

Desautels Capital Management

Industry Review – Healthcare

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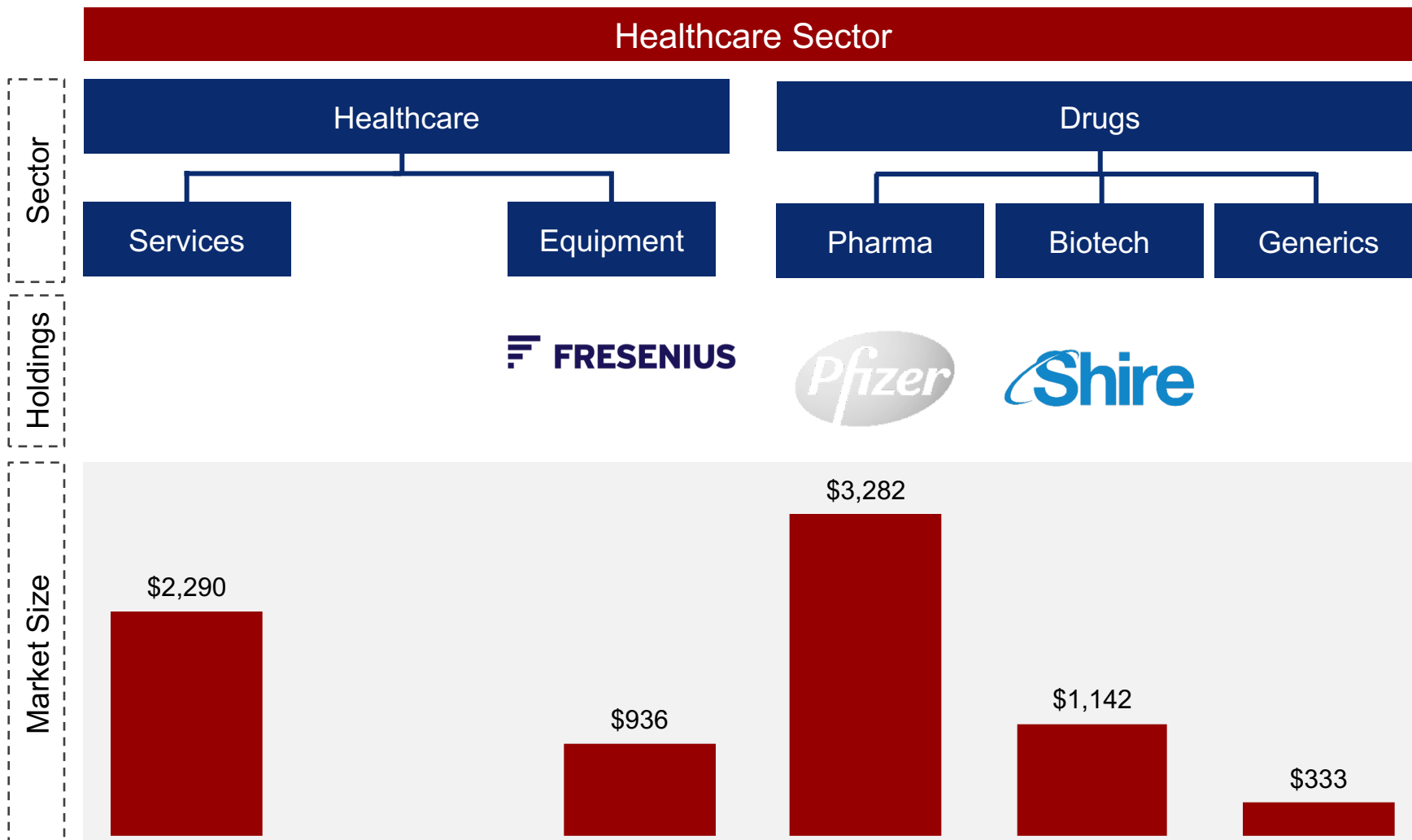
Healthcare Sector Overview

SECTION I

Healthcare Sector Breakdown

DCMs portfolio

(in \$ billions, unless noted)

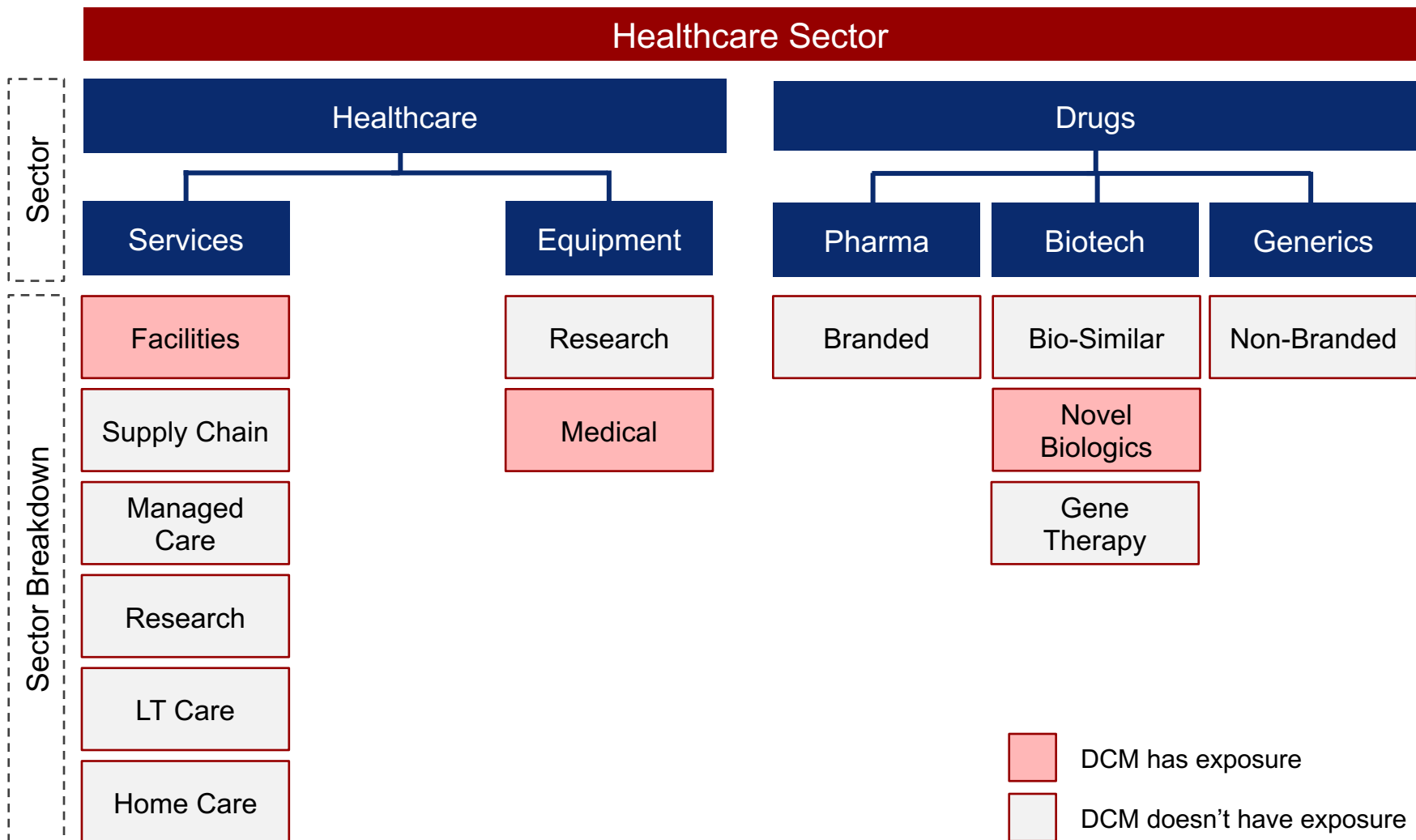


Source: Bloomberg 09/28/18

Healthcare Sector Breakdown

DCMs portfolio

(in \$ billions, unless noted)



Healthcare Sector Breakdown

Drugs major players

Pharmaceuticals

Johnson & Johnson

Pfizer

Roche

NOVARTIS

MERCK

abbvie

Lilly

SANOFI

Biotechnology

AMGEN

GILEAD

CSL™

Biogen

Celgene

Shire

Generics

恒瑞

CELLTRION

TEVA

TEVA PHARMACEUTICAL INDUSTRIES LTD.

SUN

PHARMA

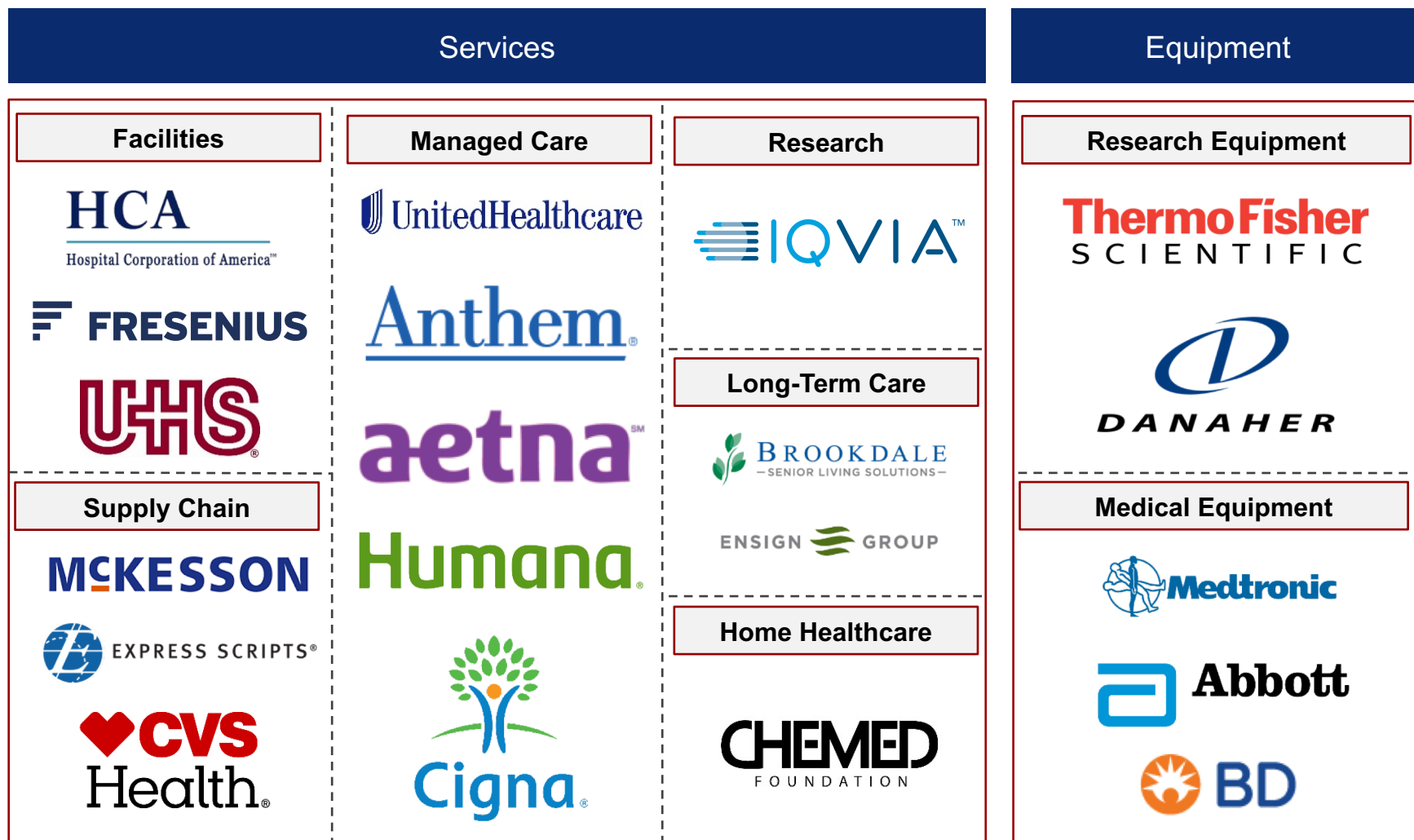


Mylan

Better Health
for a Better World™

Healthcare Sector Breakdown

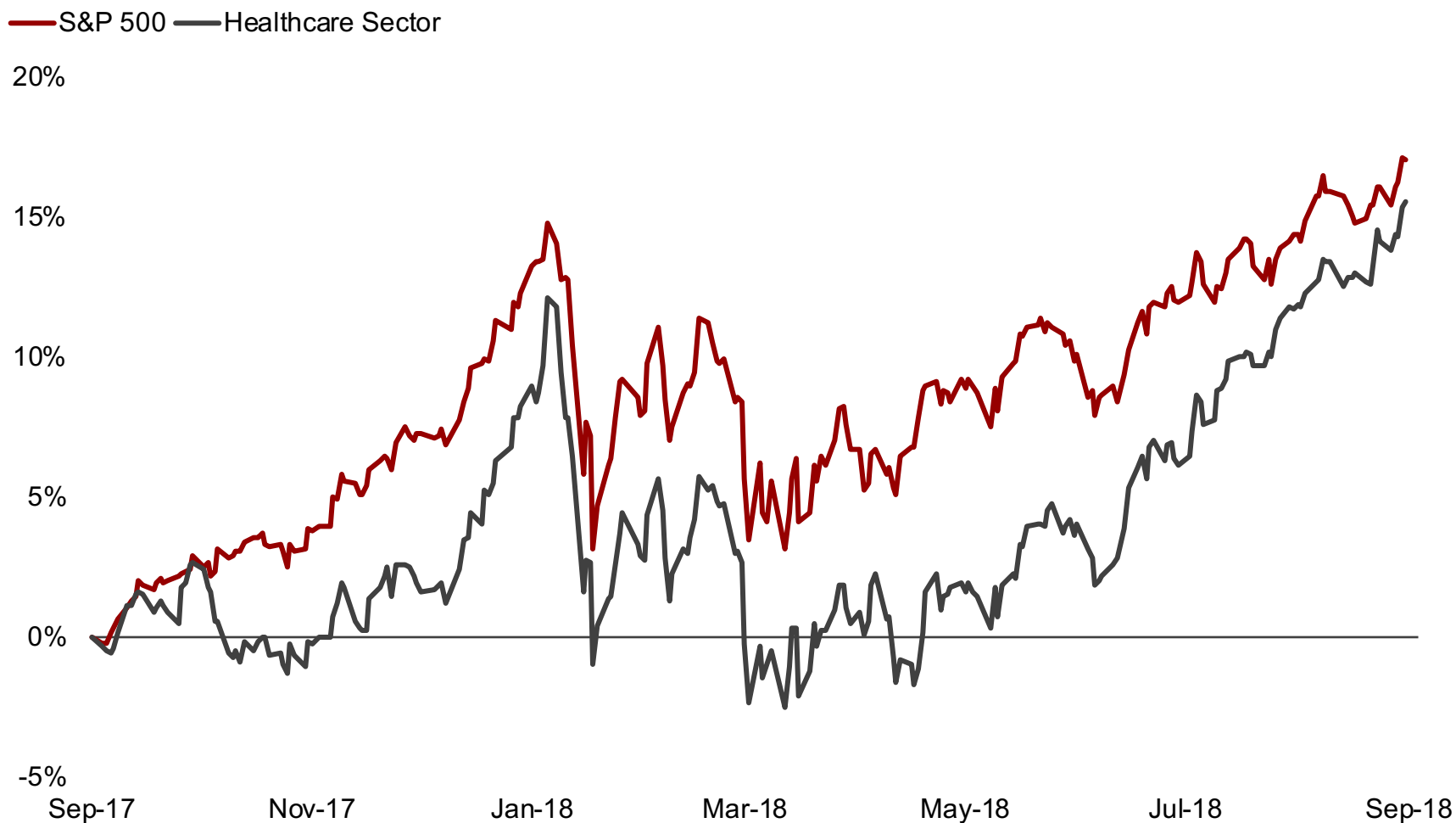
Healthcare major players



Source: Bloomberg 9/4/2018

Healthcare Sub-Sector Equity Performance

Sector's improved cost structure and increased need for services driving market gains

