 50% stake in **Microbiome Diagnostics Partners** (MDP). In addition, it will make further payments to MDP if it achieves certain clinical and commercial milestones. Enterome will contribute to the JV its current microbiome diagnostic programs and intellectual property derived from its microbiome-based platforms.

The main focus of the joint venture will be to accelerate commercialization of Enterome's diagnostic platforms which include IBD110, a biomarker for patients with Crohn's disease or inflammatory bowel disease and MET210 for progressive liver disease. Pierre Belichard, CEO of Enterome told *Medtech Insight*. "At present, the standard of care for these diseases include very invasive procedures. The main diagnostic procedure used to identify the level of Crohn's disease is a colonoscopy, but these can't be performed every day or easily. So there is a huge need for a simple, non-invasive biomarker test that can give an idea to the doctors of the level of activity of the GI disease."

Nestlé's has been shopping around over the last few years to expand its offerings in gastrointestinal health. In 2011, the company bought gastrointestinal and cancer diagnostics specialist Prometheus Laboratories for a rumored $1bn. *(Also see " Nestlé breaks into diagnostics, acquiring Prometheus for rumoured $1bn" - Medtech Insight, 25 May, 2011.)* The same year, it acquired CM&D Pharma, a small company developing products for patients with kidney disease, inflammatory bowel disease and colon cancer. San Diego-based Prometheus will provide its serum-based biomarkers to MDP's development programs, as well as contributing commercialization expertise.

The formation of MDP underscores Nestlé's specific interest in the emerging microbiome field; it is already an investor in Entrerome, having participated in the French company's Series C financing round in April 2016. "This partnership was a good fit for Enterome as Nestlé is becoming a very strong actor in the microbiome space. They have clearly stated that they are looking to advance in the field," said Belichard. "This venture also gives Enterome the opportunity to collaborate with Nestlé's Prometheus Laboratories which is a leader in the field of diagnostics." Nestlé's other equity investments in microbiome-related assets include Massachusetts-based company **Seres Therapeutics,** which is developing biological drugs that are designed to treat disease by restoring the function of a dysbiotic microbiome.

Enterome was established in 2012 in Paris and has since formed partnerships with pharmaceutical companies and academic research institutes, including **Johnson & Johnson Innovation/Janssen Biotech**, **Takeda** and **Abbvie** in inflammatory bowel and gastro-intestinal diseases; **Bristol-Myers Squibb** in immuno-oncology; and the Mayo Clinic and Geisinger hospitals in metabolic disorders. *(Also see "Enterome Building A Microbiome R&D Presence Via Pharma Deals" - Medtech Insight, 11 May, 2017.)* The company recently appointed Mary Thistle, chief operating officer at Nasdaq-listed company **Dimension Therapeutics Inc.** to its board of directors.

Published online 07/12/17

Bigfoot and Abbott Join Forces to Develop and Commercialize Diabetes Management Systems

MARION WEBB marion.webb@informa.com

California-based startup **Bigfoot Biomedical Inc.** and diabetes giant **Abbott Laboratories Inc.** announced today they have inked a partnership to integrate Abbott's *FreeStyleLibre* continuous glucose monitoring (CGM) system into the smartloop automated insulin delivery system Bigfoot is developing

Jefferies analyst Raj Denhoy believes Bigfoot's decision to pick Abbott's FreeStyle Libre as the CGM for its diabetes management system "comes as a surprise." In a July 13 note, Denhoy writes "The selection of Abbott over **Dexcom Inc.** and others is an endorsement of simplicity over point accuracy in the future of glucose monitoring and diabetes management."

Bigfoot's decision was largely based on the belief that the no-calibration feature of Abbott's FreeStyle Libre, a disruptive technology that completely eliminates finger sticks, and ease of use, are more important than published MARD (Mean Absolute Relative Difference) error rates in the real world, Denhoy explains.

CGM accuracy is typically measured by MARD, which represents the difference between finger stick calibrations and sensor glucose values.

