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Medtech dealmaking and financing trends in 2018

Plentiful acquisitions, increased financing and pioneering digital health approvals all shaped the medtech industry in 2018. With nontraditional players such as Apple and Google engaging in the field, the industry looks set to evolve further.

Amanda Micklus and Maureen Riordan

There were several positive developments in the medtech space in 2018 that point to a strong future outlook for the industry. According to global professional services firm EY, medtech outperformed broader indices and featured company valuations more than 50%. The US House of Representatives passed a bill that would permanently repeal the 2.3% medical device tax; the bill now lies with the Senate, and in the meantime the tax is on hold until 2020. Medicare may be initiating policies for quicker reimbursement for innovative devices and diagnostics, including a potential breakthrough device reimbursement pathway. And the US Food and Drug Administration (FDA) has put a strong focus on digital health and artificial intelligence technologies, with several approvals, guidances and policies issued in 2018.

The medtech industry also continued to experience disruption to the traditional model, as nontraditional participants such as Apple and Google became more entrenched in medical technologies. With the Apple iWatch's electrocardiogram features and algorithm for detecting atrial fibrillation receiving FDA clearance in 2018, Apple may now be considered a medtech company. Verily (formerly Google Life Sciences) also continues to invest in a number of device projects.

However, the threat of a trade war between the US and China still looms, and the movement toward value-based outcomes and delivery by hospitals and providers has been adopted by medtech slower than expected, with a questionable return on investment. Companies are also still in the process of preparing for the additional premarket and postmarket regulations enacted by the European Union Medical Device Regulation.

Medtech acquisitions

Against this backdrop, medtech companies were busy acquiring in 2018, completing 122 transactions with a total value of $39 billion; deal volume was fairly unchanged in comparison with 2017, which featured 115 transactions, but dollar value was down 25% in 2018 from $52 billion in 2017. Quarter by quarter, the number of deals increased through Q3 before falling, and at $15 billion, dollar value in Q2 was nearly double that of any other quarter, owing mainly to Novartis's spin-off of Alcon (**Fig. 1**).

In a share buyback program worth $5 billion, the Alcon spin-off was the largest medtech transaction of 2018 (**Table 1**). Alcon became wholly owned by Novartis in 2010, after the pharma company initially bought a 25% stake in 2008. Similar to many big pharma companies, Novartis is focusing on key therapeutic areas within its pharmaceuticals business, and one of the results is the spin-off of Alcon, which will become a publicly traded independent firm continuing operations within its surgical devices and vision care units (Alcon's ophthalmic pharmaceuticals will stay with Novartis). Later in 2018, Alcon went on to acquire Tear Film Innovations, a private company that sells the 510(k)-cleared iLux device to treat blockages of the meibomian glands and address the cause of dry eye.

As with Novartis, Johnson & Johnson (J&J) continued to deprioritize in certain areas of the device market (in 2017 it sold Codman Neurosurgery to Integra LifeSciences and has made other divestments in recent years). In the fourth-largest acquisition of 2018, Fortive paid $2.7 billion for J&J's Advanced Sterilization Products, which markets sterilization and disinfection systems for the prevention of hospital-acquired infections and provides Fortive with an entry into this segment. J&J also announced an agreement to sell its blood glucose-monitoring unit LifeScan to private investment firm Platinum Equity for $2.1 billion (the sixth-largest deal of 2018). J&J had made the decision to exit the insulin pump market in 2017. LifeScan's leading product is the OneTouch diabetes testing line for home and hospital use. J&J did, however, make one device acquisition in 2018, acquiring closely held Orthotaxy. The French surgical device maker produces software-enabled technologies for use in surgical procedures, initially for total and partial knee replacements.

Roche completed two important medtech deals in 2018 (both included in the top ten transactions) that advance its efforts in personalized cancer medicine. For $2.4 billion, the company bought the rest of Foundation Medicine, which was already 57% owned by Roche since 2012. Through its products and services, Foundation

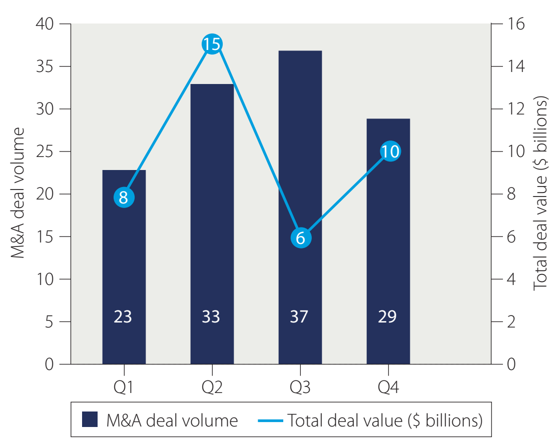

Fig. 1 | Medtech M&A activity in 2018 by quarter. M&A, merger and acquisition. Source: Informa's Strategic Transactions and Medtrack.