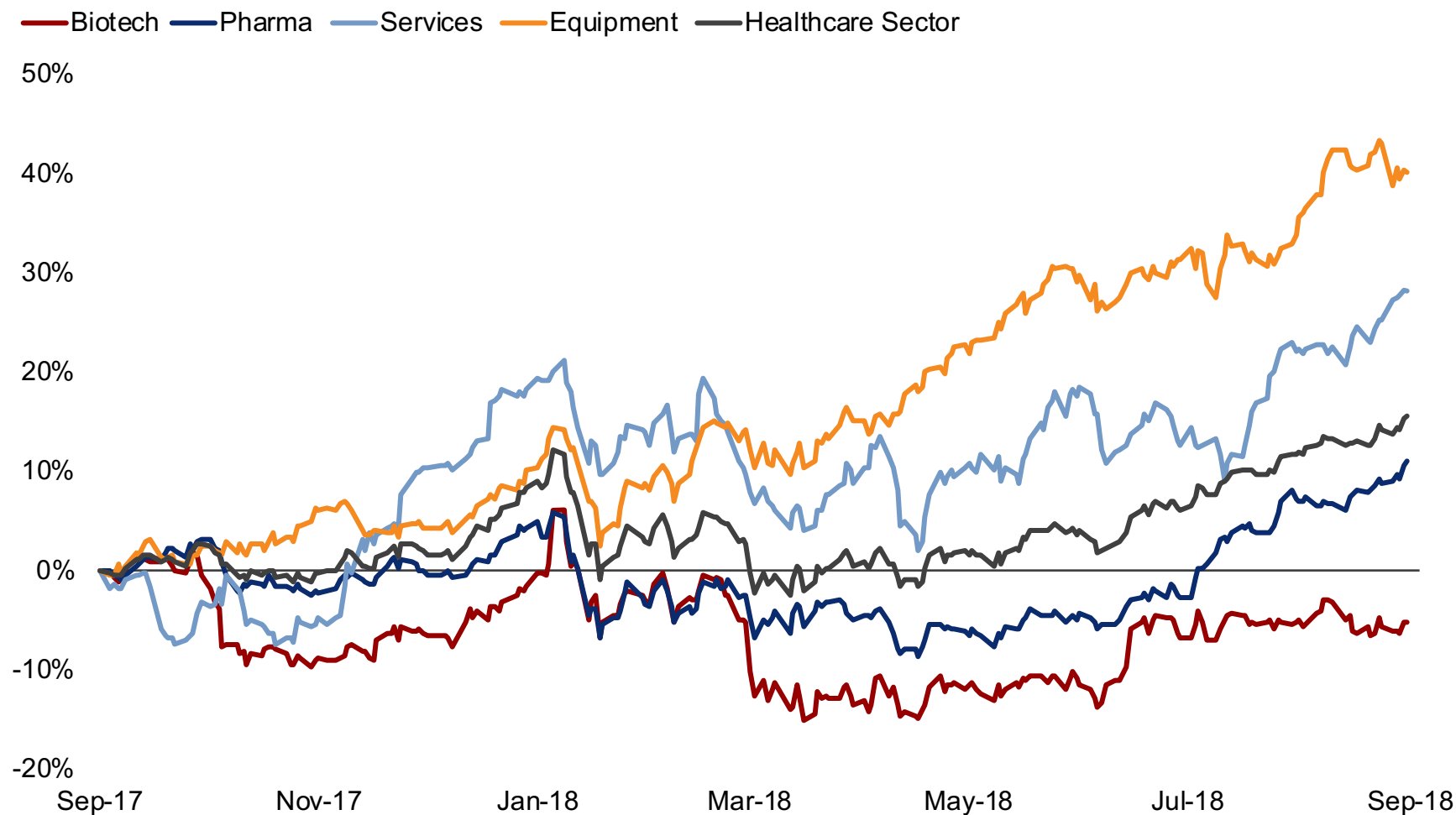


Healthcare companies have not been able to outperform the broader index

Source: Bloomberg 09/28/18

Healthcare Sub-Sector Equity Performance

Sector's improved cost structure and increased need for services driving market gains



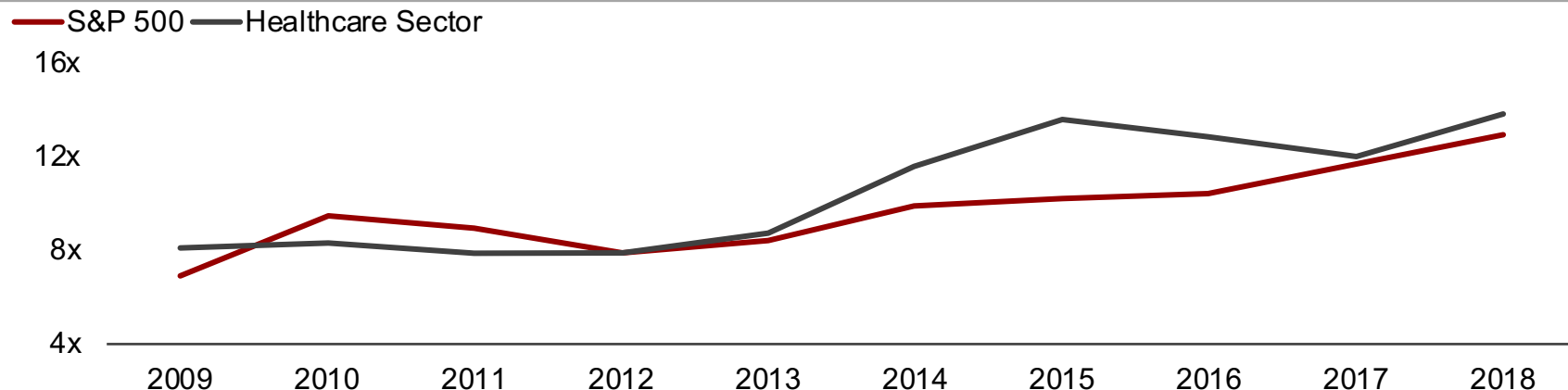
Healthcare services and equipment providers outperformed the broader healthcare market

Source: Bloomberg 09/28/18

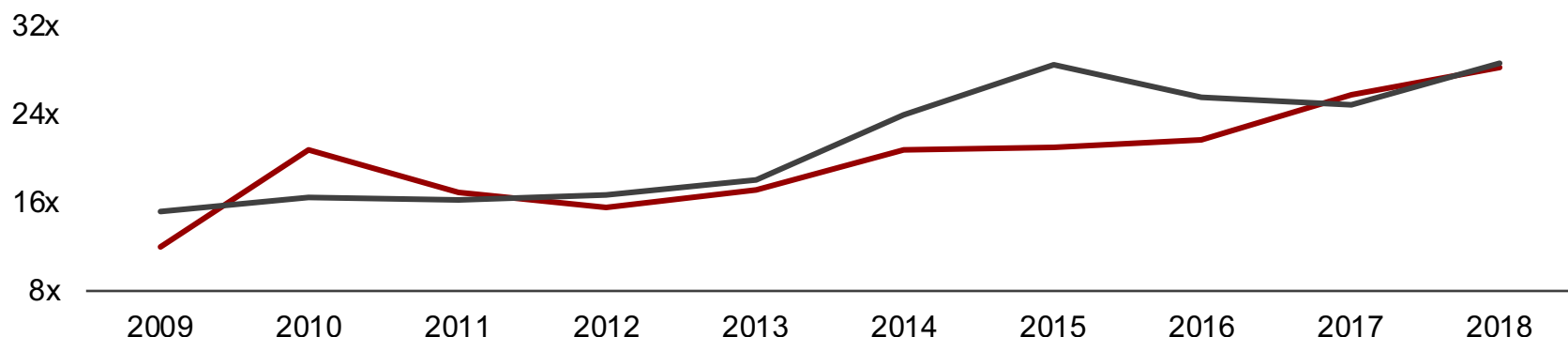
Healthcare Sub-Sector Valuation

Market is not pricing in significant growth in the healthcare space ...

Healthcare Sub-Sector Valuation: EV/EBITDA



Healthcare Sub-Sector Valuation: P/E



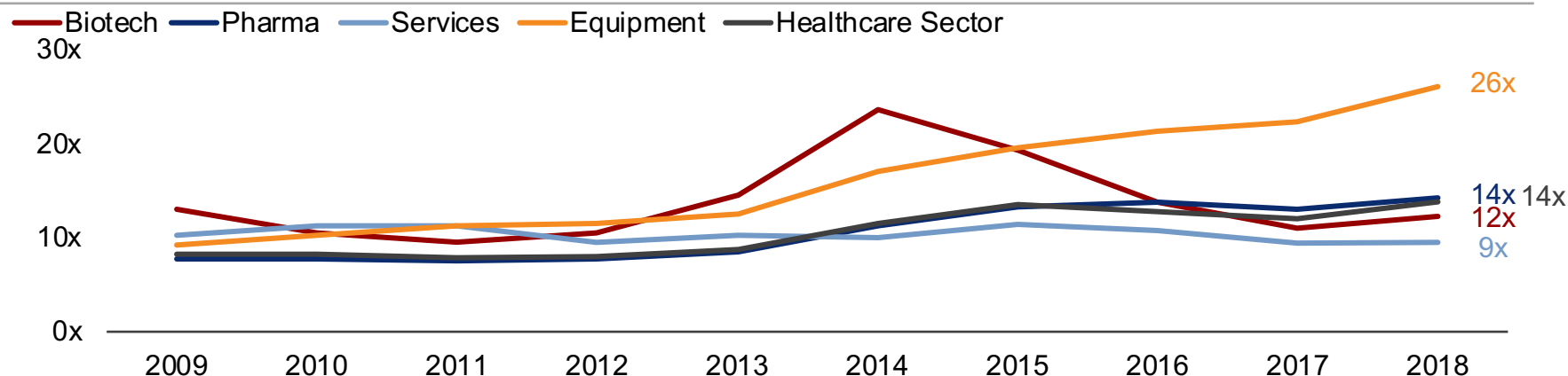
Healthcare valuations are in line with the S&P 500