In a statement, Jared Watkin, Abbot's senior VP for diabetes care says both companies share a vision to simplify the use of diabetes management systems for insulin users. *(Also see "Advent Of Artificial Pancreas Tech To Galvanize Fast-Growing Diabetes Market" - Medtech Insight, 26 Apr, 2017.)*

"Together with Bigfoot, we are challenging conventional methods of diabetes management by bringing together our expertise in superior glucose monitoring technology with a best-in-class insulin delivery system that is designed with the patient in mind," Watkin says in a company statement. "This will fundamentally transform the way diabetes is managed."

Bigfoot said it plans to use Abbott's second-generation Freestyle Libre, which will include real-time communication, in its pivotal trial of its smartloop automated insulin delivery system for Type I diabetics.

The 90-day, at-home pivotal trial will enroll 250 patients (125 adults and 125 pediatric patients) beginning in mid-2018, according to Denhoy. The results support PMA submission to the US FDA and the device could hit the market in late 2019 or early 2020.

Unlike other diabetes companies that offer a fragmented collection of tools, Bigfoot plans market a connected data-driven solution that is sold as a subscription rather than separate devices, Denhoy notes. The company's integrated cloud-connected diabetes management system interfaces with wearable glucose monitoring and insulin delivery tools accessible via a secure mobile app on the smartphone.

The analyst believes that an integrated system offers multiple benefits: a better experience for patients, a lower burden for doctors and less cost of the disease on payers. Bigfoot plans to offer multiple subscription models to payers with different technology and risk sharing.

"It remains a work in progress, but models where the top tier is priced at $900 per month with as much as 20% being at risk are being discussed," and at this price point, even modest adoption can drive significant revenues, up to $1bn in annual revenues, Denhoy points out.

Financial details of the agreement are not disclosed. Under the agreement, Bigfoot has granted Abbott a period of exclusivity as its CGM sensor partner, though Abbott can partner with other systems. "The move to integrate with insulin delivery platforms speaks to Abbott's bigger plans in diabetes and we expect it will be a major contributor to growth in the coming years," Denhoy explains.

Abbott, which is a major player in the CGM market, already sells its FreeStyle Libre system in more than 35 countries outside the US and is used by more than 300,000 people. The wearable sensor is unique in that it measures glucose levels through the interstitial fluid for up to 14 days, but also has a companion reader device that scans over the sensor and reads current glucose levels in real time.

Studies have shown that people who scan more frequently spend less time in hypoglycemia or hyperglycemia while having improved average glucose levels, demonstrating improved glucose control, the company said. The system is currently under review by the FDA.

According to a recent report by *Meddevicetracker, "Global Diabetes Management Devices Market,"* the global diabetes management devices market is expected to exceed $11.2bn by 2020, driven largely by the rising diabetes epidemic. All people with Type 1 diabetes and nearly one-third with Type 2 diabetes must inject insulin to manage their glucose, which is roughly 6m in the US alone, and their numbers are rising.

Bigfoot is one of several companies competing in the insulin pump segment, which is dominated by **Medtronic PLC**. Medtronic was also the first company to win FDA approval for the *MiniMed 670G*, which is described as the world's first artificial pancreas device-based system, now available on the US market *(Also see "Device Debuts: Medtronic MiniMed 670G HCL Insulin Pump; Orbus-Neich Sapphire Coronary Balloons; Shockwave Lithoplasty; DePuy Synthes' Fenestrated Spine Screws; Philips Monitoring And Imaging Systems" - Medtech Insight, 5 Jul, 2017.).*

Published online 07/13/17

Creo Medical Seeks To Make Flexible Electrosurg Tech Attainable For The 'Regular' Endoscopist

CATHERINE LONGWORTH catherine.longworth@informa.com

Electrosurgical device developer **Creo Medical** is stepping up surgeon training of its advanced energy technology platform *CROMA* to expand clinical awareness of its use in surgical endoscopy. CROMA is an electrosurgical platform that utilizes bipolar radiofrequency to cut, and microwave to coagulate and ablate tissue with precision through a single, accessory port, using flexible endoscopic tools.

