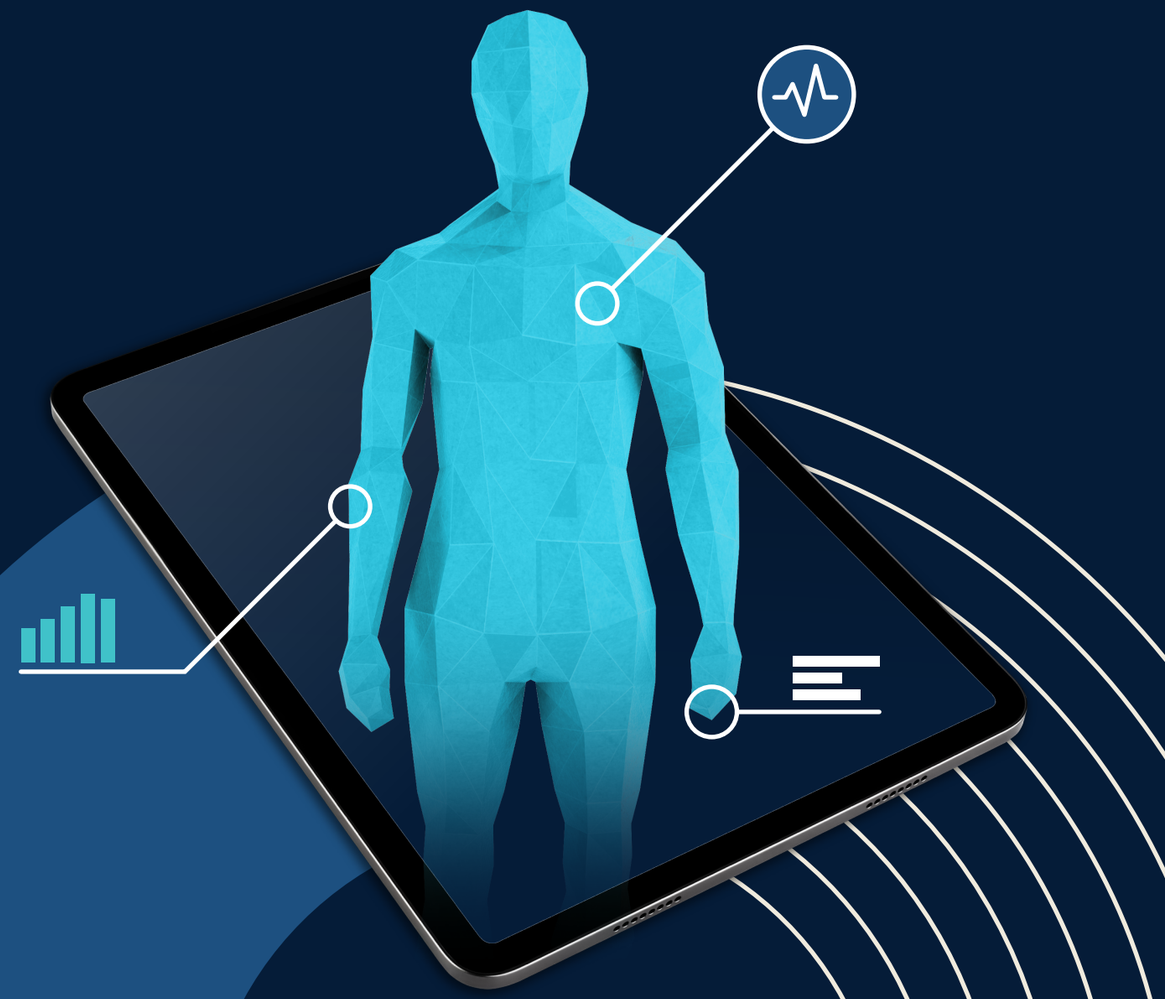
PitchBook

EMERGING TECH RESEARCH

Medtech Report

VC trends and emerging opportunities

Q1
2024



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For previous updates as well as our complete medtech research, please see the designated analyst workspace on the PitchBook Platform.

Vertical update

Medtech deal activity meaningfully rebounded in Q1 with $3.3 billion of VC funding, up from $2.8 billion in Q4, and the possibility of interest rate cuts—or at least an ongoing steady state—is likely to stabilize VC funding over the quarters ahead. At the current pace, medtech VC funding activity for 2024 could result in the highest average annual deal value since early 2022. In Q1, late-stage VC deals took home the bulk of total funding, with $1.6 billion of VC deal value, just shy of half of the sector total. Freenome's $254.0 million late-stage deal was the largest transaction in the quarter, though a smattering of deals were above $100 million, including Impulse Dynamics' $136.0 million Series E, Alamar Biosciences' $128.0 million Series C, and Medical Microinstruments' $110.0 million Series C. Despite the positive momentum for VC funding, Q1 was a tough quarter for VC exits, with no major IPOs and only a few acquisitions, such as Attune Medical's $160.0 million purchase by Haemonetics. There are early signs of greater M&A activity in the second quarter, though, with Johnson & Johnson's April 5 announcement to acquire heart device maker Shockwave Medical for $13.1 billion.

On the public side, Boston Scientific's $3.7 billion acquisition of neuromodulation maker Axonics was the standout deal in Q1, though medtech M&A has been relatively muted otherwise. This deal is set to be a benchmark test of medtech regulatory scrutiny, because Boston Scientific has a competing product for urinary incontinence, and on April 3, the Federal Trade Commission (FTC) asked Boston Scientific for a second request, indicating a possible effort to contest the deal. Over the past year, regulatory pushback has scuttled several deals, including CooperCompanies' purchase of Cook Medical and Illumina's high-profile acquisition of liquid biopsy maker GRAIL. If the FTC ultimately grants approval for the Boston-Axonics deal, this could be a green light for medtech acquirers to pursue other deals; though in any case, large deals will still have a high chance of scrutiny given the current administration's aggressive approach to antitrust. Regulators have also recently been scrutinizing PE investment in healthcare services, and because 2024 is a presidential election year, acquirers may choose to wait until 2025 to attempt to close major deals.

Two of the top VC investment categories in medtech over the past year have been cardiovascular and surgical robotics, with $2.2 billion and $1.0 billion of VC funding over the previous 12 months, respectively. Cardiovascular has also been a bright spot for M&A activity over the past 18 months, with acquisitions of Abiomed (cardiac pumps) for $16.6 billion in December 2022, Laminar (left atrial appendage devices) for $400.0 million in November 2023, and the aforementioned Shockwave deal. Other potential cardiovascular M&A targets in the startup landscape include Cardiac Dimensions, R3 Vascular, and Corvia Medical, as these startups have all raised more than $100 million of VC funding and have PitchBook Exit Predictor M&A probabilities above 70%. Surgical robotics has continued to be a category seeing outsized investment, and there has been an uptick of VC deals in the subsegment, with Agilis Robotics, Medical Microinstruments, True Digital Surgery, and LEM Surgical raising a combined $300 million of funding since the start of the year. Competitors are attempting to emulate the success of Intuitive Surgical, which has been experiencing strong growth buoyed by robust innovation. The company made waves after its Q4 earnings call in January with the announcement of a 510(k) submission for its next-generation robotic system, and this system received clearance by the US Food and Drug Administration (FDA) on March 14.[1]

Across the medtech sector, public valuations appear to have reached a steady state following their declines through 2022 and 2023. While multiples have generally held steady, there have been pockets of rising valuations, and on a trailing 12-month basis, EBITDA multiples increased in Q1 in the medical devices, consumer health, and life sciences sectors. In our view, this has been powered to an extent by strong US consumer spending despite macroeconomic uncertainty. 2023 saw strong double-digit revenue growth from several disruptive medtech companies, including Intuitive Surgical, Exact Sciences, and Natera, and over the past six months, shares of these firms have risen about 33%, 12%, and 109%, respectively.