Source: Bloomberg 09/28/18

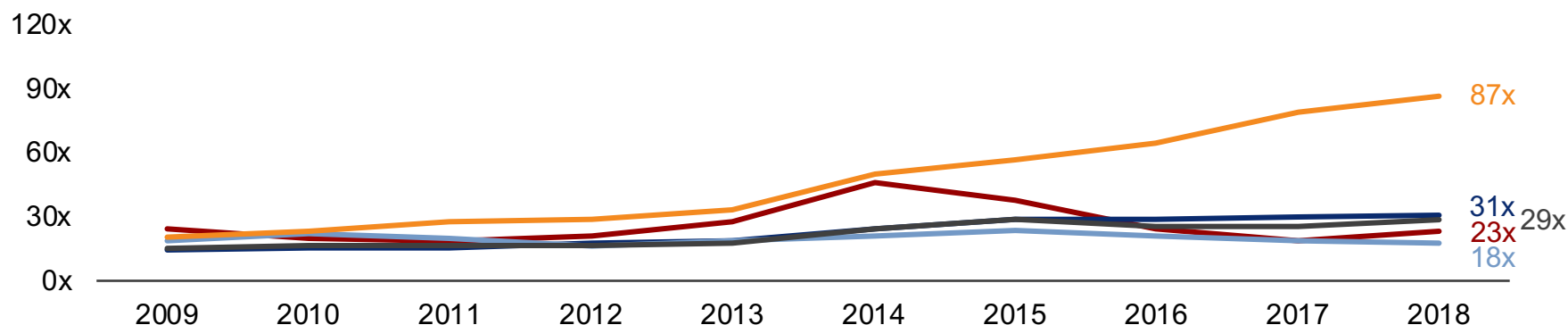
Healthcare Sub-Sector Valuation

... but it is pricing in significant growth in the medical device space

Healthcare sub-sector valuation: EV/EBITDA



Healthcare sub-sector valuation: P/E



Healthcare equipment valuations have risen by over 100% in the past 5 years

Source: Bloomberg 09/28/18

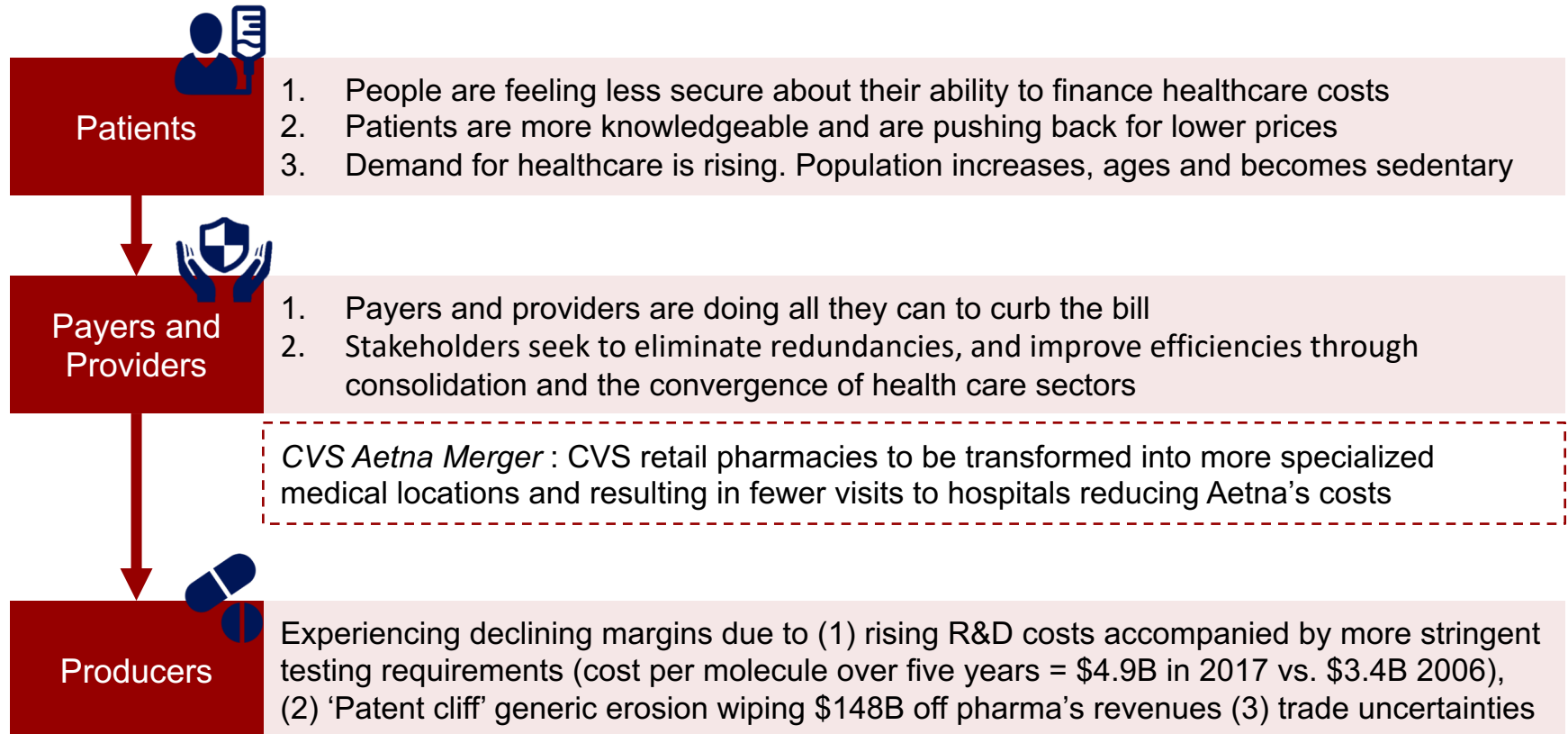
2018 Major Themes

SECTION II

Healthcare Major Themes: Payer Pushback

The healthcare sector is surviving seismic change

Constrained margins and reductions in profitability among the players across the health care ecosystem

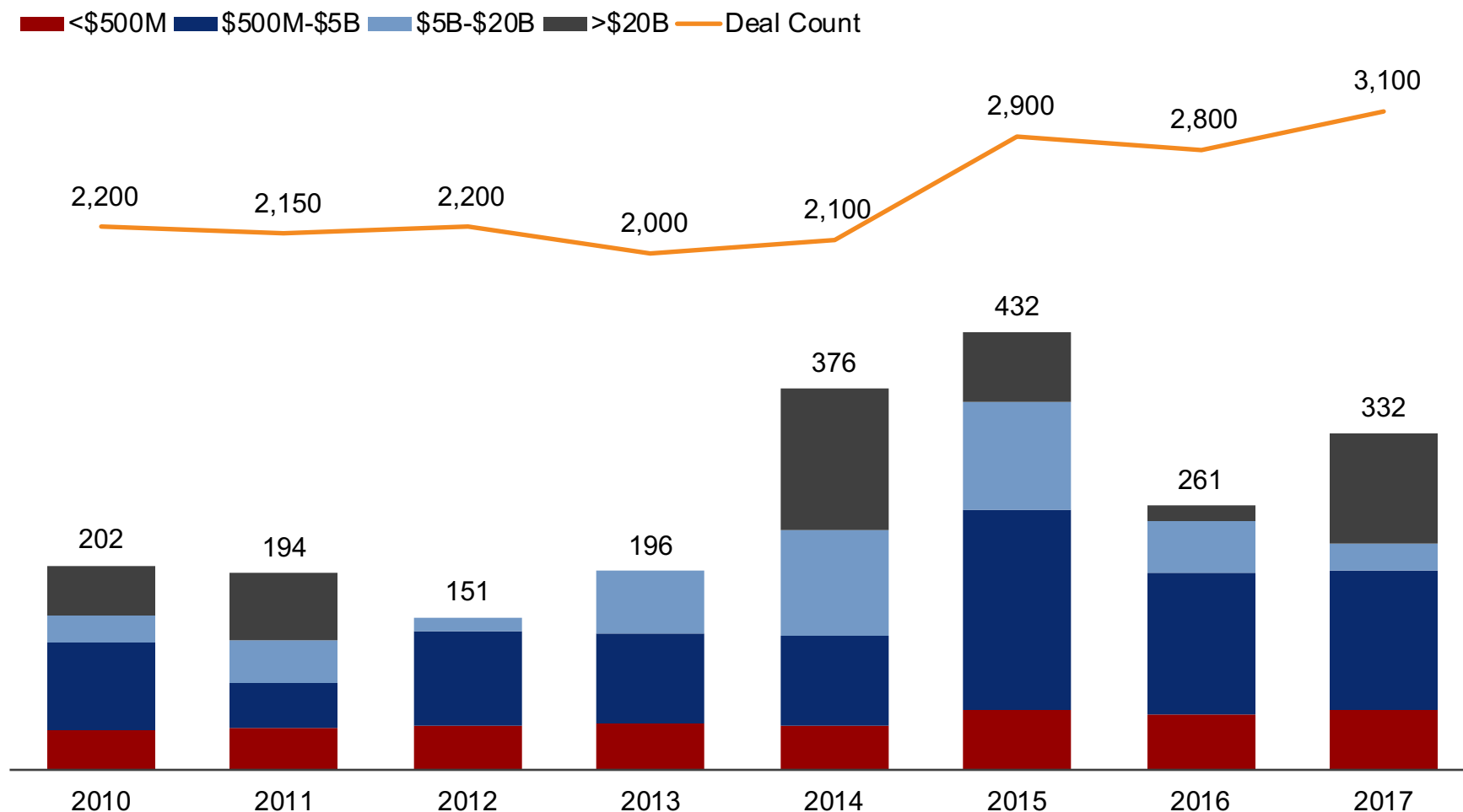


Technology that reduces health care costs while expanding access is likely to see rapid adoption. These emerging technologies include data analytics, cognitive analysis, artificial intelligence, and collaboration tools

Source: Deloitte, PwC, The New York Times, Company Filings

Healthcare Major Themes: Mergers and Acquisitions

Pressures to stem rise in healthcare costs are pushing firms to gain advantage via M&A



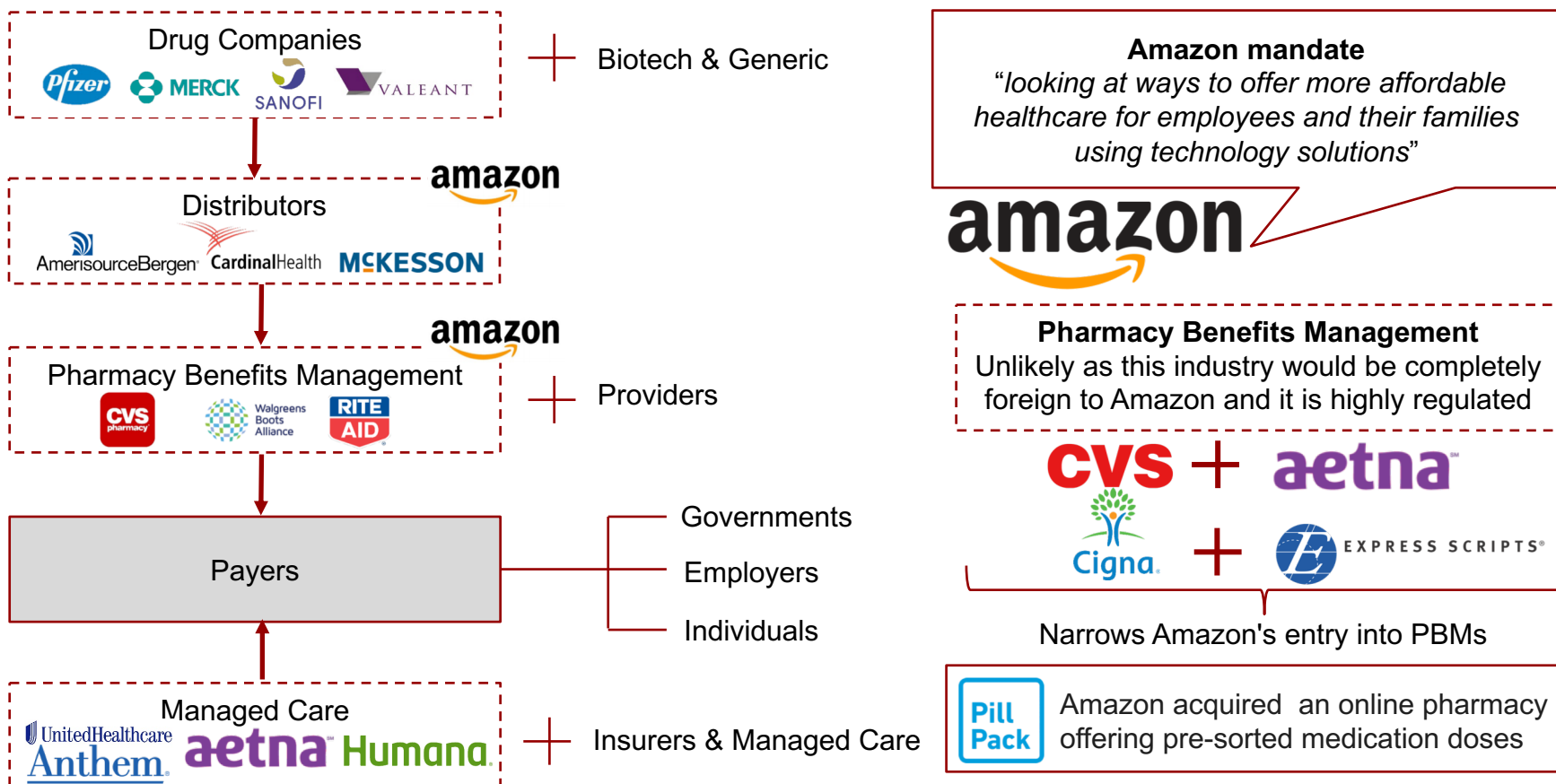
Among the forces driving deals were category leadership (building scale within a customer-defined category), outsourced research and development (R&D), and cost reduction through healthcare IT (HCIT)

Source: Bain & Company, Deloitte, PwC

Healthcare Major Themes: Healthcare Disruptors

Riding the disruption wave in healthcare

Amazon's potential entry into healthcare



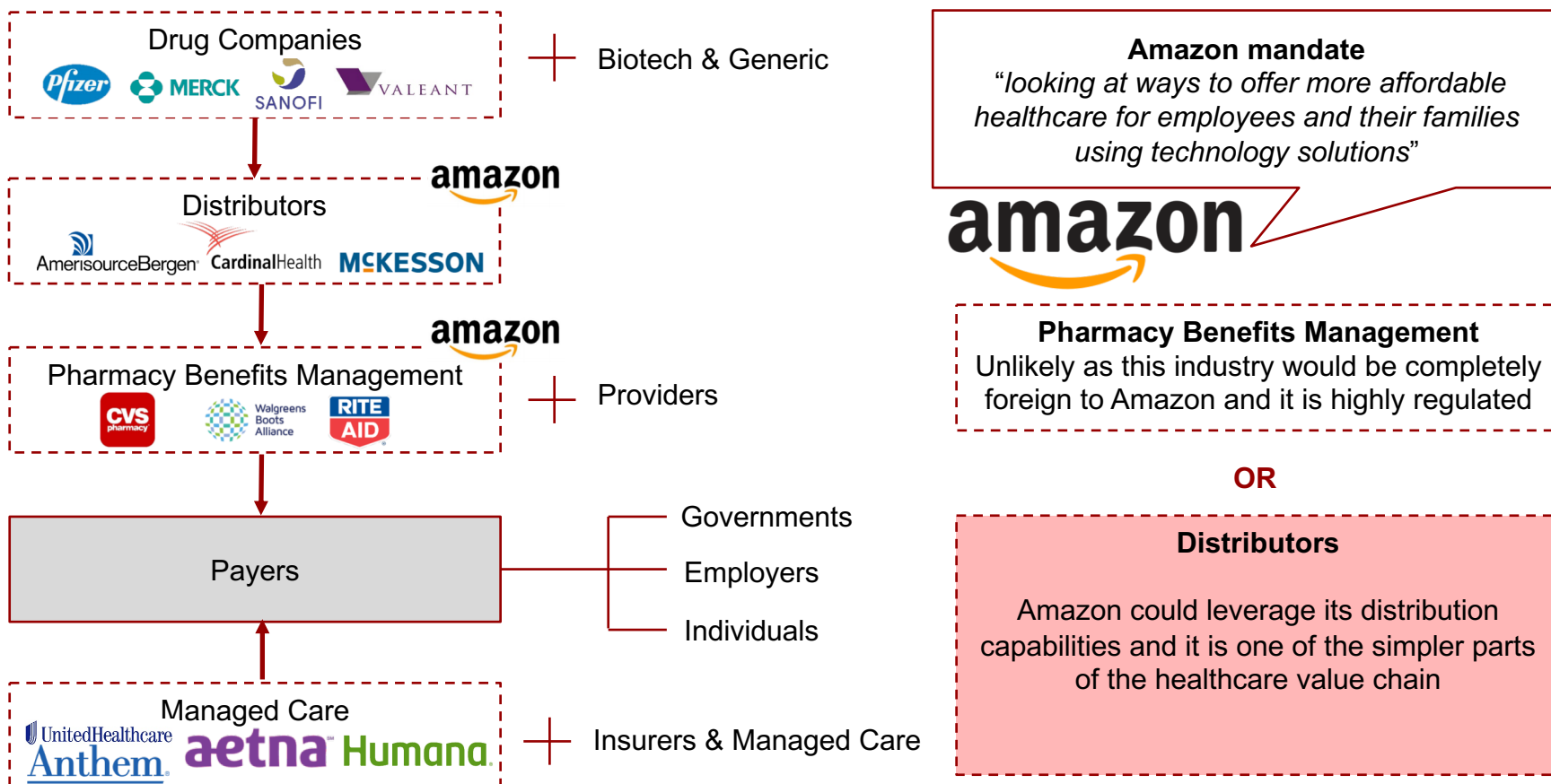
Health care stakeholders are pursuing new cost reduction measures, such as developing alternative staffing models, shifting patients to outpatient services, and reducing administrative and supply costs

Source: Deloitte, PwC, The New York Times, Company Filings

Healthcare Major Themes: Healthcare Disruptors

Riding the disruption wave in healthcare

Amazon's potential entry into healthcare



Health care stakeholders are pursuing new cost reduction measures, such as developing alternative staffing models, shifting patients to outpatient services, and reducing administrative and supply costs

Source: Deloitte, PwC, The New York Times, Company Filings

Healthcare Major Themes: Tax Reforms

How tax reform will reshape hospitals and healthcare companies?

