

## Sector Primer Series: Health Care

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### INTRODUCTION

Developed in 1999 and jointly managed by S&P Dow Jones Indices and MSCI, the Global Industry Classification Standard® (GICS®) assigns companies to a single classification at the sub-industry level according to their principal business activity using quantitative and qualitative factors, including revenues, earnings, and market perception. The sub-industry is the most specific level of the four-tiered, hierarchical industry classification system that includes 11 sectors, 24 industry groups, 69 industries, and 158 sub-industries, as of Dec. 31, 2018.

The Health Care sector comprises companies primarily engaged in Health Care Equipment & Services, Pharmaceuticals, Biotechnology, and Life Sciences.

**Exhibit 1: GICS of the Health Care Sector**

SECTOR	INDUSTRY GROUP	INDUSTRY	SUB-INDUSTRY	
Health Care Code (35)	Health Care Equipment & Services Code (3510)	Health Care Equipment & Supplies Code (351010)	Health Care Equipment Code (35101010) Health Care Supplies Code (35101020)	
		Health Care Providers & Services Code (351020)	Health Care Distributors Code (35102010) Health Care Services Code (35102015) Health Care Facilities Code (35102020) Managed Health Care Code (35102030)	
			Health Care Technology Code (351030)	Health Care Technology Code (35103010)
			Biotechnology Code (352010)	Biotechnology Code (35201010)
			Pharmaceuticals Code (352020)	Pharmaceuticals Code (35202010)
		Life Sciences Tools & Services Code (352030)	Life Sciences Tools & Services Code (35203010)	
	Pharmaceuticals, Biotechnology & Life Sciences Code (3520)			

Source: S&P Dow Jones Indices LLC, MSCI. Data as of Dec. 31, 2018. Table is provided for illustrative purposes.

The sector includes, but is not limited to, companies that:

- 1) Manufacture healthcare equipment and devices including medical instruments, drug delivery systems, cardiovascular & orthopedic devices, and diagnostic equipment;
- 2) Own and operate healthcare facilities, including hospitals, nursing homes, rehabilitation centers, and animal hospitals;
- 3) Engage in the research, development, or production of pharmaceuticals;
- 4) Engage in the research, development, manufacturing, or marketing of products based on genetic analysis and genetic engineering; or
- 5) Enable the drug discovery, development, and production continuum by providing analytical tools, instruments, consumables and supplies, clinical trial services, and contract research services.

*The Health Care sector is the second most heavily weighted in the S&P 500...*

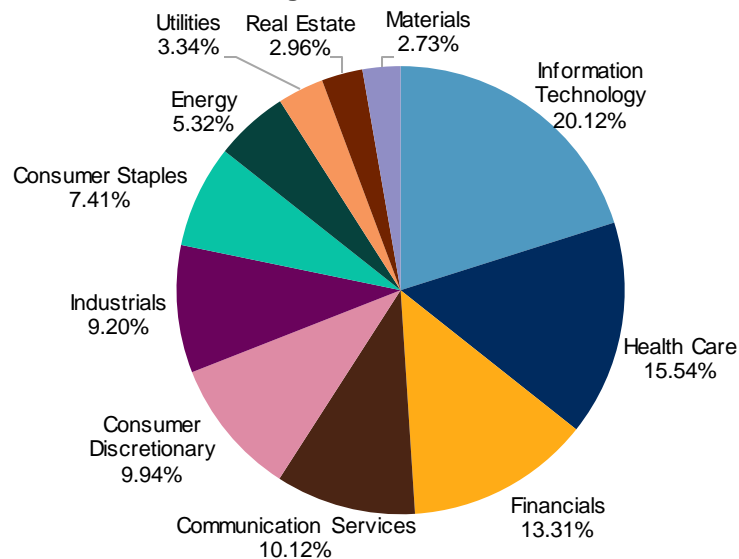
### COMPOSITION

Created in 1957, the [S&P 500®](#) was the first broad U.S. market-cap-weighted stock market index. Today, it is the basis of many listed and over-the-counter investment instruments. The [S&P 500 Health Care Index](#) comprises all companies included in the S&P 500 that are classified as members of the GICS Health Care sector.