1: "Intuitive Announces FDA Clearance of Fifth-Generation Robotic System, da Vinci 5," Intuitive Surgical, March 14, 2024.

Q1 2024 timeline

M&A

January 8

Medtech M&A comes to life with Boston Scientific's $3.7 billion acquisition of neuromodulation maker Axonics, one of the largest transactions in the sector over the past year.

VC deal

February 15

In a sign that investors remain optimistic about market opportunities in early cancer detection, Freenome raises $254.0 million in a late-stage deal led by existing investor Roche Venture Fund.

News

March 25

After an eventful year of activist investor battles and a high-profile trade dispute with Apple, Masimo announces a spin-off of its consumer business, which was acquired just two years ago.

News

February 13

Public genomic health company Invitae files for voluntary Chapter 11 protection following a tough post-pandemic period; on April 25, Labcorp announces an acquisition of the company's assets for $239.0 million.

VC deal

February 21

Surgical robotics maker Medical Microinstruments continues momentum with a $110.0 million Series C round, followed by FDA approval of its flagship Symani Surgical System in early April.

Q1 VC deal count summary

188
total deals

-15.7%
QoQ growth

-18.3%
YoY growth

$3.3B
total deal value

20.1%
QoQ growth

21.6%
YoY growth

2023 PE growth deal activity summary

$1.1B
estimated total deal value

46
total deal count

Medtech landscape

1. Remote monitoring & portable care
2. Diagnostics & life sciences
3. Surgical devices & tools
4. Nonsurgical medical treatments
5. Medical imaging

Medtech VC and PE ecosystem market map

This market map is an overview of venture-backed or growth-stage companies that have received venture capital or other notable private investments. Click to view the full map on the PitchBook Platform.

1 Remote monitoring & portable care

Glucose, insulin & diabetes

LTT · SIGNOS · Zhejiang POCTech Corporation

EEG & ECG

Preventice Solutions · BardyDx · PEERBRIDGE HEALTH

Home care

casana · MedMinder · ybrain

Mobility & orthopedics

LimaCorporate · arthrosurface · Neurolutions

Personalized care & remote monitoring

BioIntelliSense · VitalConnect · LEVELS

Portable therapies

THIRD POLE · VIVEST · ELEMENT SCIENCE

2 Diagnostics & life sciences

Algorithm-based diagnostics

Helfie · MESA BIOTECH · AIM

Cancer diagnostics

Binding Site · freenome · 和瑞基因 BERRY ONCOLOGY

Diagnostics tech

MGC DIAGNOSTICS · miDIAGNOSTICS · BioFluidica

Genomic health

海尔施基因 HEALTH GENETECH · PILLAR BIOSCIENCES · Chromatin

Precision medicine

BostonGene · Decipher UROLOGIC CANCERS · Invitata

Rapid & point-of-care testing

sight · truvian · SPECIFIC

Neurodiagnostics

SYNAPS Dx · Sense Neuro Diagnostics

Drug delivery

OPTILUME BPH · INCARDA Therapeutics, Inc. · ALLAY THERAPEUTICS

Genomic sequencing

ULTIMA GENOMICS · Element Biosciences · Clear Labs

Sample testing & preparation

Ortho Clinical Diagnostics · ELITechGroup · MOBIDIAG A Hologic Company

Other diagnostics

IMMUCOR · BILLION TO ONE · PRP Diagnostic Imaging

3 Surgical devices & tools

Bone grafts & supports

inBones · conventus FLOWER ORTHOPEDICS · Artelon

Brain-computer interface

synchron · Paradromics

Cardiovascular

VALGEN MEDTECH · ImperativeCare · LAMINAR

Implant technology

iota BIOSCIENCES · EMBODY · PrintBio

Neurostimulation

nalu · SETPOINT MEDICAL

Spinal implants

carlsmed · SimplifyMedical · 威宇医疗

Surgical implants

NUROTRON · BIOREZ · MEDSHAPE

Surgical robotics

Cornerstone Robotics · Noah Medical · Remebot

Surgical tools & equipment

Meril · relievant · SURGICAL SPECIALTIES

Other surgical devices

Rejoni · PERFLOW · The Insides Company

4 Nonsurgical medical treatments

Cancer care

icoset · xcision · NUSANO

Direct to consumer

Materna · reliefband · sensate

Inpatient & critical care

natus · Spectrum Medical · hemovent

Medical aesthetics & dermatology

CANDELA · LUTRONIC · Arctic Fox

Dental tech

angelalign 时代天使 · MEDIT · DentalMonitoring

Other medical treatments

Galvanize · iTind · SPRINT PNS SYSTEM

Hearing tech

Jabra GN · BelAudição · earlens

Sleep tech

NOX MEDICAL · CRYOSA · LINGUAFLEX

Vision tech

DORC 40 YEARS · IVANTIS · BELKIN

5 Medical imaging

Brain imaging

Splink,inc. · Darmiyan · POSITRIGO

Cardiac & heart

CATHWORKS · cleerly · elucid

Imaging equipment & tools

bk medical · LUMITRON TECHNOLOGIES · CapsoVision

Radiology image processing & AI

数坤科技 SHUKUN · InferVision · RAPID AI

Surgical imaging & navigation

AURIS · Sinovation 华科精准 | 华科恒生 · endomag

Other imaging tech

PROSCIA · DIA IMAGING ANALYSIS · PORTRAY

VC and PE activity

In Q1, medtech VC investors focused on quality over quantity as total deal value reached a level not seen since Q4 2022 ($3.3 billion) and deal counts remained historically low. Funding was led by Freenome's $254.0 million VC round led by Roche Venture Fund and Bain Capital Life Sciences, and there was a smattering of smaller yet still notable deals from other startups, such as Impulse Dynamics, Mainstay Medical, Alamar Biosciences, and Medical Microinstruments. We view the strong start to VC funding for the year with cautious optimism. The $3.3 billion figure remains well below the multiyear quarterly high of $6.0 billion in 2021, and further, market expectations of interest rate cuts have deteriorated significantly since the start of the year, which could put a damper on VC deal activity momentum.

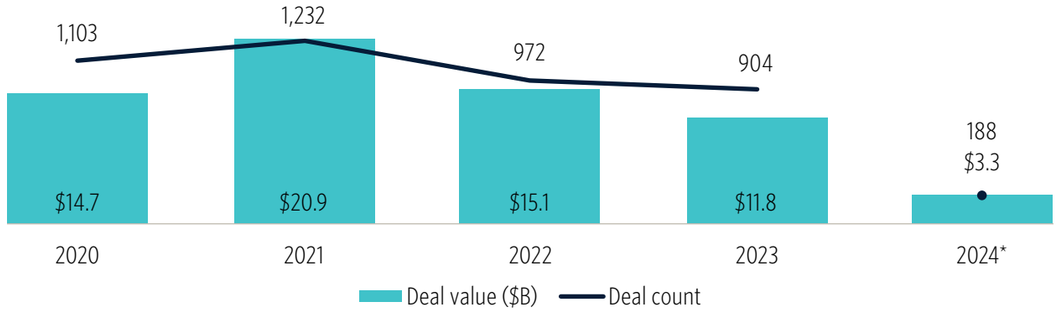
For the first quarter, Gilde Healthcare and Arboretum Ventures were the most active VC investors with three medtech deals each. A large group of investors reported two investments in the quarter, including venture kingpin Khosla Ventures. The cardiovascular category was a standout in 2023 with over $1.5 billion of total investment, and the category is currently on track to exceed last year's strong investment levels with over $650 million of VC funding in Q1 alone; Impulse Dynamics' $136.0 million Series E was the top cardiovascular deal in the quarter. Other top medtech investment categories in Q1 included cancer diagnostics ($395.3 million), neurostimulation ($242.8 million), and personalized care & remote monitoring ($226.5 million).