Elimination of ACA's financial penalty for individuals failing to obtain healthcare insurance

The Affordable Care Act (ACA) required qualified individuals to pay a penalty if they failed to obtain healthcare coverage. The 2017 Tax Reform Act eliminated these financial penalties for failure to obtain insurance



Drop of the top corporate tax rate from 35% to 21%

1. Lower corporate rates will make U.S. healthcare assets attractive to foreign acquirers
2. A more competitive U.S. market
3. Potential relocation of intellectual property (IP) to the U.S.
4. Potential repatriation of worldwide profits to be reinvested domestically

The tax reform to be the most important health care legislation

Sector Themes

SECTION III

Major Themes Having A Comprehensive Impact Across The Industry

Regulation, disruptors and trade disputes are at play



Positive impact



Negative impact



Immaterial

	Payor pullback	Healthcare disruptors	M&A	Tax reforms	Trade tensions	Demographics
Pharma	✗	✗	✓	✓	—	✓
Biotech	✗	—	✓	✓	—	✓
Generics	✗	✗	✓	✓	✗	✓
Facilities	✓	✗	✓	—	—	—
Supply chain	—	✗	✓	—	—	—
Managed care	—	✗	✓	✗	—	✓
LT care	—	—	✓	—	—	✓
Home care	—	—	✓	—	—	✓
Research equip.	—	—	✓	—	—	—
Medical equip.	—	—	✓	✓	—	✓

Medical equipment is supported by three tailwinds and are not hindered by tailwinds particular to other sectors

Drug Players Are Subject to Negative Headwinds

Regulation, disruptors and trade disputes are at play

Pharmaceuticals



- Limited diversification across DCM fund allocation
 - Pharmaceutical offering tend to overlap with consumer staples
 - Share performance reacts to similar drivers as consumer staples
- Pharmaceuticals operate as conglomerates, whose valuation and risk profiles do not present significant alpha potential for DCM
- Negatively impacted by consumer pushback and healthcare disruptors



Biotechnology



- DCM is already exposed to large biotechnology developers with Fresenius
- Biotech and pharma fall suffer from higher FDA approval requirements: approval cost for biotech companies has increased by over 100%



Generics



- Negatively impacted by payor pushback and disruptors
- Most major players, and more precisely cheaper companies on a multiple basis, have operations internationally and are exposed to tariffs risks and trade uncertainty, which we are seeking to avoid

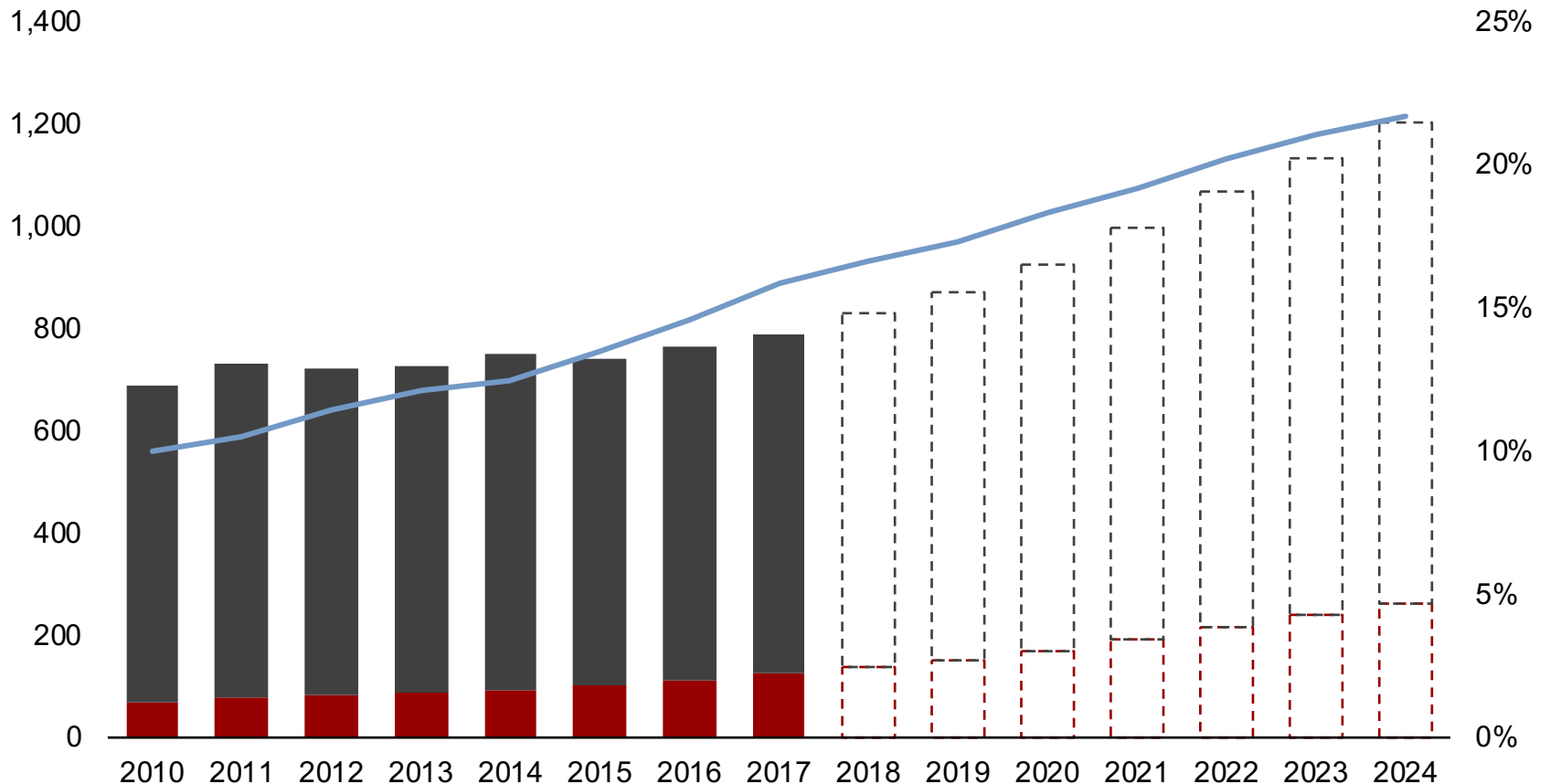


Growing Biotechnology Space Remains Attractive

Orphan sales as % of Rx is set to increase substantially

in billions \$USD

■ Orphan drug sales ■ Non-orphan drug sales — Orphan sales as a % of Rx

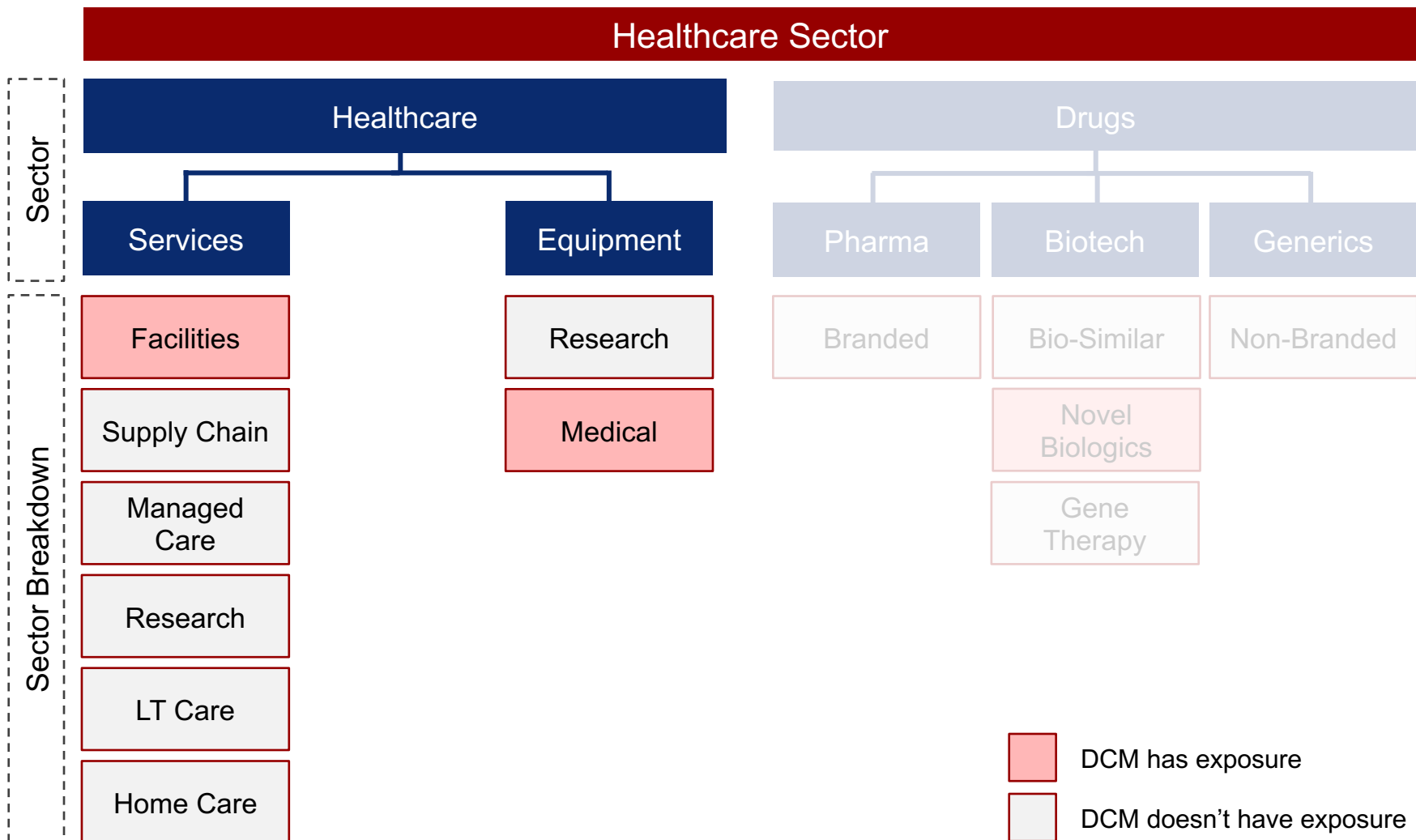


Biotechs are increasingly focusing on the development of orphan drugs and will warrant further in depth analysis if the Shire/Takeda merger goes through

Healthcare Sector Breakdown

Drugs do not offer attractive tailwinds for DCM at the moment

(in \$ billions, unless noted)



Healthcare Services Are Facing Significant Tailwinds And Are Vulnerable

Regulation, disruptors and payor pushback are at play

Facilities



- Hospitals are being negatively impacted by disruptors. Other payers are trying to reduce costs by reducing hospital visits
- Already exposed to specialized facilities

Supply Chain



- Potentially impacted by Amazon's entry in the distribution space, with the intent of reducing industry wide margins

Managed Care



- Negatively impacted by payor pushback, tax reforms and disruptors
- Limit diversification and healthcare's idiosyncratic role

Research



- R&D outsourcing services growth will be limited as R&D-fuelled M&A acts as a substitute

Long Term Care



- Negatively impacted by payor pushback and disruptors
- Demographics largely priced-in

Home Health

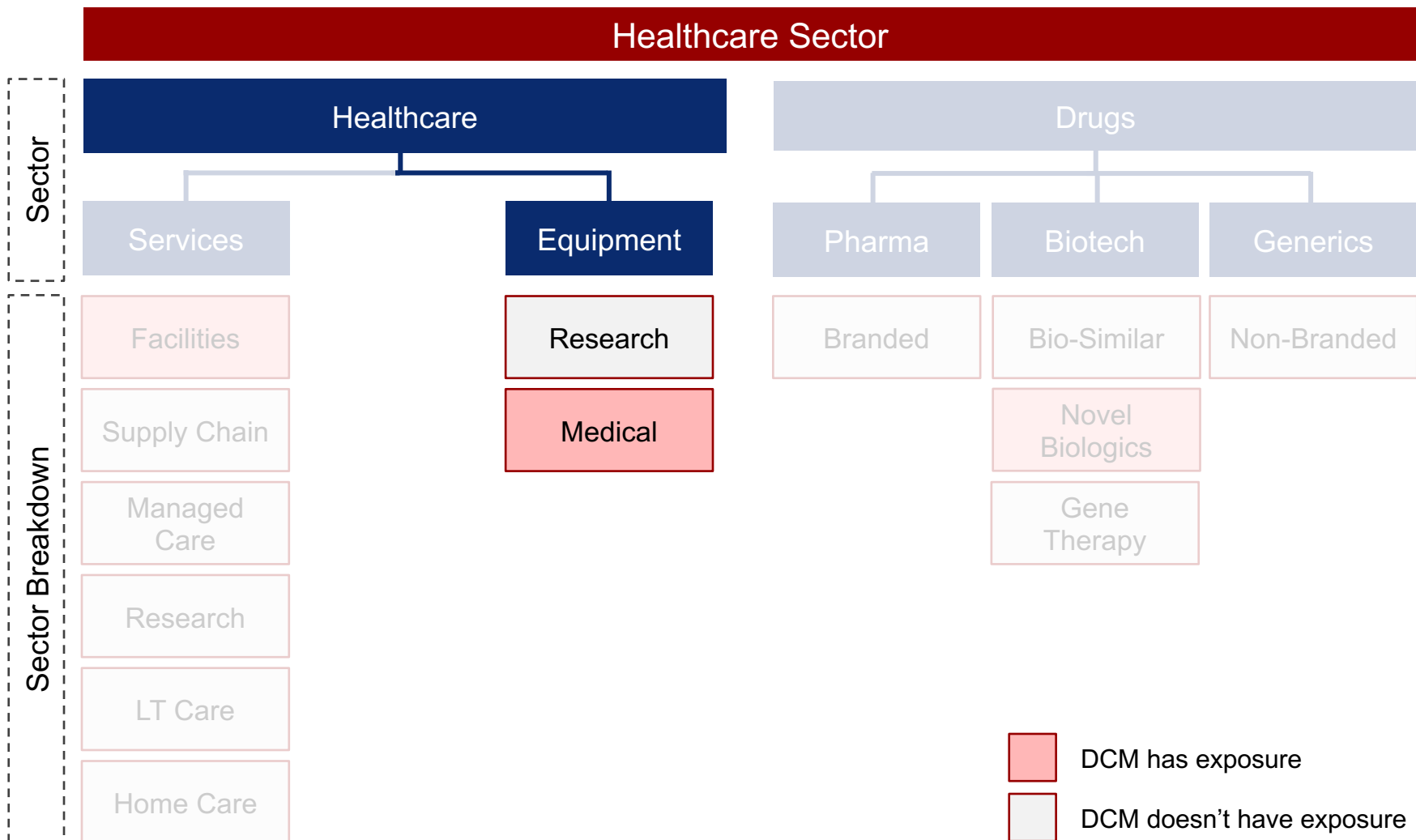


- Negatively impacted by payor pushback
- Covered by TMT

Healthcare Sector Breakdown

Healthcare services are not suitable for DCM Healthcare's current investment mandate