Table 1 | Top ten medtech M&As of 2018 by value

Month	Acquirer	Target	Deal value ($ billions)	Deal summary
June	Novartis	Alcon[a]	5.0	Novartis spins off Alcon, specifically its ophthalmic surgical devices and vision care products
November	Boston Scientific	BTG	4.2	Boston Scientific buys BTG, which produces interventional devices across many areas, but also has a pharmaceuticals business
November	Colfax	DJO Global	3.1	Colfax acquires orthopedic device specialist DJO Global
June	Fortive	Advanced Sterilization Products	2.7	Johnson & Johnson sells Advanced Sterilization Products and its hospital-acquired infection prevention assets to Fortive
June	Roche	Foundation Medicine	2.4	Gaining ownership of the remaining 43% stake it does not own, Roche fully acquires Foundation Medicine
March	Platinum Equity	LifeScan	2.1	Johnson & Johnson divests LifeScan, which produces blood glucose-monitoring products, to private investment firm Platinum Equity
February	Roche	Flatiron Health	1.9	Roche buys Flatiron Health and its capabilities in mining electronic medical records
August	Stryker	K2M	1.4	Stryker acquires spinal device maker K2M
September	Medtronic	Mazor Robotics	1.3	Medtronic purchases the remaining 89% of Mazor Robotics, a leader in the robotics-based spine surgery market, that it did not already own
January	Varian	Sirtex	1.3	Varian buys radioembolization firm Sirtex

M&As, mergers and acquisitions. [a]Alcon is listed in the 'Target' column, but this deal is a spin-off. Source: Informa's Strategic Transactions and Medtrack.

provides comprehensive genomic profiling for individuals to guide their cancer care. The company performs analyses on solid (using its FoundationOne assay) and hematological (with its FoundationOne Heme test) tumors, and those results are used to make informed decisions in clinical practice. These data are stored in the FoundationCore, a platform being enhanced through a partnership with Flatiron Health, Roche's second major acquisition in 2018. Roche paid $1.9 billion for Flatiron and its capabilities in oncology-focused electronic medical records and access to real-world evidence. Roche is planning to use these assets to improve clinical trial design, outcomes, and reimbursement. The company says it will continue to allow pharma competitors and other firms access to Flatiron's digital record services.

Boston Scientific was a particularly active acquirer, paying a total of $6 billion upfront for nine companies, and pledging an aggregate $562 million in earn-outs. Its biggest deal, comprising approximately 70% of that upfront total, was for BTG, which agreed to a $4.2 billion cash takeover. Within its interventional portfolio, BTG sells oncology products including radiotherapies and cryoablation systems, plus vascular and respiratory devices. The company also brings Boston Scientific a pharmaceuticals arm (poison antidotes) and licensing revenue. Boston Scientific's eight other acquisitions focused on various therapy areas including cardiology (Millipede, Cryterion, Veniti and Securus Medical), gynecology and urology (NxThera and nVision), oncology (Augmenix), and neurology (Claret Medical).

Box 1 | Digital health companies contribute to medtech financing in 2018

Companies operating in the digital health arena brought in an aggregate of $1 billion in financing in 2018. Money in this space was raised through numerous financing vehicles, but predominantly venture capital (VC) funding, which accounted for $875 million of the total.

Ultrasound-on-a-chip company Butterfly Network raised the most by securing a $250 million series D round led by Fidelity, valuing the company at $1.25 billion. This contributed around half of the $513 million total from 8 late-stage VC rounds, compared with $362 million in aggregate raised from 16 early-stage VC rounds.

Among the other sources of financing, a listing on the London Stock Exchange's AIM in a $29 million initial public offering by RenalytixAI PLC, which has an artificial intelligence-enabled clinical diagnostic platform for the early detection of kidney disease and accurate management of kidney transplant rejection, was notable. RenalytixAI intends to launch its first diagnostic product, KidneyIntelX (developed in collaboration with the Icahn School of Medicine at Mount Sinai), sometime this year.

Medtech financing booms

During 2018, medtech financings—including debt fundraising, follow-on public offerings (FOPOs), initial public offerings (IPOs), private investment in public equity, and venture capital (VC) funding—reached an aggregate of $19.6 billion from 326 transactions, including $1 billion for digital health companies **(Box 1)**. Not only were 21% more financings completed during 2018 versus 270 in the previous year, but the total money raised also represented an increase of 36% over the $14.4 billion aggregate in 2017 **(Fig. 2)**.