VC exits in medtech were few and far between in Q1, with a couple notable exceptions, such as Attune Medical's $160.0 million acquisition by Haemonetics and C2i Genomics' acquisition by Veracyte. There was no meaningful activity on the IPO front, though Autonomix—a relatively small surgical implant startup—managed to go public, raising $11.1 million in the public listing. We are not aware of any notable upcoming public listings; however, Illumina's disposition of liquid biopsy maker GRAIL is set to be resolved in the coming months. While it is possible that GRAIL will end up being owned by PE or a strategic buyer, a capital markets spin-off appears most likely at this stage.[2] Our view on the medtech IPO pipeline is further explored in our January analyst note Evaluating Healthtech Unicorns.

Despite showing resilience throughout 2023, medtech PE activity took a step back in the first quarter with just five PE growth deals reported, compared with 46 deals in 2023. There were, however, a decent number of PE buyouts (14), and recent news reports have indicated PE interest in Healthium Medtech (from KKR) and Baxter's Vantive kidney care unit.[3, 4] PE investors are likely taking a wait-and-see approach until the cost of debt further declines, and sellers may still be holding out hope for a broad rise in valuations. In 2023, medtech PE buyouts exceeded 2022 on both a deal count and deal value basis, and we expect robust buyout activity to continue this year as well. In our view, this could play out across different economic scenarios: A lower cost of debt from falling interest rates could fuel a rise in activity, or if debt remains expensive, sellers could begin to capitulate on valuations in some cases.

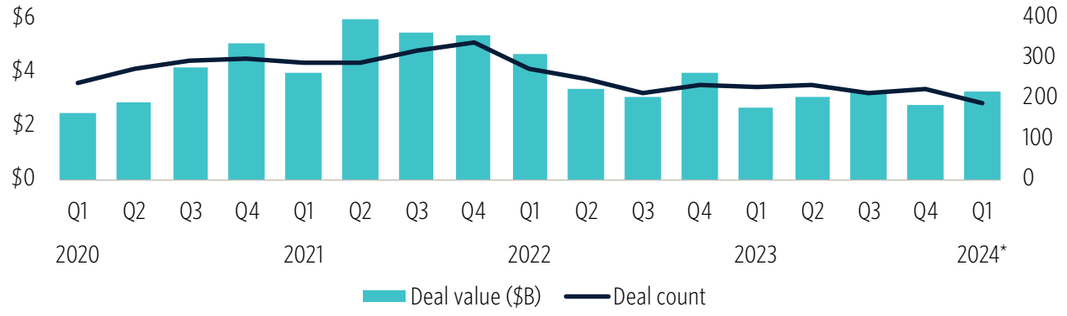
2: "Illumina Publicly Files Form 10 Registration Statement Ahead of Planned Divestiture of GRAIL," Illumina, May 6, 2024.
3: "KKR Said to Consider $1 Billion Acquisition of Healthium Medtech," Bloomberg, Baiju Kalesh and Manuel Baigorri, April 24, 2024.
4: "Baxter Considers Selling Kidney Care Unit to Private Equity," Medtech Dive, Elise Reuter, March 4, 2024.

Medtech VC deal activity



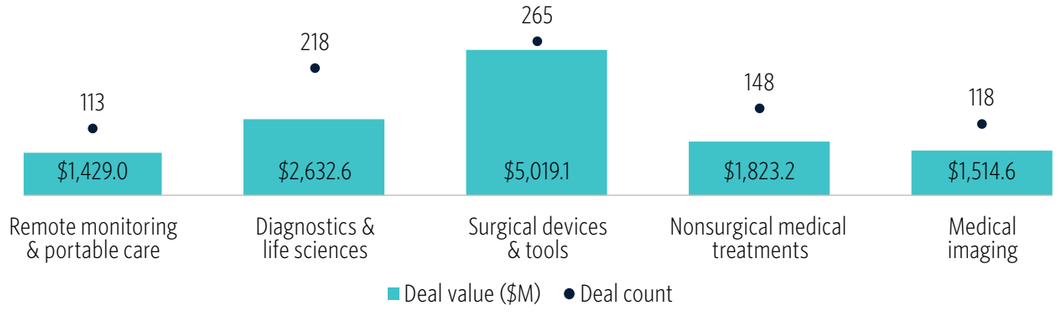
Source: PitchBook • Geography: Global • *As of March 31, 2024

Medtech VC deal activity by quarter



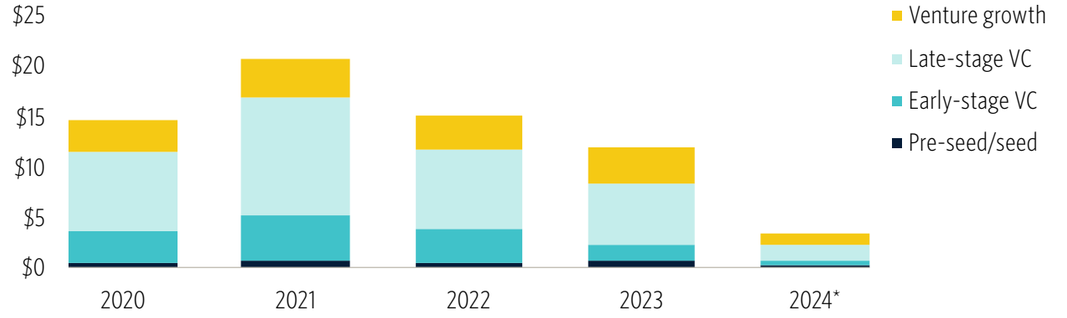
Source: PitchBook • Geography: Global • *As of March 31, 2024

Trailing 12-month medtech VC deal activity by segment*



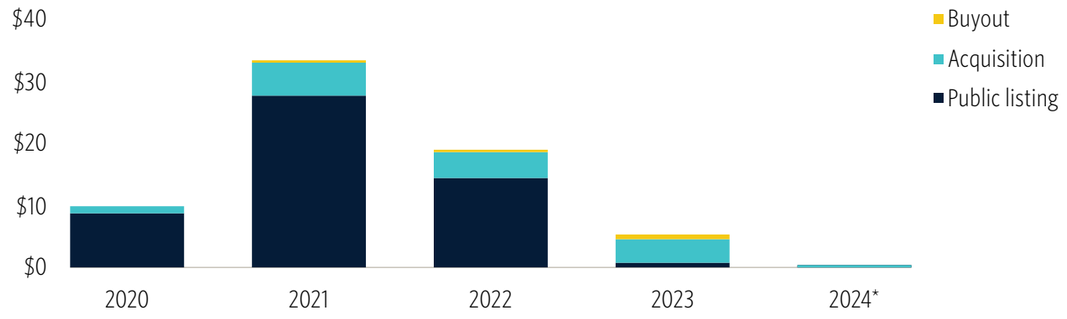
Source: PitchBook • Geography: Global • *As of March 31, 2024