(in \$ billions, unless noted)



Major Themes Having A Comprehensive Impact Across The Industry

Regulation, disruptors and trade disputes are at play



Positive impact



Negative impact



Immaterial

	Payor pullback	Healthcare disruptors	M&A	Tax reforms	Trade tensions	Demographics
Pharma	✗	✗	✓	✓	—	✓
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Home care	—	—	✓	—	—	✓
Research equip.	—	—	✓	—	—	—
Medical equip.	—	—	✓	✓	—	✓

Medical equipment is supported by three tailwinds and are not hindered by tailwinds particular to other sectors

Medical Equipment Companies Offers a Number of Favorable Trends

Healthcare medical devices subsector overview

Equipment Devices / Medical Devices

Research Equipment

ThermoFisher
SCIENTIFIC

- Research equipments are exposed to cuts in federal spending, further dampened by budget deficits following tax cut



Coming up next ...

Medical Equipment



- Medical equipments are particularly supported by the M&A, tax reforms and demographics headwinds, while being shielded from the payor pushback, and industry disruptions

1. Low revenue volatility

2. Favourable macro trends driving **high growth**

3. Favourable regulatory environment

4. Increased innovation

5. Industry leaders to expand market share

Medical Devices

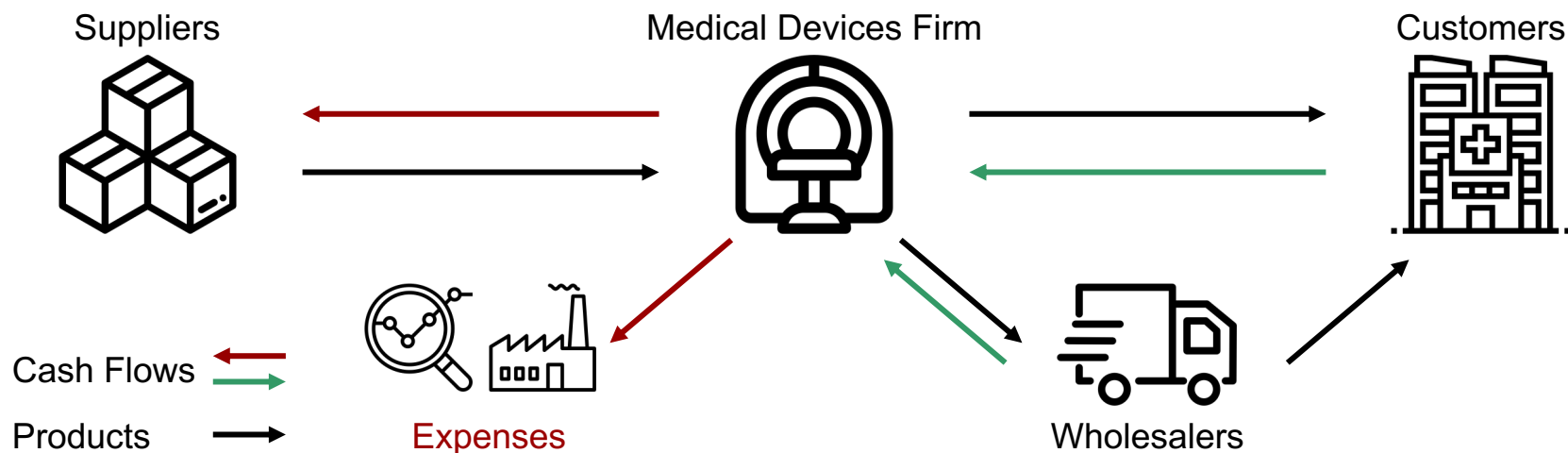
SECTION IV



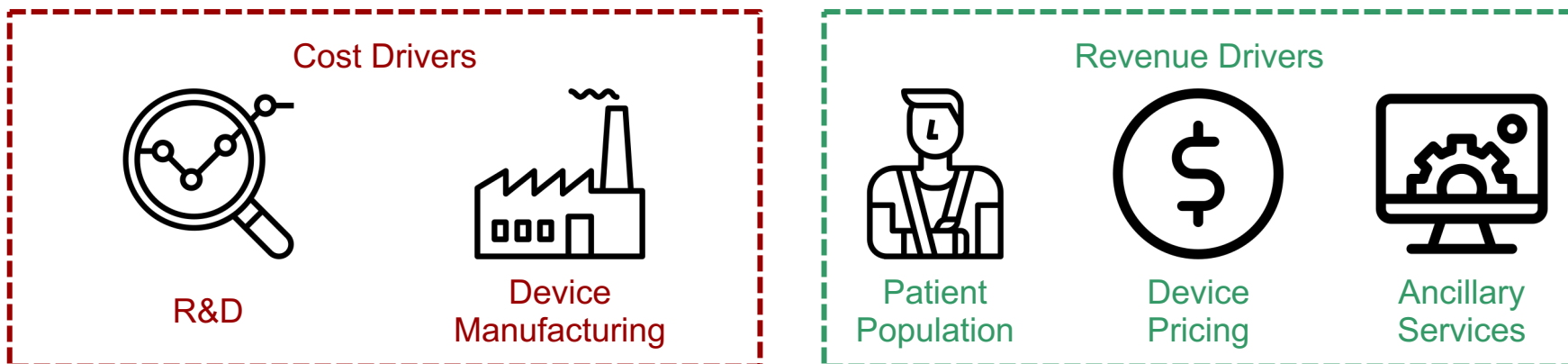
Medical Devices Overview

The medical devices business

Business Model



Profitability Drivers

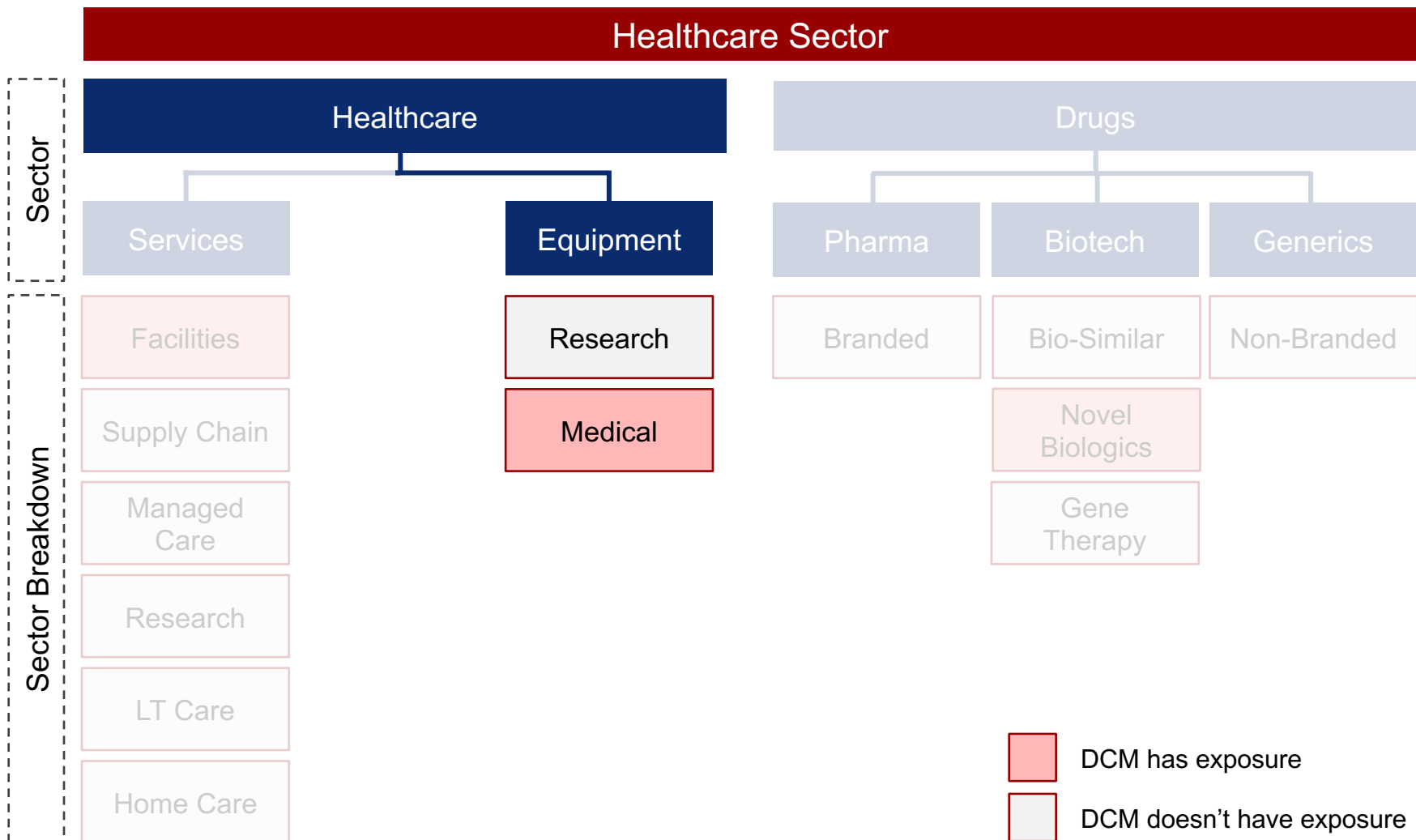


Source: Company filings

Healthcare Sector Breakdown

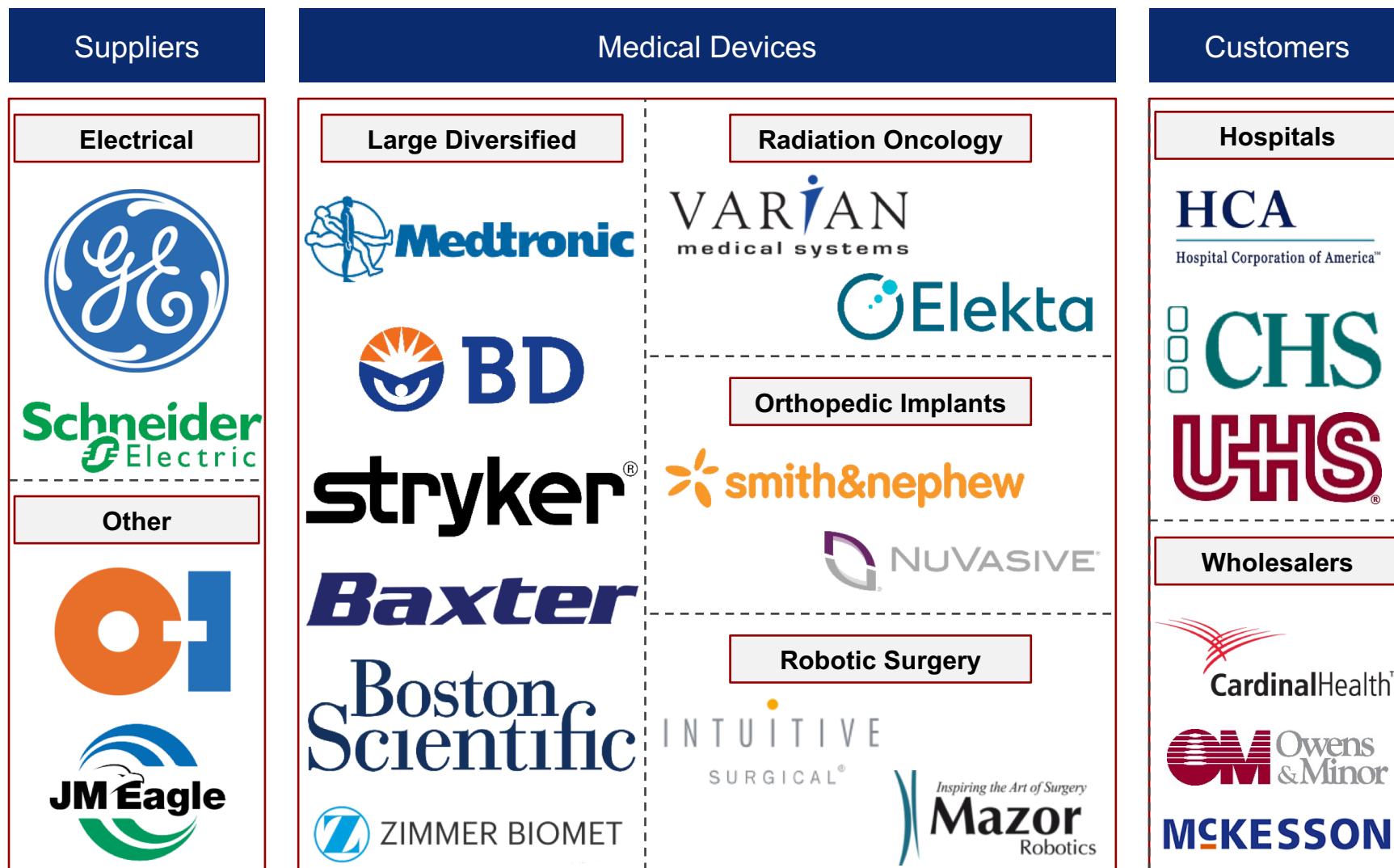
Healthcare services are not suitable for DCM Healthcare's current investment mandate