The Health Care sector is the second most heavily weighted of the 11 sectors within the S&P 500. Since the index is market capitalization weighted, this sector greatly influences the overall index performance. As of Dec. 31, 2018, the Health Care sector represented 15.54% of the S&P 500 (see Exhibit 2).

*...representing 15.54% of the index.*

**Exhibit 2: S&P 500 Sector Weights**



Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2018. Chart is provided for illustrative purposes.

*Health Care was the fifth heaviest sector in the S&P MidCap 400 and S&P SmallCap 600.*

As of Dec. 31, 2018, there were 61 companies with a total float-adjusted market capitalization of USD 3,268,590.12 million in the S&P 500 Health Care Index. The two largest companies in the sector were Johnson & Johnson (JNJ) and Pfizer Inc. (PFE), with float-adjusted market caps of USD 346,109.26 million and USD 252,317.73 million, translating to S&P 500 weights of 1.65% and 1.20%, respectively. These two companies were not only the largest companies within the Health Care sector, but also the sixth and tenth largest in the S&P 500. The mean market cap was USD 53,583.44 million, the median market cap was USD 28,989.50 million, and the minimum market cap was USD 4,843.30 million. The top 10 Health Care holdings made up 8.31% of the S&P 500 (see Exhibit 3).

**Exhibit 3: Snapshot of the Top 10 Holdings in the S&P 500 Health Care Index**

CONSTITUENT NAME	TICKER	S&P 500 WEIGHT (%)	S&P 500 HEALTH CARE INDEX WEIGHT (%)
Johnson & Johnson	JNJ	1.65	10.59
Pfizer Inc.	PFE	1.20	7.72
UnitedHealth Group Inc.	UNH	1.14	7.33
Merck & Co Inc.	MRK	0.94	6.08
AbbVie Inc.	ABBV	0.66	4.24
Abbott Laboratories	ABT	0.60	3.89
Amgen Inc.	AMGN	0.59	3.80
Medtronic plc	MDT	0.58	3.74
Lilly Eli & Co	LLY	0.52	3.34
Thermo Fisher Scientific	TMO	0.43	2.76
<b>Total</b>		<b>8.31</b>	<b>53.49</b>

Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2018. Table is provided for illustrative purposes.

*In the S&P Total Market Index, Health Care was the second largest, with 746 companies and a weight of 15.02%.*

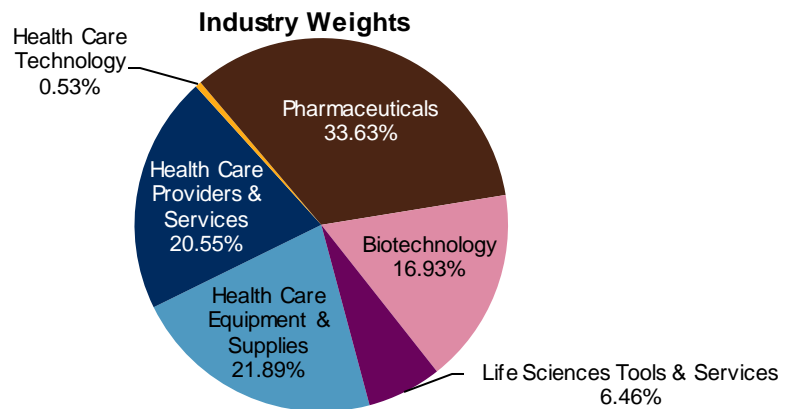
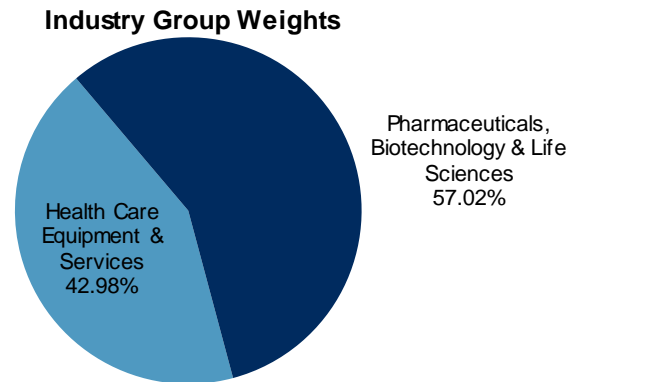
Despite being the second heaviest sector in the S&P 500, Health Care was the fifth heaviest sector in the [S&P MidCap 400®](#) and [S&P SmallCap 600®](#), at 10.03% and 11.45%, respectively, as of Dec. 31, 2018. In order of largest first, Financials, Industrials, Information Technology, and Consumer Discretionary were larger in both the mid- and small-cap indices. Overall, in the [S&P Total Market Index](#), which consists of over 3,800 stocks—including those in the S&P 500, S&P MidCap 400, S&P SmallCap 600, and micro caps—the Health Care sector was the second largest, with 746 companies and a weight of 15.02%.