Medtech VC deal value ($B) by stage



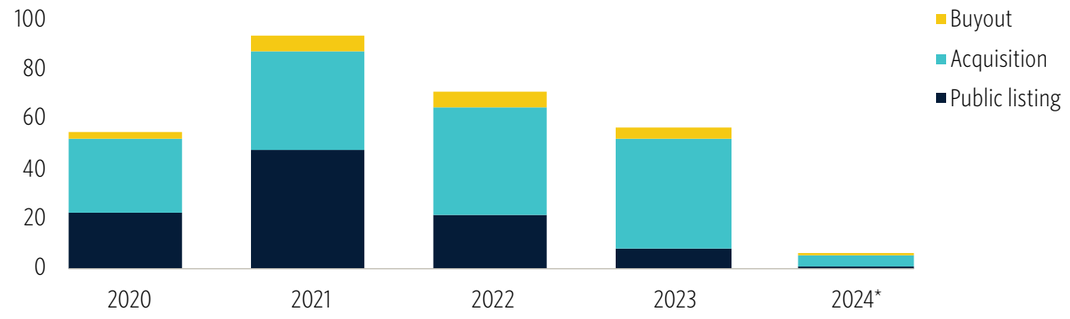
Source: PitchBook • Geography: Global • *As of March 31, 2024

Medtech VC exit value ($B) by type



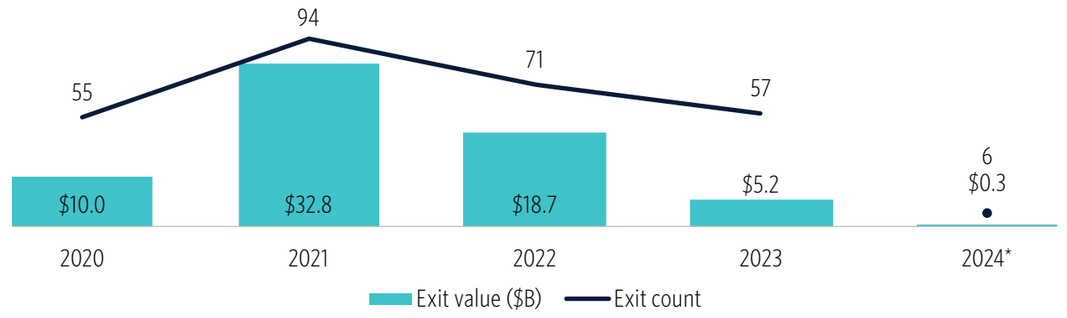
Source: PitchBook • Geography: Global • *As of March 31, 2024

Medtech VC exit count by type



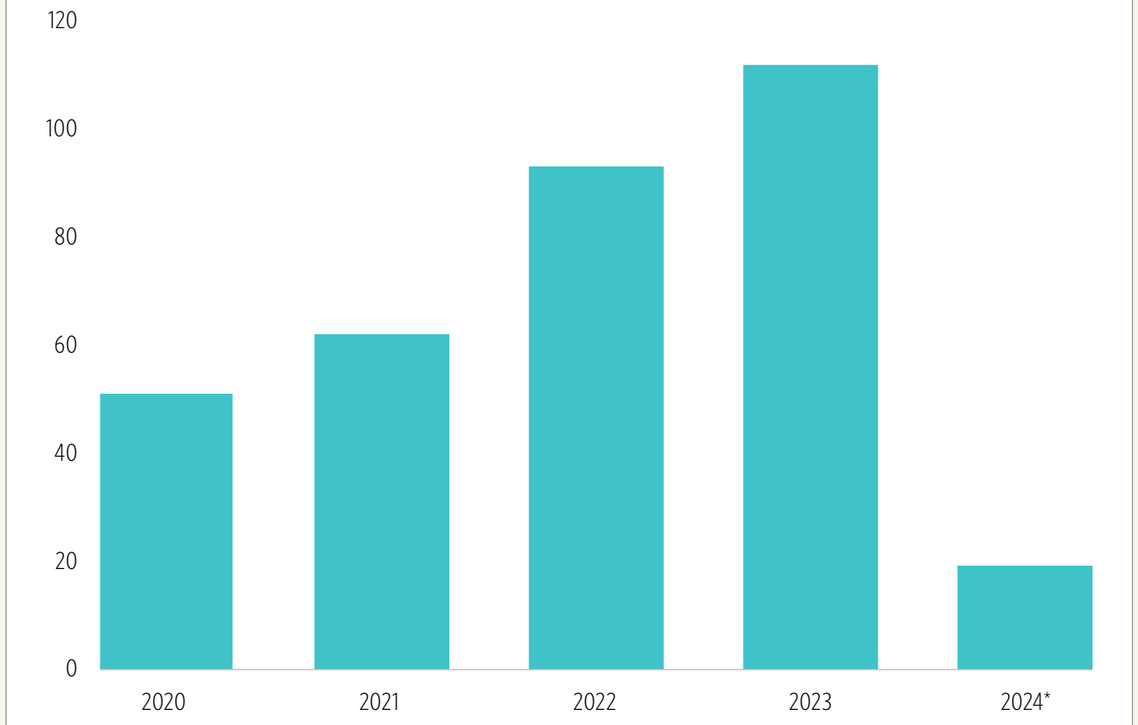
Source: PitchBook • Geography: Global • *As of March 31, 2024

Medtech VC exit activity



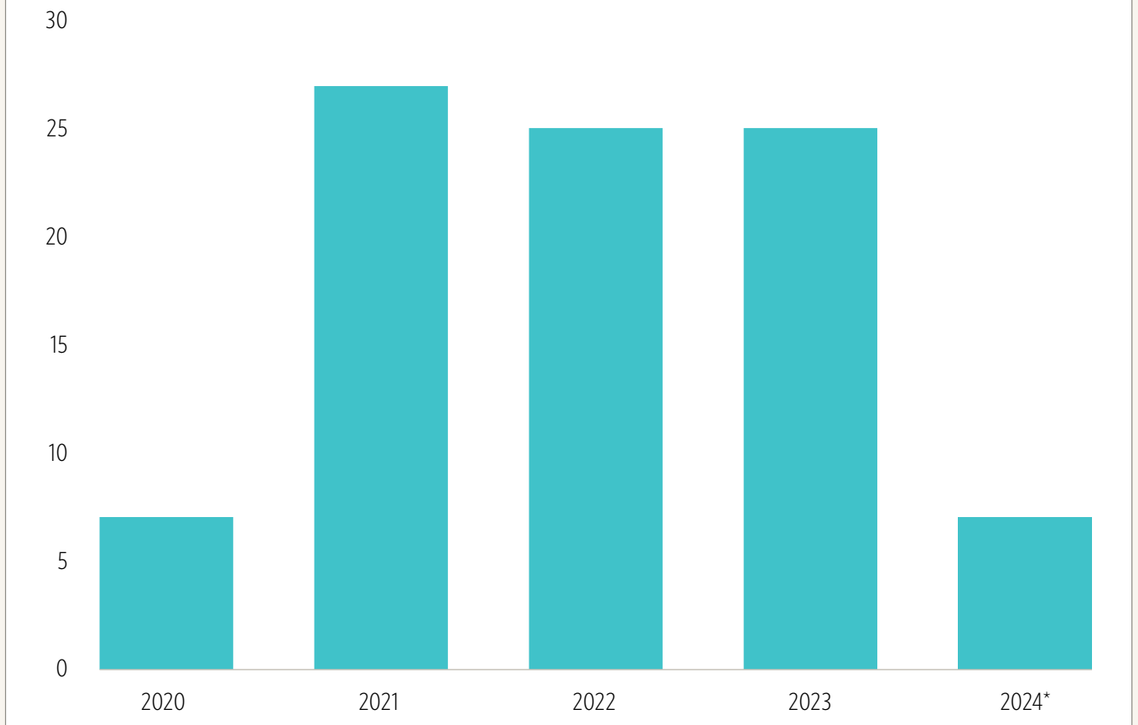
Source: PitchBook • Geography: Global • *As of March 31, 2024

Medtech PE deal count



Source: PitchBook • Geography: Global • *As of March 31, 2024
Note: Due to the limited availability of PE deal sizes, we show only deal count for PE deals. PE deals include both announced and closed deals.