Creo aims to take CROMA to market through a suite of medical devices, initially focused on GI therapeutic endoscopy. But Creo Medical CEO, Craig Gulliford told *Medtech Insight* that the company is not targeting the top tier key opinion leaders, as one might expect. "It's important that we go to the regular endoscopist and demonstrate that this is attainable for them to use. Once we have demonstrated that, on a pretty modest scale over the next 12 months, then we can start scaling up and offering not just one device but a bundle of GI tools."

The first device to emerge from the CROMA platform is *Speedboat RS2*, which received expanded CE mark approval in March this year. The device is approved for the use of both microwave energy as well as radiofrequency and uses the underlying CROMA technology to remove early cancerous and pre-cancerous lesions in the bowel as a replacement for open or laparoscopic surgery. "We're all about moving advanced energy into the field of flexible endoscopy and that fundamentally enables physicians to start treating patients in the endoscopy suite, instead of them going into the operating room and being put under general anaesthetic," said Gulliford.

Creo is listed on the London Stock Exchange's AIM, after raising $25m in a successful flotation in Dec. 2016. *(Also see "Creo Medical Braves Public Market To Score $25m IPO" - Medtech Insight, 6 Dec, 2016.)* Before going public, the company received investment fromFinance Wales and **Pentax Medical Co.**, a division of Japanese group Hoya. Pentax Medical identified Creo's technology as a growth opportunity, as part of the company's plans to expand into endoscopic therapeutics. "In 10 years' time there will be a less invasive way of diagnosing indications in the GI than having a tube inserted into you," said Gulliford. "From Pentax's perspective - and it seems to be a common theme for other endoscopy players – the goal is to adapt to be a therapeutic business rather than a pure diagnostics business because in the future there will be blood tests, sampling tests or ultrasound tests which will remove the need for a scope to provide diagnosis."

According to Creo, the CROMA platform has been making waves with gastroenterologists across the globe, not just in Europe. "Our experience of dealing with the physicians in the market [when showcasing the device] has been extremely positive. They all want to be able to do this but there's just been such little innovation in the field." Gulliford added that one of the US key opinion leaders in gastroenterology, Robert Hawes, had described the company's technology as the "holy grail of endoscopy" and like a "harmonic scalpel at the end of a flexible scope."

Creo is commercializing CROMA and Speedboat RS2 in Europe first before it targets the US market. In June, Creo announced that the FDA had confirmed the company could take the 510(k) route to gain clearance for its technology. It is aiming to clear this US regulatory hurdle in 2019.

Gulliford said: "We are happy with our progress. Our Q1 milestone was to obtain CE marking and clearance in Europe for our first device and Q2 milestone was to carry out our first in-man trial and understand the pathway of our lung pulmonary device with the FDA. We've achieved these milestones so we are in a good place for the rest of the year."

Longer term plans of the company include rolling out the technology – on a smaller scale – for further indications including tumor ablation and precancerous lesion ablation using small catheters. Creo also aim to integrate steerability and navigation technology into its devices.

Published online 07/17/17

Nexstim Looks To Break Into US TMS Market With Depression Indication

REED MILLER reed.miller@informa.com

Nexstim PLC has filed a 510(k) to US FDA for its *NBT (Navigated Brain Therapy)* transcranial magnetic stimulation (TMS) therapy system to be cleared for treating major depressive disorder.

Major depressive disorder is a chronic condition affecting 2%-5% of the population in developed countries. Current therapies, based on drugs and psychotherapy, are sub-optimal, leaving 20% to 40% of patients with insufficient benefit, according to Nexstim.

In 2012, the NBT System became the first non-invasive, non-systemic therapeutic device to gain a CE mark to treat major depression; multiple studies have shown it to be safe and well-tolerated, without the side-effects frequently associated with oral antidepressants, according to Nexstim. Nexstim CEO Martin Jamieson said he believes FDA can clear the device as substantially equivalent to other TMS devices used to treat depression. The company does not believe the effort will not require a new clinical trial.