Debt, which accounted for most of the financing activity of 2017, represented just 15% of the 2018 total. Instead, at $6.3 billion for the full year, IPOs were the financing vehicle bringing in the most money during 2018, contributing 32% to the total financing dollars in 2018—quite a change from 2017 when nine IPOs accounted for just 2% of the aggregate. However, 83% of IPO dollars in 2018 can be attributed to a single transaction in the first quarter: German medical equipment firm Siemens Healthineers' $5.2 billion IPO on the Frankfurt Stock Exchange. This is the largest device financing since 2002 when Nestle floated part of its then-owned eye care business Alcon (subsequently acquired by and later spun-off by Novartis) on the New York Stock Exchange in a $2.4 billion IPO. A spin-off of the diversified Siemens AG, Healthineers will mainly focus on imaging (offering computed tomography, magnetic resonance, molecular imaging, X-ray, and ultrasound), which accounted for more than half

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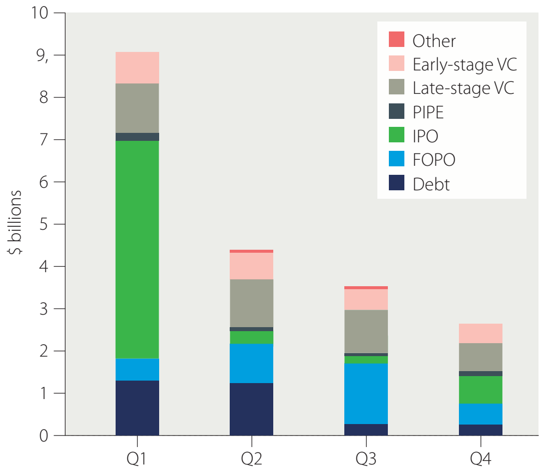
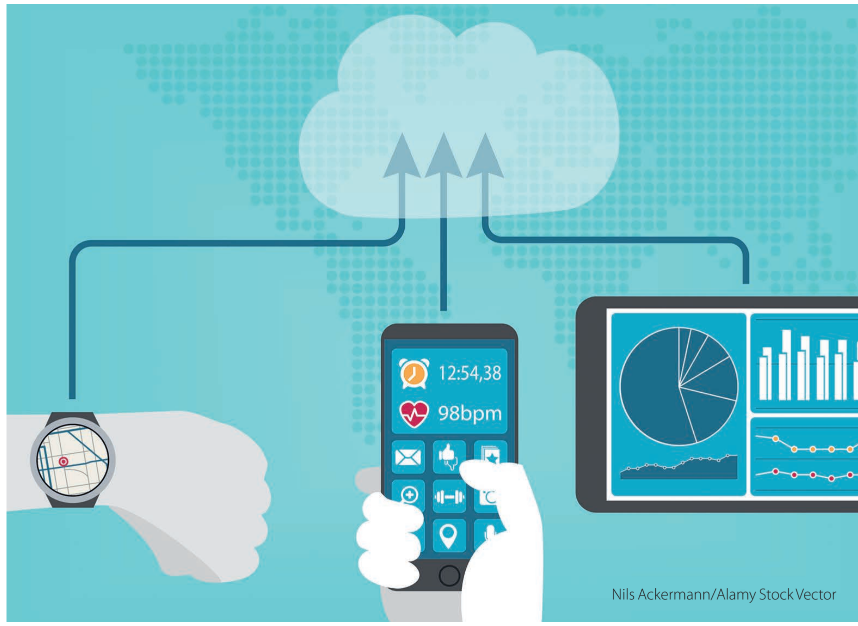


Fig. 2 | Total investment in medtech in 2018, by quarter and financing type. FOPO, follow-on public offering; IPO, initial public offering; PIPE, private investment in public equity; VC, venture capital. Source: Informa's Strategic Transactions.



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of its 2017 revenues. The company also has a laboratory diagnostics portfolio that includes immunoassays, hemostasis, hematology, blood gas, urinalysis, molecular virology, and liquid biopsy products.

Not including the Healthineers outlier, the 14 other IPO transactions completed in 2018 together totaled $1.1 billion, still an impressive increase over the $275 million aggregate from 9 deals in 2017. Q4 overall was the most deal-active quarter with six IPOs totaling $654 million (approximately a quarter of the full Q4 total). For the year overall, offerings by three device companies—Inspire Medical Systems (obstructive sleep apnea neurostimulation device), Axonics (neuromodulation for urologic disorders), and SI Bone (FDA-approved and CE-marked iFuse implant system for sacroiliac joint fusion)—cracked the $100 million mark, and one diagnostics company, Guardant Health (which uses circulating tumor DNA to assess cancer-related genes), netted $254 million.

Late-stage VC rounds (series C and later) brought in $4.1 billion for the year (21% of the total). Leading the pack of 13 medtech players that raised $100 million or more was cancer diagnostics company Grail, which brought in $300 million through its May series C round. At $2.2 billion, early-stage rounds captured just 12% of the dollar value in 2018, with only two transactions—personal genomics diagnostics player Helix Opco's $200 million series B round and minimal access surgical tool company CMR Surgical's $100 million series B funding—reaching the $100 million mark.

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Finally, FOPOs also contributed significantly to the medtech financing total, accounting for 18% of the 2018 aggregate. At the top of the FOPO category was Wright Medical's $423 million offering, which will fund its concurrent $435 million cash acquisition of fellow orthopedic device maker Cartiva.

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