Medtech PE exit count



Source: PitchBook • Geography: Global • *As of March 31, 2024
Note: Due to the limited availability of PE exit sizes, we show only exit count for PE exits. PE exits include both announced and closed exits.

Emerging opportunities

Whole-body scans

General diagnostic MRI screening is currently a niche service, but there is opportunity for market expansion into broad patient populations.

Cardiac arrest prevention and treatment

There is significant scope for innovation that can predict out-of-hospital cardiac events and reduce treatment time to improve survival rates.

Whole-body scans

Overview

Whole-body medical imaging has emerged as a new screening tool to detect major health risks, including cancer, well before they might be identified through regular screening programs. Celebrities such as Kim Kardashian and Maria Menounos have promoted whole-body scanning—and Menounos' scan identified Stage 2 pancreatic cancer, which is now in remission. Whole-body scanning remains well within the domain of concierge medicine, because these tests are typically paid for in cash, rendering them inaccessible to large swaths of the population. While there remains a high dose of skepticism around whole-body scanning, and we share critics' concerns around cost, necessity, and the potential for false positives, we also see this space evolving to become more ingrained in the standard of care as medical imaging technology improves over time. In a sign that whole-body scanning is being increasingly recognized as an investment area, top venture accelerator Y Combinator included cancer screening via MRI scans as part of its Requests for Startups list—its first such list since 2018. Y Combinator's post on the topic cited needed innovations in MRI hardware, AI algorithms, and concrete business models for the market to reach its potential.[5]

There is little doubt that early detection of cancer can save lives, and certainly earlier detection of many cancers reduces overall healthcare expenditures as well. Both factors could be growth drivers for further investment and innovation in the space. Though we do not think whole-body scanning will be a Holy Grail for cancer detection, we see a role for MRI-based cancer screening as one piece of the early-detection puzzle, which in our view is likely to include a combination of liquid biopsy blood tests, genomic health, and traditional tissue biopsies.

Market direction

The market size for whole-body scanning is potentially quite large, as any person could take scans to screen for a variety of conditions annually. Given the small number of market players in the space and the cash-pay nature of whole-body scanning, the current market size is relatively small and can be estimated in the hundreds of millions of dollars. Demand for whole-body scanning is rapidly growing, and the global market opportunity for whole-body scanning could realistically exceed $1 billion by the end of the decade.[6] Market growth could be fueled further by partnerships between care providers and startups, and we have already seen two such examples with recent partnership announcements between radiology provider RAYUS Radiology and AI startup Ezra Health and between concierge clinic Sollis Health and whole-body scanning startup Prenuvo.

Considering the risks associated with a rapid uptick in diagnostic screening—such as the expense, possibilities of false positives, and additional radiation exposure—there is a chance that whole-body scans end up as a fad with limited staying power. In our view, though, the technology is likely

5: "Requests for Startups," Y Combinator, n.d., accessed May 14, 2024.

6: "The Full-Body Scanners Will See You Now," The Information, Zara Stone, March 31, 2023.

to expand its reach and become more accessible over time, especially if whole-body scanning can be a less expensive and invasive option than current screening methods. Insurance coverage (both by private payers and national health systems) will be a key determining factor as to whether whole-body scanning remains a niche service available primarily to the wealthy or a common screening method for the general population. Whole-body scanning is the same innovation category as liquid-biopsy-based multicancer early-detection tests, and these tests are currently still in the middle of a lengthy data collection and approval process. Over the next half decade, we predict demand for whole-body scans will continue to increase, and coverage could expand to an increasing number of concierge clinics, athletes, and workers as an employee benefit (such as the Prenuvo enterprise offering).[7] In the long term, whole-body scanning could eventually receive insurance coverage, but we believe this would require a new crop of startups focused initially on mass-market testing with an emphasis on cheaper and more portable scanning technologies.

7: "This Benefit Could Save Your Employee's Life," Prenuvo, n.d., accessed May 14, 2024.

Whole-body scan startups*

Company	HQ location	Total VC ($M) raised	Most recent post-money valuation ($M)	Last financing date	Lead investor(s)
Prenuvo	Los Angeles, US	$71.8	$198.0	October 18, 2022	Felicis
Neko Health	Stockholm, Sweden	$71.1	N/A	July 5, 2023	Lakestar
Q Bio	San Carlos, US	$70.0	$152.0	April 30, 2021	Kaiser Foundation Hospitals, CLF Partners, Andreessen Horowitz
Ezra Health	New York, US	$43.0	$65.0	January 18, 2024	FirstMark Capital, Healthier Capital

Source: PitchBook • Geography: Global • *As of March 31, 2024

Cardiac arrest prevention and treatment

Overview

There is a clear need for improving the effectiveness of cardiac arrest treatments, as there are over 500,000 out-of-hospital cardiac arrest incidents in the US and Europe alone every year,[8] and these incidents are fatal in over 60% of cases.[9] We see two key areas of innovation that have potential to significantly improve survival rates: predictive analytics and post-cardiac-event treatment. Recent advancements in AI & machine learning may allow for the risk of a severe cardiac event to be flagged and lead to an intervention before a sudden, severe event occurs. Studies published in medical journals, including Heart and Communications Medicine, have highlighted the ability of AI models to help predict a sudden cardiac arrest.[10, 11] These predictive analytics, when implemented, could potentially improve fatality rates if providers are alerted to an ongoing cardiac incident.

Device-based treatment is another core innovation category, and startups such as Resuscitec ($80.6 million raised) and Neurescue ($7.3 million raised) are developing devices that can improve resuscitation and allow for the possibility of medically reviving a patient following sudden cardiac death. This market has received recent attention from VCs, with $56.7 million of funding for Avive Solutions in April 2023, in addition to funding raises from both Resuscitec and Neurescue earlier this year. The current standard of care for out-of-hospital cardiac arrest, assuming no healthcare professionals are available to administer treatment, involves bystander CPR and is followed by the use of an external defibrillator, or AED, when care providers arrive. There are currently about 3.2 million publicly available AEDs in the US alone,[12] and because these devices often cost more than $1,000,[13] they are prohibitively expensive to place in nonpublic settings, such as individual homes. To have full coverage of AEDs in public settings, it is estimated that almost 10 times the current number (over 30 million) could be needed,[14] an impracticality given the expense of the device. Further, the use of a defibrillator generally requires specialized training, and the device needs to be administered soon after a cardiac event, limiting the potential benefit of simply expanding access to AEDs as a standalone solution. Instead, there is opportunity for cheaper, more accessible resuscitation devices to close the gap between incidences of cardiac arrest and time-to-treatment, a major factor for improving currently poor survival metrics.