Neuronetics Inc. (*NeuroStar*) and **Brainsway Ltd.** (*Brainsway Deep TMS*) market TMS systems to treat depression in the US. *(Also see "Neuronetics Launches Major Registry To Track NeuroStar TMS Outcomes" - Medtech Insight, 2 Dec, 2016.)* But Nexstim believes its MRI-based brain navigation technology sets NBT apart. "If you're dosing [the brain] over a prolonged period of time, then a level of accuracy is very important. And that's essentially the difference between what is currently out there in TMS – which is non-navigated – and our system."

If cleared, NBT would be Nexstim's first therapeutic device in the US. The company's *NBS (Navigated Brain Stimulation)* system is already 510(k)-cleared for presurgical mapping of the motor cortex and is sold to US hospitals through distributors. But if and when NBT is cleared to treat depression, the company will probably invest in a sales team to market it directly to US psychiatrists and other professionals treating depression.

"When we get the depression 510(k), we've got to make sure we can access the clinicians that deal with depression, and so I think it's likely that we won't use our current distributed network to do that, but will step-up to a direct sales force to exploit that therapeutic indication and then broaden that into a broader therapeutic sales force," Jamieson told *Medtech Insight*. "So they'll be two sides of the business: diagnostics sold through our distributor network and we'll probably have a therapeutic direct sales force."

STROKE THERAPY INDICATION NEEDS MORE DATA

Until recently, Nexstim expected the first FDA-cleared indication for NBT to be stroke rehabilitation. In 2014, the company launched the phase III NICHE study comparing six-weeks of repeated TMS therapies with NBT to a sham treatment in patients with post-stroke motor impairment. NBT has had a CE mark for post-stroke therapy since 2012. *(Also see "Nexstim Targets US Stroke Rehab Market With MRI-Guided Transcranial Magnetic Stimulation" - Medtech Insight, 24 Nov, 2015.)*

Nexstim's NBT System

Photo credit: Nexstim PLC

There were no serious adverse events linked to NBT in the study, but the primary outcome measure showed no significant difference between the sham and treatment arms. In the study, 67% of patients treated with NBT showed significant clinical improvement of upper extremity motor function, compared to 65% in the sham arm, and the average improvement was 8.2%. In its June 2016 submission of this data to FDA, Nexstim explained that the sham group had a similar response to the treatment group because the control therapy was, in fact, active in the trial, and not sham at all. *(Also see "Starts & Stops: Corlife's Decellularized Human Pulmonary Valve Shows Early Promise" - Medtech Insight, 19 Jun, 2017.)*

To supplement the NICHE data, Nexstim agreed with the FDA to run the 60-patient E-FIT comparing active repetitive NBT to sham NBT over six-weeks. E-FIT began enrolling patients in March and the company expects to report data in the second half of 2018.

Beyond the depression and stroke-rehabilitation indications, Nexstim is developing NBT for treatment of intractable pain. Jamieson said that researchers with the UK's National Health Service have had some success with this therapy in preliminary trials, but he thinks it will take three to five years to develop NBT for this indication.

Outside of Europe and the US, company is working on earning regulatory approvals in East Asia, especially China. "China is interesting not just because it's got a huge population. It's got all of the issues that westerners have - an aging population, smoking, poor diet, etc. That's a very interesting target for us."

"The technology is quite established in the pre-surgical mapping area and TMS has gained quite a lot of acceptance," he said. "Stroke rehabilitation, intractable pain and depression – these are huge areas that current treatment protocols just don't tackle. So, our technology can add to that suite of treatments; that's why we think the potential is so good."

Published online 07/12/17

Pharma intelligence

informa

Intelligence with a Global Perspective

The Premier Resource In The Life Sciences Industry

- Biomedtracker
- Datamonitor Healthcare
- In Vivo
- Meddevicetracker
- Medtrack
- Medtech Insight
- Pink Sheet
- Pharmaprojects
- RxScorecard
- Scrip
- Sitetrove
- Trialtrove

Pharmaintelligence.informa.com