(in \$ billions, unless noted)



Medical Devices Overview

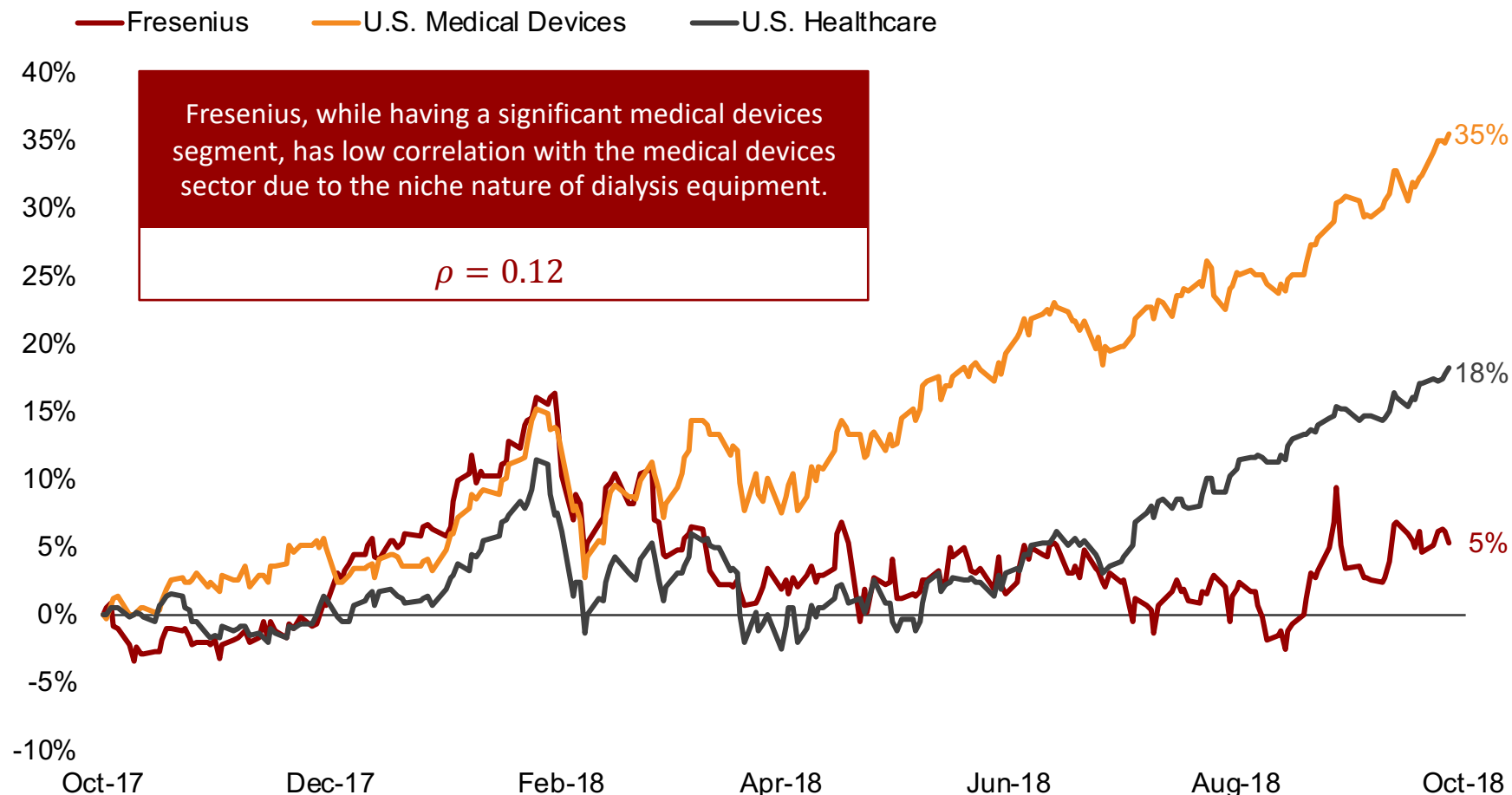
Industry structure and value chain



Medical Devices Overview

Fresenius Medical Care versus medical devices

Fresenius does not trade alongside medical devices peers



Investing in Medical Devices would not overexpose DCM to the subsector

Source: CapIQ 10/01/2018

Investment Rationale: Summary

Business model and industry characteristics are attractive ...

Industry characteristics

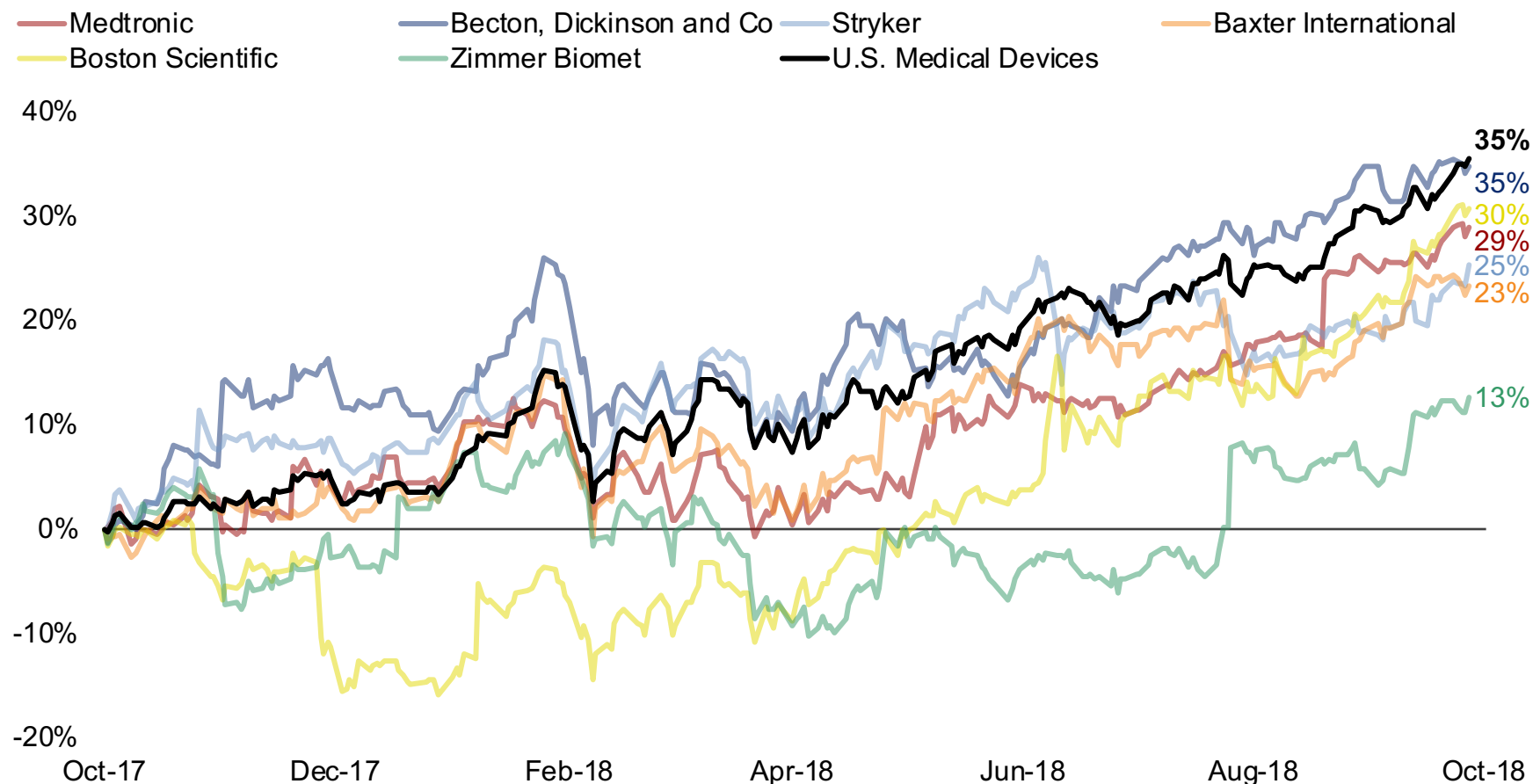
1. **Low revenue volatility** from essential healthcare products
2. Favourable macro trends will drive **high growth** in the medium/long-term
3. **Favourable regulatory environment** relative to drug manufacturing
4. Increased availability of venture funding will allow for **increased innovation** in medical devices
5. **Industry leaders** are well-positioned to acquire innovation and growth to **expand market share**

Favourable macro trends, business model, and products render medical devices an attractive industry to invest in within healthcare

Investment Rationale: Summary

... yet the market has mispriced industry leaders' opportunity for continued consolidation

LTM price performance of industry leaders



Industry leaders unfairly lagging behind industry performance. Growth has been attributed to smaller firms

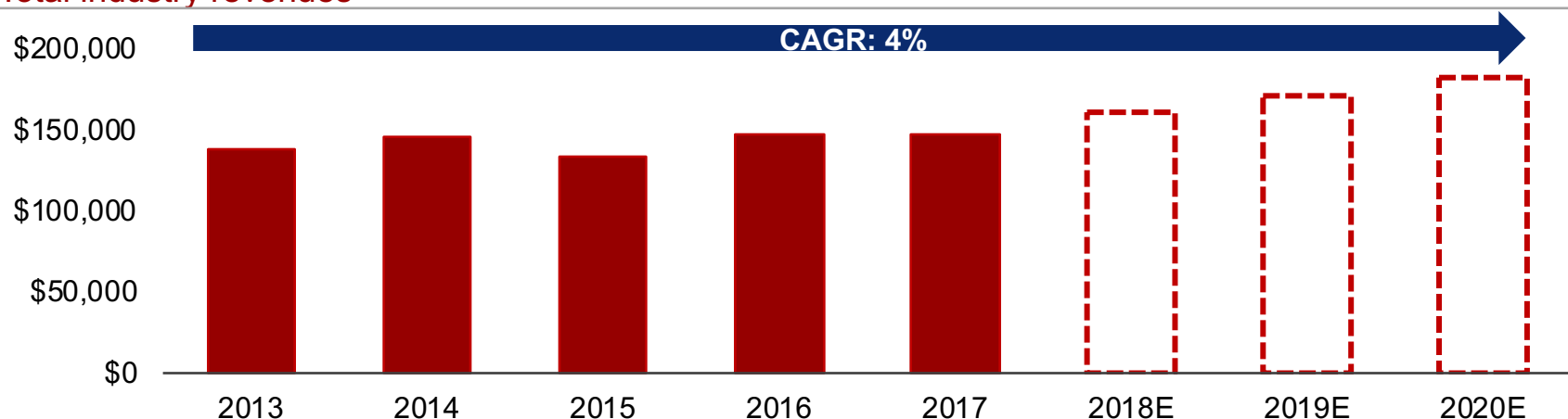
Source: CapIQ 10/01/18

Investment Rationale: Recession-Resistant, Growing Revenues

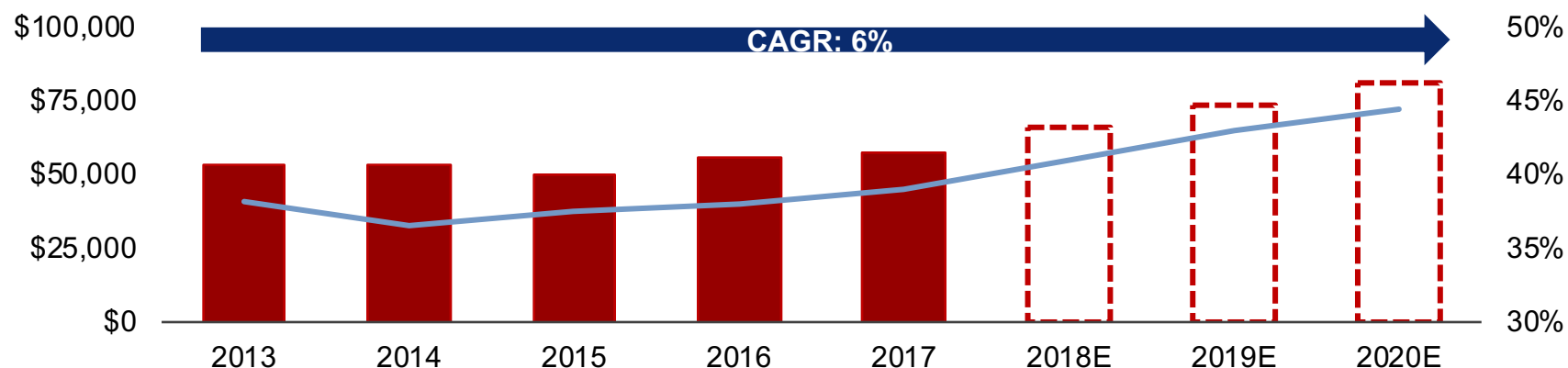
Growth expected in medical equipment revenues and EBITDA

In millions \$USD

Total industry revenues



Total industry EBITDA and operating margin



Growing revenues and improving operating margins, with opportunity for sector leaders to expand market share

Source: CapIQ 10/01/2018, Company filings

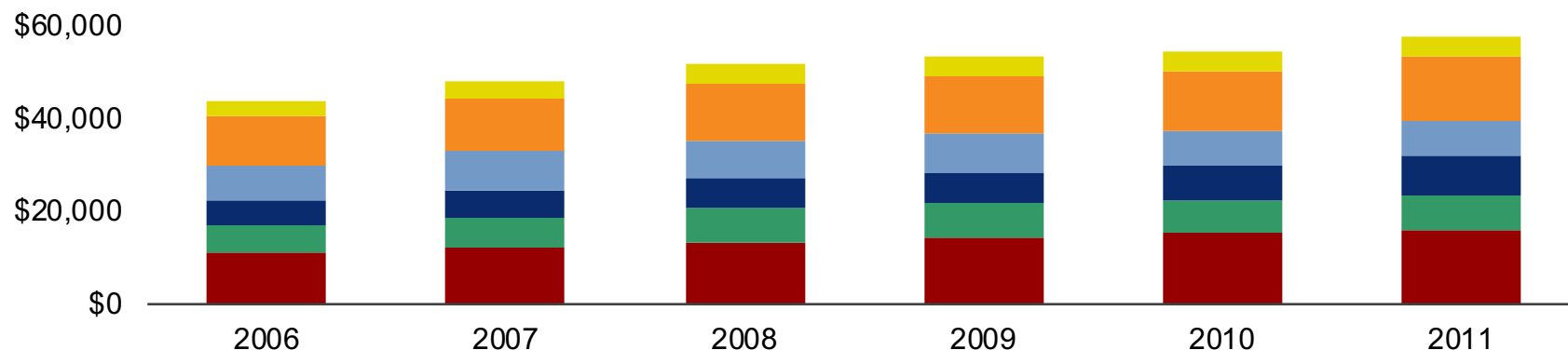
Investment Rationale: Recession-Resistant, Growing Revenues