Market direction

Though the mortality rate of cardiac arrests has declined over the past few decades,[15] an increasing population and high overall fatalities compared with other health events indicate further innovation is needed to improve outcomes for sudden cardiac arrest. Several factors are likely to fuel innovation, including the emergence of portable ECG technologies, improved predictive algorithms, and ongoing investment in cardiac resuscitation. On this last point, some researchers currently believe new technologies may allow for resuscitation later than the current medically

8: "Impact of Bystander-Initiated Cardiopulmonary Resuscitation for Out-of-Hospital Cardiac Arrest: Where Would You Be Happy to Have a Cardiac Arrest?" Oxford Academic, European Heart Journal, Daniele Giacoppo, January 14, 2019.
9: "About Cardiac Arrest," Centers for Disease Control and Prevention, May 15, 2024.
10: "Machine Learning Model for Predicting Out-of-Hospital Cardiac Arrests Using Meteorological and Chronological Data," BMJ Journals, Heart, Takahiro Nakashima, et al., May 17, 2021.
11: "An ECG-Based Artificial Intelligence Model for Assessment of Sudden Cardiac Death Risk," Springer Nature, Communications Medicine, Lauri Holmstrom, et al., February 27, 2024.
12: "The AED Shortage," Readiness Systems, n.d., accessed May 14, 2024.
13: "AED Buyer's Guide," AED Brands, n.d., accessed May 14, 2024.
14: "The AED Shortage," Readiness Systems, n.d., accessed May 14, 2024.
15: "A Race Against the Clock: Out-of-Hospital Cardiac Arrest," American Heart Association, n.d., accessed May 14, 2024.

established point of death. New resuscitation techniques and related innovation could significantly open the market for cardiac device treatment, providing a boon to companies that can innovate in this market. And certainly, given the current high mortality rate of out-of-hospital cardiac arrests, there is the potential to save many lives with even marginal improvement in the effectiveness of treatment for cardiac arrest. Over the coming years, we anticipate an expansion of research into predicting the risks for cardiac arrest, and we expect development in this area could manifest in both post-acute care models and remote patient monitoring for at-risk individuals. While there may be cost-effectiveness roadblocks to an increase in the availability of novel resuscitation devices, improved monitoring and prevention of cardiac events could reduce both hospital admissions and fatalities without an associated rise of in-patient costs. For this reason, payers and insurers are likely to show a willingness to adopt predictive analytics in tandem with existing remote monitoring as part of a holistic solution to reduce the severity (and payment claims) of cardiac arrests.

Select company highlights

Healthy.io

Overview

Healthy.io is a global diagnostic and in-home testing company with primary offices in Boston, London, and Tel Aviv. In May 2023, the startup raised $50.0 million led by Schusterman Family Investments, with this funding primarily intended to fuel further US expansion. In addition to expansion efforts, Healthy.io is in the midst of a business model transition from a product sales business to a solution- and software-oriented model. While there are challenges with making such a shift, a solutions business can be stickier and potentially more profitable in the long term than selling products on a one-off basis.

Healthy.io operates services for kidney care, wound care, urinary tract infection, and prenatal testing. Of these, kidney care offers the largest market opportunity and is a key focus area of management's growth efforts. In the US alone, kidney care services account for over $130 billion of healthcare spending and about one-quarter of total spending from Medicare.[16] The need for kidney care services is set to increase over the next decade, as chronic kidney disease has become one of the fastest-growing noncommunicable diseases due to greater risks for older populations and rising rates of diabetes and high blood pressure.[17] Healthy.io's Minuteful Kidney test is intended to evaluate the presence of albumin, a marker for kidney disease. Payers are incentivized to cover these tests because a later diagnosis of kidney disease can add significant cost to the system. Underdiagnosis of kidney disease is a major health issue, and Healthy.io aims to solve this through

16: "Federal Investment," National Kidney Foundation, n.d., accessed May 14, 2024.
17: "Quick Kidney Disease Facts and Stats," American Kidney Fund, April 19, 2024.

Key company information

Founded
2013

Employees
206

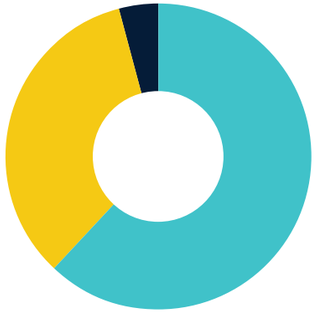
Total raised
$190.0M

Last financing valuation
$242.2M

Last financing
Raised $50.0M in a Series D

Lead investors
Schusterman Family Investments, Corner Ventures, Aleph

Exit Predictor



IPO: 62% probability **M&A:** 34% probability **No exit:** 4% probability

Success: 96% probability

Note: Probability data is based on PitchBook VC Exit Predictor methodology.

its easy-to-use at-home urine test. Other competitors in this space have their own kidney tests, including at-home blood tests offered by Labcorp, Verisana, and fellow startup LetsGetChecked. However, Healthy.io's solution is differentiated in that the test gives a rapid result based on the home urine sample, while options from other test-makers often require a delivery to an external lab, adding time and inconvenience to the screening process.

Outlook

Having raised funds just over a year ago, Healthy.io has a strong cash position, and the startup does not have a need to raise funds in the near term, though it remains open to strategic investment opportunities. We give the company credit for its innovation and ambition, though there is no question that some degree of strategic change has been needed to prioritize its most profitable and highest-growth opportunity of further expansion into the US and an emphasis on the kidney care market. In early 2023, the startup laid off 70 employees, mostly in Israel and the UK, as part of its effort to prioritize sustainable growth. The company also brought on new CEO Geoff Martin in January 2024 following the transition of founder Yonatan Adiri to the President role.

Looking ahead, Healthy.io intends to prioritize US expansion and is aiming to achieve break-even within the next few years. We hold a positive view of Healthy.io's test-menu diversity given the risks of focusing efforts on a single condition, though we acknowledge the potential difficulty in targeting several diagnostic markets at the same time. Considering its strong consumer-oriented platform and proven relationships with providers, Healthy.io could eventually launch other remote diagnostic and combined telehealth services, such as a digital solution for psoriasis in tandem with dermatologists, a seemingly good fit for the company's image-based test focus.

Financing history

Series A

August 1, 2017

Total raised
$14.0M

Pre-money valuation
$17.2M

Investors
Quantum Pacific Group, Ansonia Holdings Singapore

Series B

February 5, 2019

Total raised
$18.0M

Pre-money valuation
$48.0M

Investor
Aleph

Series C

September 11, 2019

Total raised
$60.0M

Pre-money valuation
$192.4M

Investor
Corner Ventures

Series D

May 3, 2023

Total raised
$50.0M

Pre-money valuation
N/A

Investor
Schusterman Family Investments

Paige®

Overview

Paige AI is a New York-based digital diagnostics company focusing on AI for pathology and oncology. Paige's two core solutions, Prostate Suite and Breast Suite, use AI applications to aid in the review of whole-slide images for cancer detection, diagnosis, and cancer grading. In 2021, Paige became the first—and as of May 2024, currently only—company to receive clearance from the FDA for an AI-based pathology diagnostic solution, Paige Prostate Detect. The company has raised over $239 million of funding and is led by Andy Moye, Ph.D., who has served as CEO since December 2021 following a previous 11-month tenure as chief commercial officer. Two of Paige AI's founders, Thomas Fuchs, DS, and David S. Klimstra, MD, currently remain involved at the startup as chief scientist and chief medical officer, respectively.[18] Paige's business model involves selling into medical institutions, hospitals, and other labs, and notable current clients include the UK's National Health Service, the University of Louisville health system, and Quest Diagnostics.[19] Although Paige was founded in 2017, before the explosion of investment hype into generative AI, the startup has ridden the coattails of momentum for healthcare AI applications with a recently announced partnership with Microsoft. Through this partnership, Paige will be able to leverage Microsoft's supercomputing infrastructure to train on 1.5 million pathology slides, compared with the 500,000 slides used in its original model. Paige's solution is also widely available through Nuance's PowerShare image sharing network, another indication of the strong relationship with Microsoft, Nuance's parent company.

18: "Microsoft and Paige Are Building the World's Largest AI Model for Detecting Cancer," CNBC, Ashley Capoot, September 7, 2023.
19: "The Standard for AI in Pathology," Paige AI, n.d., accessed May 14, 2024.

Key company information

Founded
2017

Employees
135

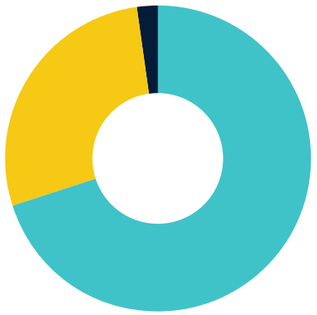
Total raised
$239.5M

Last financing valuation
$650.0M

Last financing
Raised $19.5M in a Series C1

Lead investors
Catalio Capital Management, Johnson & Johnson Innovation, KKR, Casdin Capital

Exit Predictor



IPO: 69% probability **M&A:** 29% probability **No exit:** 2% probability

Success: 98% probability

Note: Probability data is based on PitchBook VC Exit Predictor methodology.

Outlook

As we have previously written, noninvasive multicancer detection is likely to emerge as an important tool in the toolbox for cancer screening, given the greater efficiency of testing for multiple cancers at one time and the ability to screen large populations without the need for invasive biopsies. In January 2024, Paige announced a new application of its platform for multicancer detection of 17 tissue types, including skin, lung, and the gastrointestinal tract.[20] The startup intends to pursue FDA clearance for this new product and other solutions under development, and positive FDA decisions would likely accelerate customer interest and adoption. In the meantime, Paige is likely to focus on its core capabilities in breast and prostrate, and its emphasis on going through formal regulatory channels indicates strategic patience.

Paige's last VC funding round in March 2023, a $19.5 million Series C1 from Catalio Capital Management, was relatively modest compared with the startup's $125.0 million Series C from two years prior. We anticipate another possible funding round for the startup within the next year given the now three-year gap from its last large funding round. Though we consider it too early to accurately project an exit outcome for Paige, we may be set for a banner year in deal activity for digital pathology with Quest Diagnostics' partial acquisition of PathAI's diagnostic lab and an upcoming IPO by fellow digital path startup Tempus, which recently hired bankers to explore a public listing in the coming months.[21] An IPO for Paige is possible in the long term, and PitchBook's proprietary VC Exit Predictor assigns Paige a 69% chance of a successful public listing. An acquisition is also a plausible outcome, as digital pathology startups with adjacent technologies may seek to consolidate and build out comprehensive platforms. Traditional testing firms such as Quest have shown a willingness to explore partnerships and M&A opportunities in digital pathology, providing another avenue for a potential exit.

20: "Paige Develops Pan-Tissue AI-Enabled Cancer Detection Technology," Inside Precision Medicine, January 9, 2024.
21: "Healthcare Startup Tempus Hires Morgan Stanley for IPO," The Information, Becky Peterson and Corey Weinberg, March 12, 2024.

Financing history

Series A

February 5, 2018

Total raised
$25.0M
Pre-money valuation
$22.0M
Investor
Breyer Capital

Series B

July 13, 2020

Total raised
$70.0M
Pre-money valuation
$150.0M
Investors
Breyer Capital, HealthCare Ventures, Kenan Turnacioglu

Series C

March 8, 2021

Total raised
$125.0M
Pre-money valuation
$450.0M
Investors
Johnson & Johnson Innovation, KKR, Casdin Capital

Series C1

March 16, 2023

Total raised
$19.5M
Pre-money valuation
$630.5M
Investor
Catalio Capital Management

Appendix

Top VC-backed medtech companies by VC raised to date*

Company	VC ($M) raised to date	Segment	Category	IPO probability	M&A probability	No exit probability	Location
Tempus	$1,411.8	Diagnostics & life sciences	Precision medicine	77%	21%	2%	Chicago, US
Freenome	$1,352.4	Diagnostics & life sciences	Cancer diagnostics	96%	2%	2%	San Francisco, US
CMR Surgical	$1,182.6	Surgical devices & tools	Surgical robotics	93%	5%	2%	Cambridge, UK
HeartFlow	$828.6	Medical imaging	Cardiac & heart	92%	6%	2%	Mountain View, US
Neuralink	$687.1	Surgical devices & tools	Brain-computer interface	90%	6%	4%	Fremont, US
Impulse Dynamics	$583.6	Surgical devices & tools	Cardiovascular	91%	7%	2%	Marlton, US
MicroPort CRM	$568.6	Surgical devices & tools	Cardiovascular	23%	69%	8%	Clamart, France
Insightec	$450.9	Nonsurgical medical treatments	Other medical treatments	95%	3%	2%	Tirat Carmel, Israel
Visby Medical	$431.6	Diagnostics & life sciences	Rapid & point-of-care testing	66%	16%	18%	San Jose, US
Ultima Genomics	$423.0	Diagnostics & life sciences	Genomic sequencing	97%	1%	2%	Newark, US

Source: PitchBook • Geography: Global • *As of March 31, 2024

Note: Probability data is based on PitchBook VC Exit Predictor methodology.

Top medtech M&A and buyout deals by deal value*

Company	Deal date	Deal value ($M)	Deal type	HQ country
Ortho-Clinical Diagnostics	December 23, 2021	$6,000.0	M&A	US
The Binding Site	October 30, 2022	$2,704.0	M&A	UK
ArcherDX	June 21, 2020	$2,331.5	M&A	US
Immucor	November 3, 2022	$2,000.0	M&A	US
Medit	December 29, 2022	$1,862.5	Buyout/LBO	South Korea
Heska	April 3, 2023	$1,500.0	M&A	US
BK Medical Holding	September 22, 2021	$1,450.0	M&A	US
Natus Medical	April 18, 2022	$1,213.5	Buyout/LBO	N/A
Dutch Ophthalmic Research Center	December 1, 2023	$1,065.8	M&A	Netherlands
Laminar	November 30, 2023	$1,000.0	M&A	US

Source: PitchBook • Geography: Global • *As of March 31, 2024

Top medtech VC investors since 2020*

Investor	Deal count	Pre-seed/ seed	Early-stage VC	Late-stage VC	Venture growth	Investor type
SOSV	75	35	12	27	1	VC
Qiming Venture Partners	48	0	24	22	2	VC
European Innovation Council Fund	42	0	9	26	7	VC
HongShan	41	0	17	19	5	VC
Enterprise Ireland	37	3	8	16	10	VC
YuanBio Venture Capital	34	0	18	14	2	VC
Khosla Ventures	33	3	3	21	6	VC
Lilly Asia Ventures	27	2	17	7	1	CVC
ShangBay Capital	26	3	13	8	2	VC
BioTrack Capital	26	0	16	9	1	VC