Essential products provide some protection against economic downturns

in millions \$USD

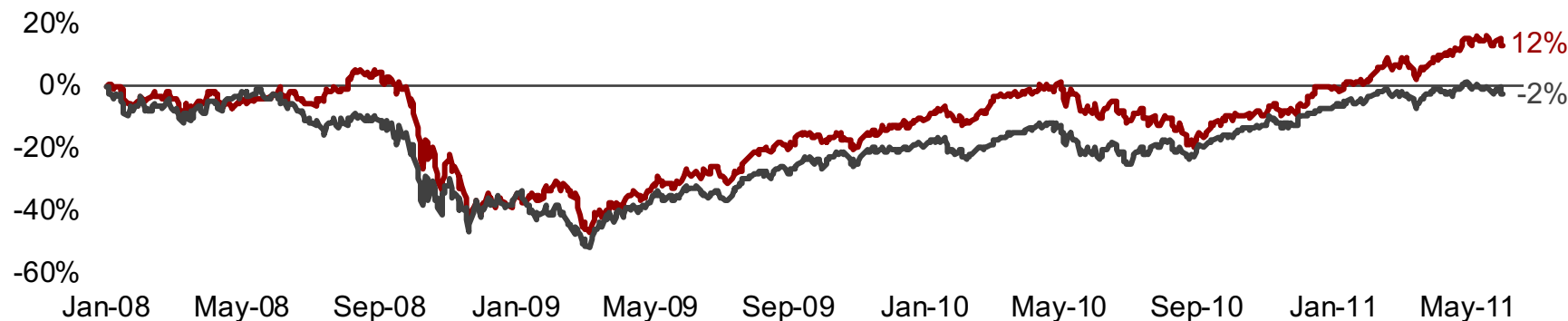
Peer group revenues during 2008 financial crisis

■ Medtronic ■ Becton, Dickinson and Co ■ Stryker ■ Boston Scientific ■ Baxter International ■ Zimmer Biomet



Price recovery after 2008 financial crisis

— U.S. Medical Devices — S&P 500



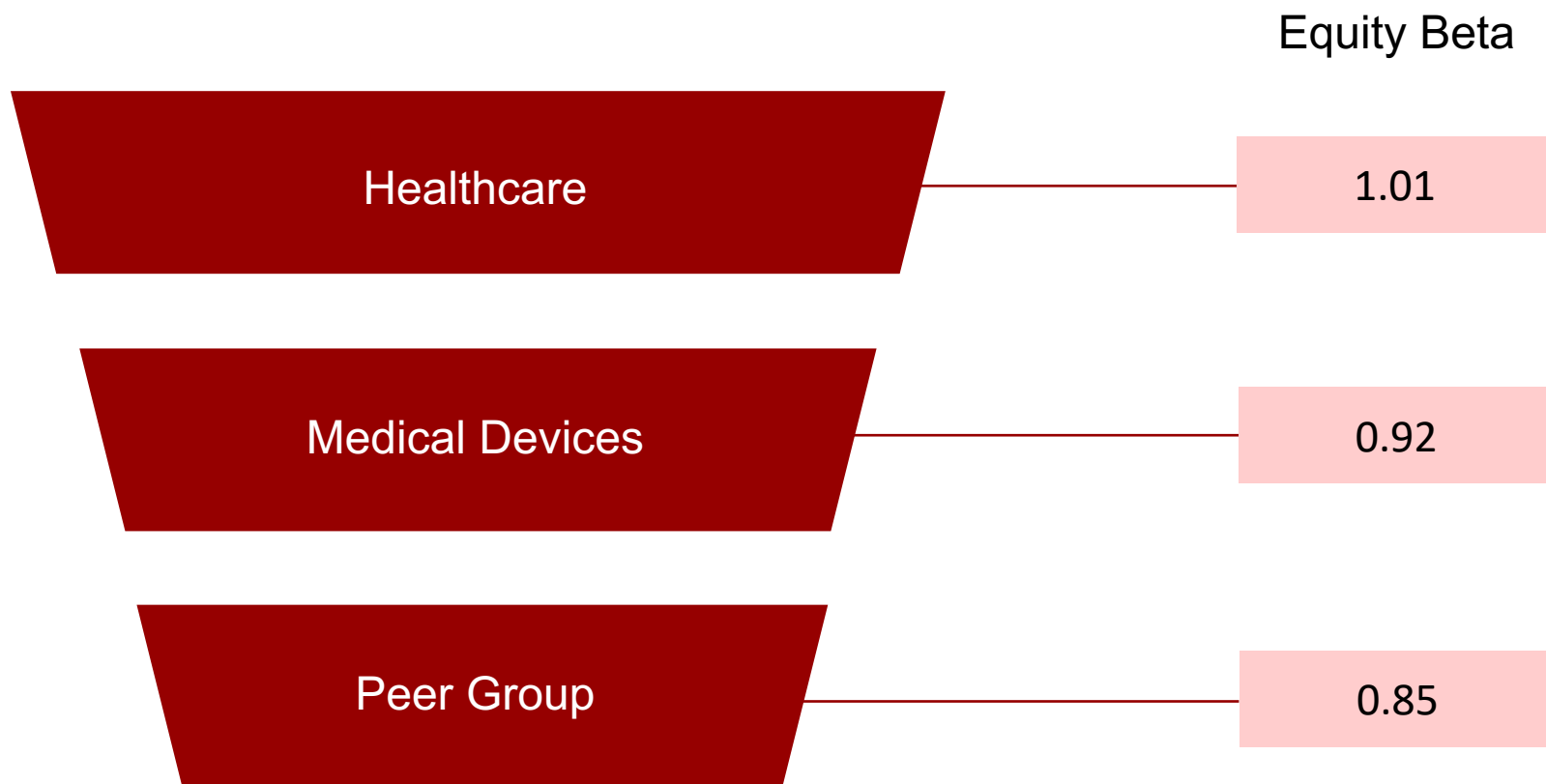
Low volatility revenues enabled faster recovery post-2008 in medical devices

Source: CapIQ 10/01/2018, Company filings

Investment Rationale: Recession-Resistant, Growing Revenues

Median beta comparison

Beta breakdown



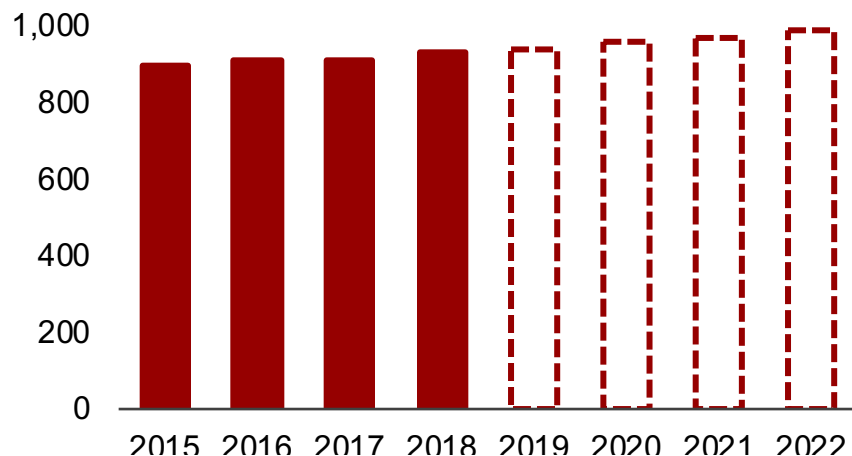
Medical devices offers lower risk/volatility relative to both overall healthcare and U.S. equities

Investment Rationale: Macro

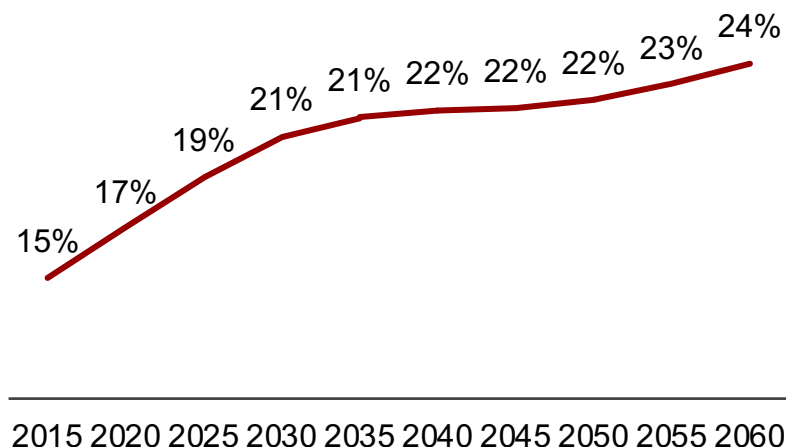
Macro drivers of medical device performance

in billions \$USD

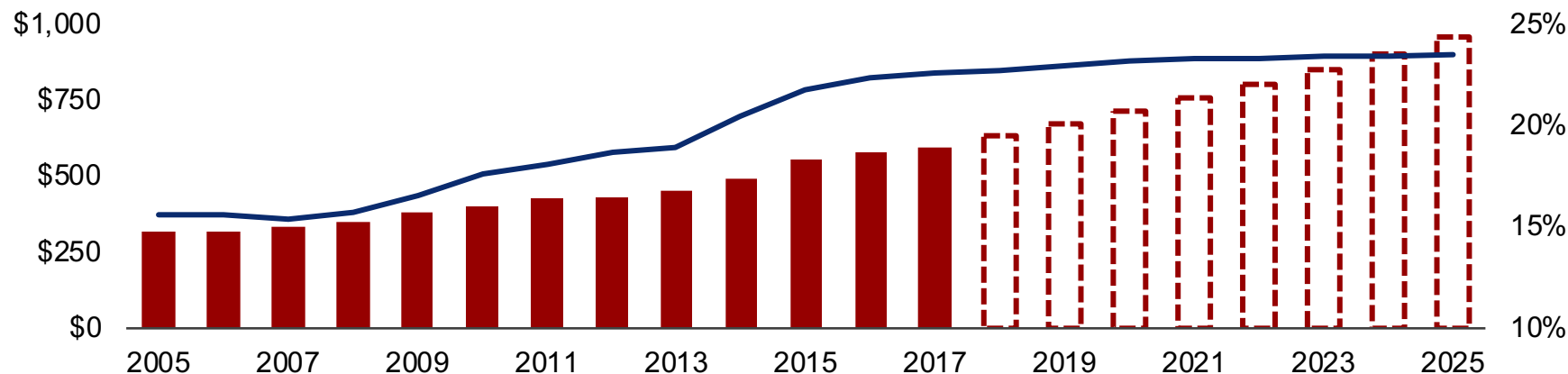
Physician visits



Projected percent of U.S. population over 65



Medicaid expansion



Favourable macro trends in reimbursement and population age will drive growth in the medical devices market (volume) in the long-run, to the benefit of industry leaders

Source: U.S. Census Bureau, CMS, IBISWorld

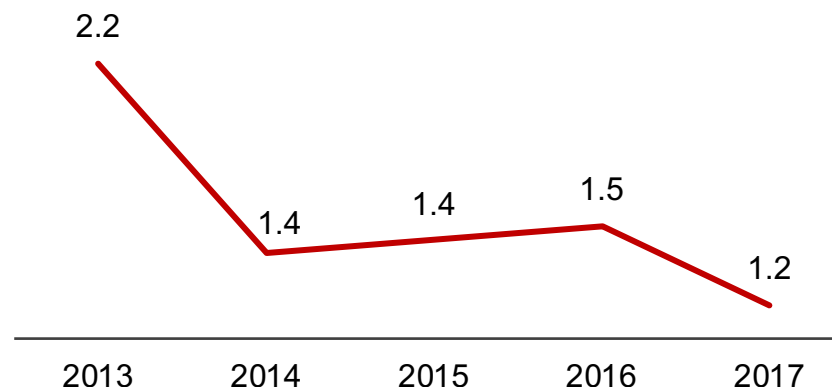
Investment Rationale: Macro

U.S. regulatory environment

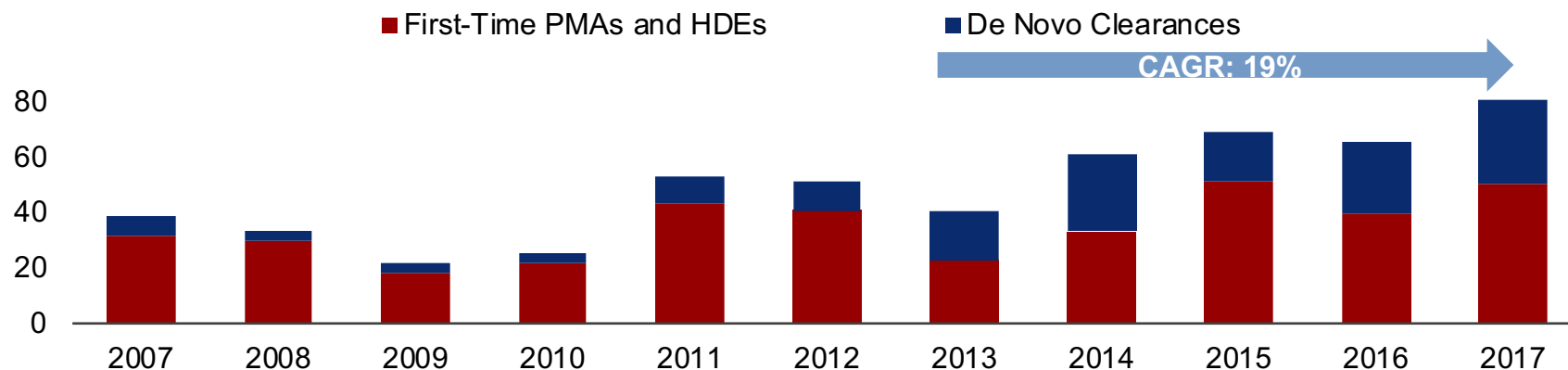
U.S. device approvals

- **Class I** and **Class II** medical devices are considered low/medium risk; may require **510(k)** premarket notification when marketing for the first time
- **Class III** devices are considered potentially high risk, and require **premarket approval (PMA)** with clinical documentation
- **Humanitarian device exemption (HDE)** is an expedited alternative to PMAs for devices which treat rare conditions
- **De Novo Clearance** is used for low risk, novel devices

Average review time (years) for class III devices



Total U.S. new device approvals



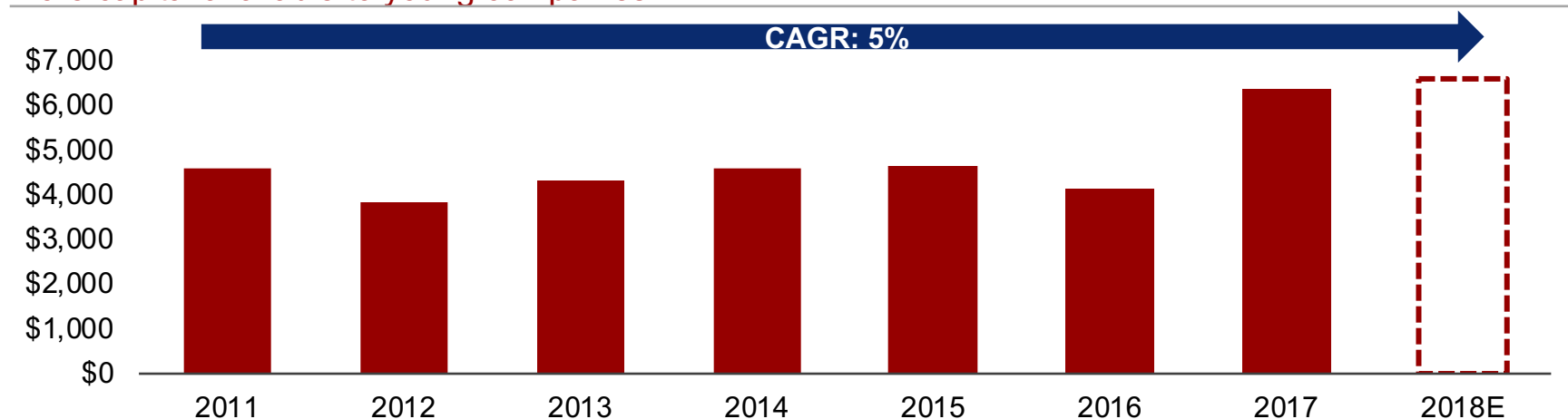
The regulatory environment in medical devices is far more favourable relative to drug development. FDA has shown quicker approval times and relatively lenient approval standards in recent years

Source: Evaluate, FDA

Investment Rationale: Venture Funding and M&A Trends

Increased availability of venture funding in medical devices

More capital available to young companies



\$100mm+ venture rounds standard in 1H18



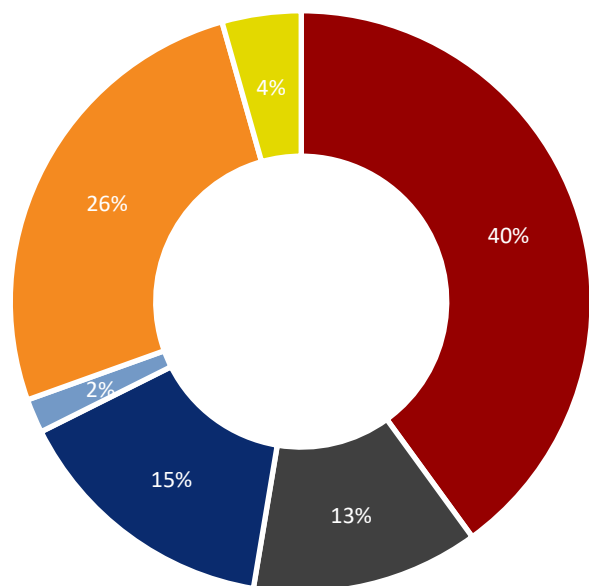
Increased venture funding is making it easier for new, innovative medical devices to come to market and produce initial revenues. This increases the number of potential acquisition targets for large players

Source: CapIQ 10/01/2018, Evaluate, Company filings

Investment Rationale: Venture Funding and M&A Trends

Continued consolidation in medical devices appears likely

Large players ready to acquire



- Medtronic
- Becton, Dickinson and Co
- Stryker
- Boston Scientific
- Baxter International
- Zimmer Biomet

~\$11bn Combined Cash

Firm	Net Debt/ EBITDA	Debt/ Equity	Credit Rating
Medtronic	1.5x	49%	A
Becton, Dickinson and Co	4.9x	84%	BBB
Stryker	1.5x	76%	A
Boston Scientific	2.4x	80%	BBB-
Baxter International	0.3x	39%	A-
Zimmer Biomet	3.3x	73%	BBB
Mean	2.3x	67%	-

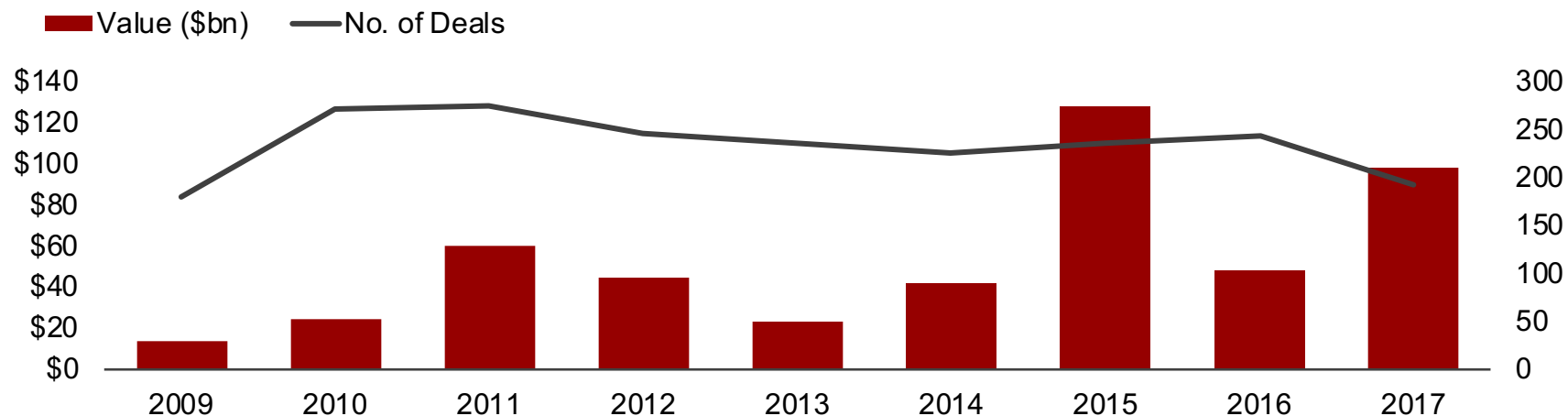
Industry leaders have significant cash balances and room for additional leverage. They are well-positioned to benefit from trends in venture funding, consolidate, and gain market share

Source: CapIQ 10/01/2018, Evaluate, Company filings

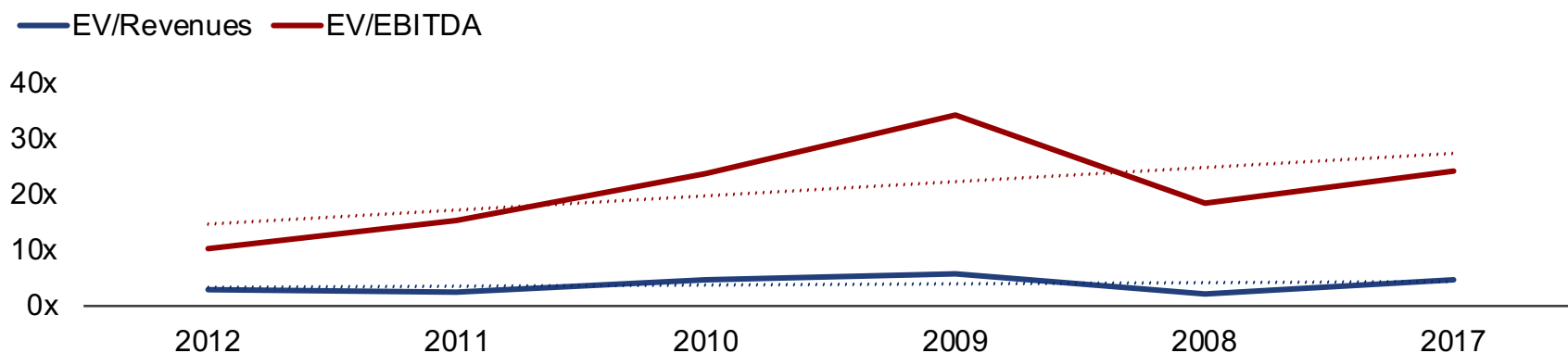
Investment Rationale: Venture Funding and M&A Trends

Continued consolidation in medical devices appears likely

Increased consolidation – fewer, later-stage acquisitions



Medical devices transaction multiples

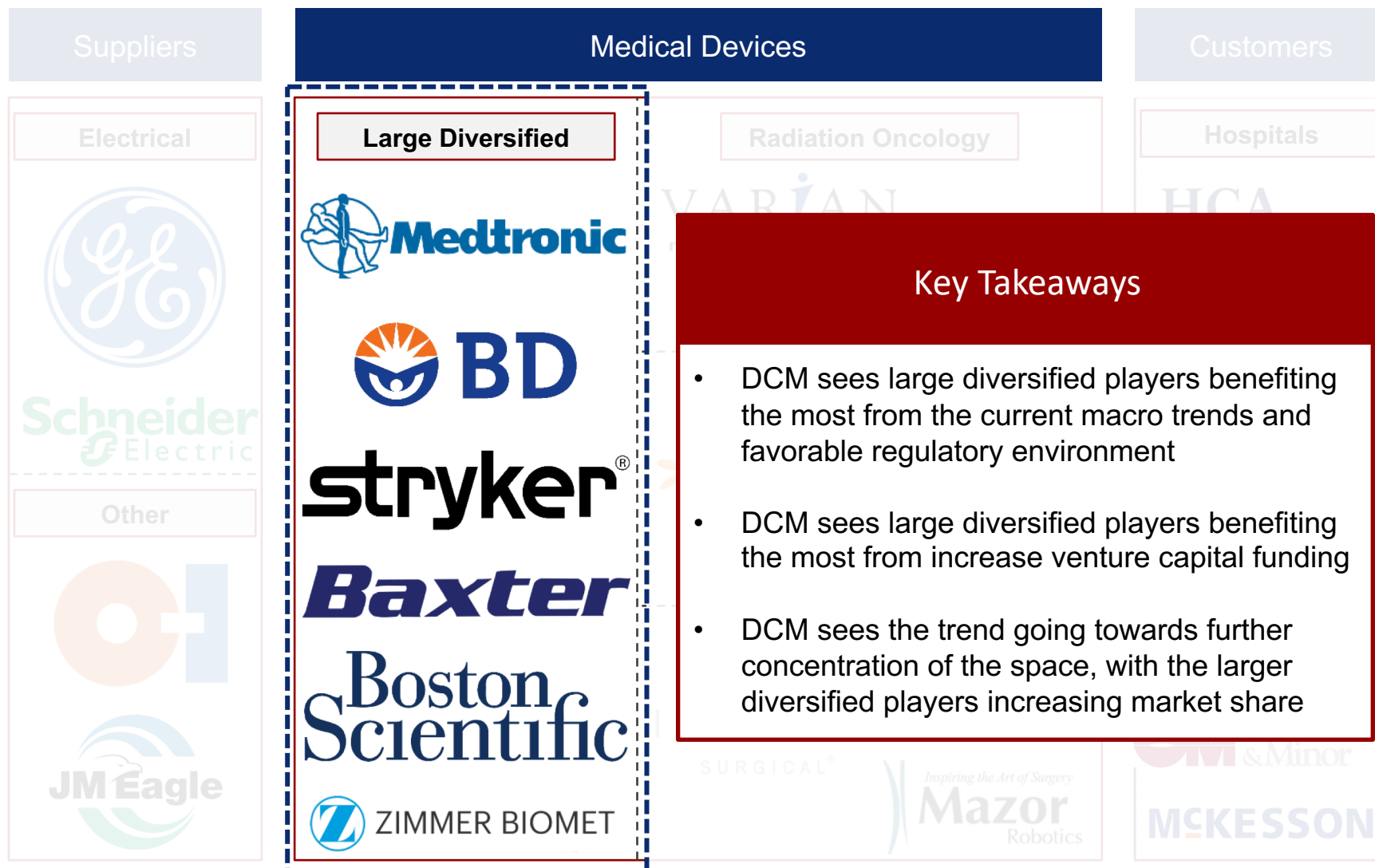


Industry leaders have significant cash balances and room for additional leverage. They are well-positioned to benefit from trends in venture funding, consolidate, and gain market share

Source: CapIQ 10/01/2018, Evaluate, Company filings

Medical Devices Overview

Industry structure and value chain



Comparables Analysis

Large, diversified players in medical devices

Increased venture funding in medical devices

Company	Market Cap.	EV	EV/Sales		EV/EBITDA		P/E		Gross Margin	EBITDA Margin	Net Debt/ EBITDA
			LTM	2019E	LTM	2019E	LTM	2019E			
Peer Group											
Medtronic	134,362	148,702	5.0x	4.8x	15.6x	15.3x	42.9x	19.1x	71%	32%	1.5x
Becton, Dickinson and Co	70,739	91,592	6.2x	5.3x	21.5x	16.5x	108.4x	21.7x	49%	29%	4.9x
Stryker	66,813	72,095	5.5x	5.2x	20.2x	18.2x	63.1x	23.6x	66%	27%	1.5x
Boston Scientific	53,906	60,191	6.3x	6.0x	23.4x	20.6x	102.6x	26.7x	71%	27%	2.4x
Baxter International	41,566	42,195	3.8x	3.7x	17.9x	15.6x	46.9x	25.2x	43%	21%	0.3x
Zimmer Biomet	26,567	35,623	4.5x	4.4x	13.2x	12.8x	15.8x	16.7x	72%	34%	3.3x
Mean	65,659	75,066	5.2x	4.9x	18.6x	16.5x	63.3x	22.2x	62%	28%	2.3x
Median	60,360	66,143	5.2x	5.0x	19.1x	16.1x	55.0x	22.7x	68%	28%	2.0x



Medtronic

Baxter

Zimmer Biomet and Medtronic are trading at a discount to peers despite favourable operating metrics

Source: CapIQ 10/01/2018, Company filings

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