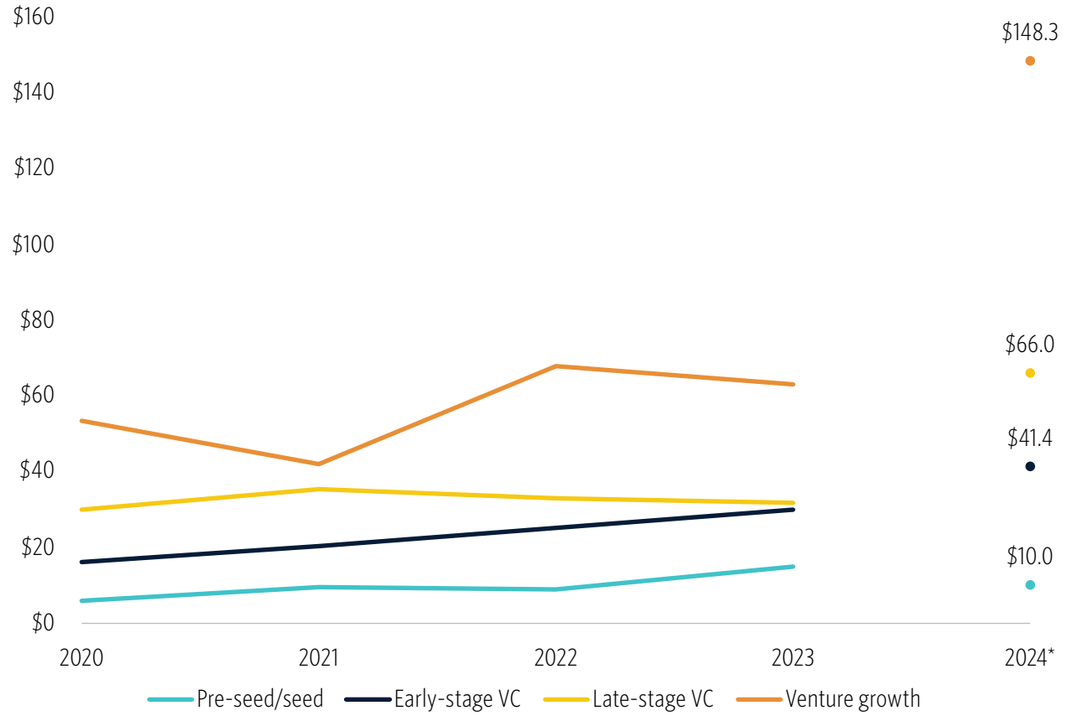
Source: PitchBook • Geography: Global • *As of March 31, 2024

Top medtech strategic acquirers since 2020*

Investor	Deal count	Investor type
Boston Scientific	4	Corporation
Eqwal Group	4	PE-backed company
Medtronic	4	Corporation
Thermo Fisher Scientific	3	Corporation
Veracyte	3	Corporation
Laborie Medical Technologies	3	PE-backed company
Zimmer Biomet	3	Corporation
GE Healthcare	3	Corporation
Hologic	3	Corporation
Ottobock	3	PE-backed company
Philips	3	Corporation

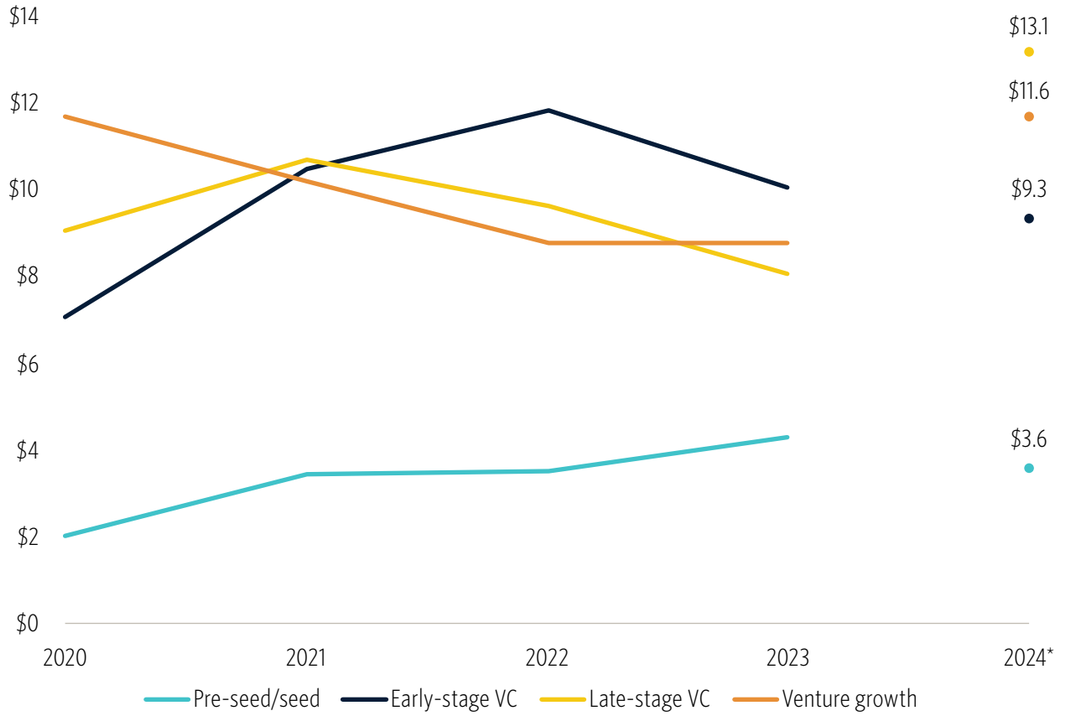
Source: PitchBook • Geography: Global • *As of March 31, 2024

Median medtech VC pre-money valuation ($M) by stage



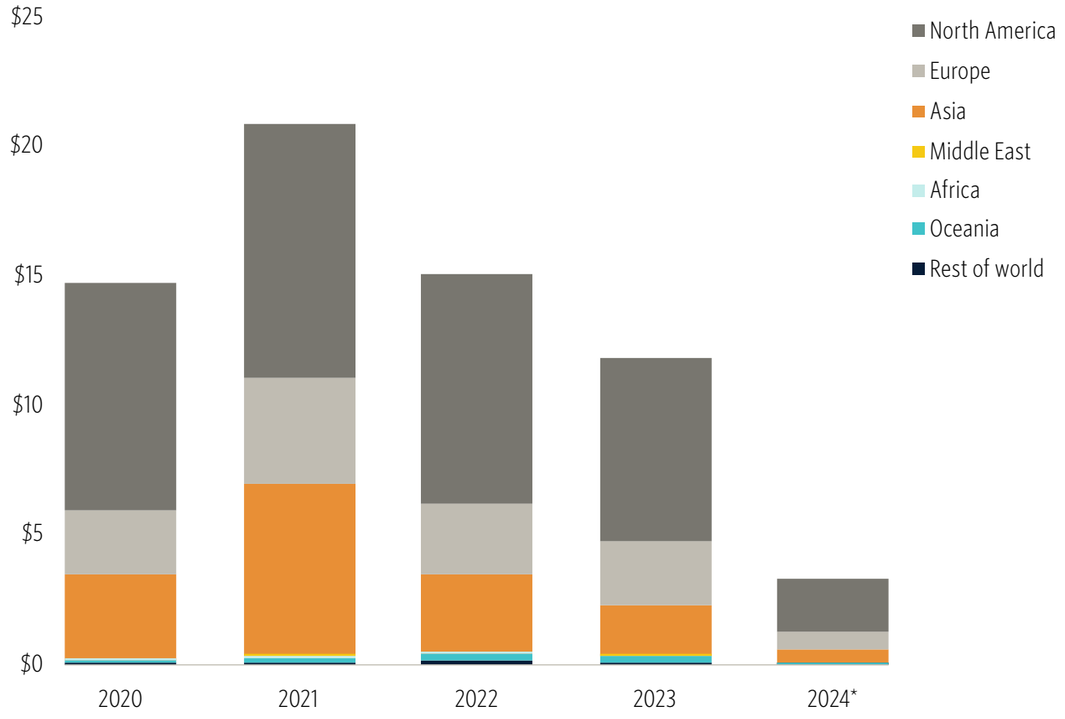
Source: PitchBook • Geography: Global • *As of March 31, 2024

Median medtech VC deal value ($M) by stage



Source: PitchBook • Geography: Global • *As of March 31, 2024

Medtech VC deal value ($B) by region



Source: PitchBook • Geography: Global • *As of March 31, 2024

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