GICS is a four-tiered, hierarchical industry classification system that organizes companies quantitatively and qualitatively. Under the GICS structure, the Health Care sector has 2 industry groups, 6 industries, and 10 sub-industries. Within the S&P 500 Health Care Index as of Dec. 31, 2018, Pharmaceuticals, Biotechnology & Life Sciences had the heavier weight of the two industry groups, with approximately 57% of the sector. The Pharmaceuticals industry accounted for over half of that industry group, with a 33.63% sector weight, while the Health Care Equipment &

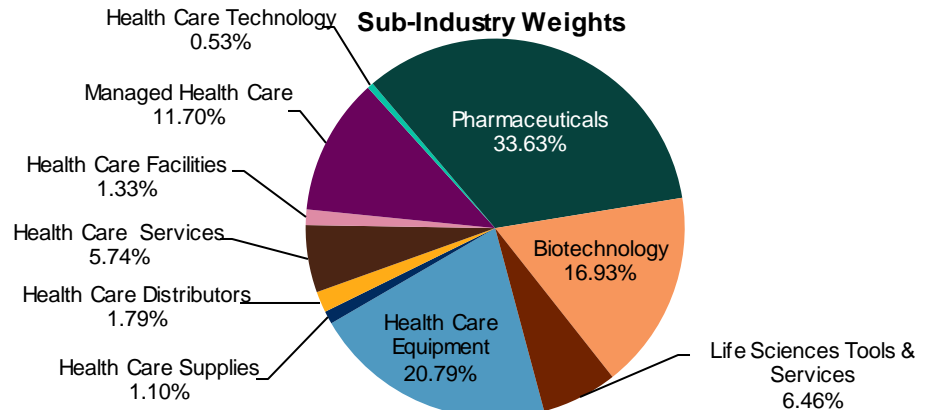
Services industry group was split nearly evenly between Health Care Equipment & Supplies (22.89%) and Health Care Providers & Services (20.55%). With only one sub-industry, the 10 companies classified as Pharmaceuticals totaled the heaviest weighted sub-industry, followed by Health Care Equipment (15 companies, 20.79%) and Biotechnology (9 companies, 16.93%). The Pharmaceuticals sub-industry is defined as companies engaged in the research, development, or production of pharmaceuticals, including veterinary drugs, and includes companies such as Johnson & Johnson, Pfizer Inc., and Merck & Co Inc. (MRK).

*The Health Care sector has 2 industry groups, 6 industries, and 10 sub-industries.*

**Exhibit 4: Industry Group, Industry, and Sub-Industry Weights in the S&P 500 Health Care Index**



*The 10 companies classified as Pharmaceuticals totaled the heaviest weighted sub-industry.*

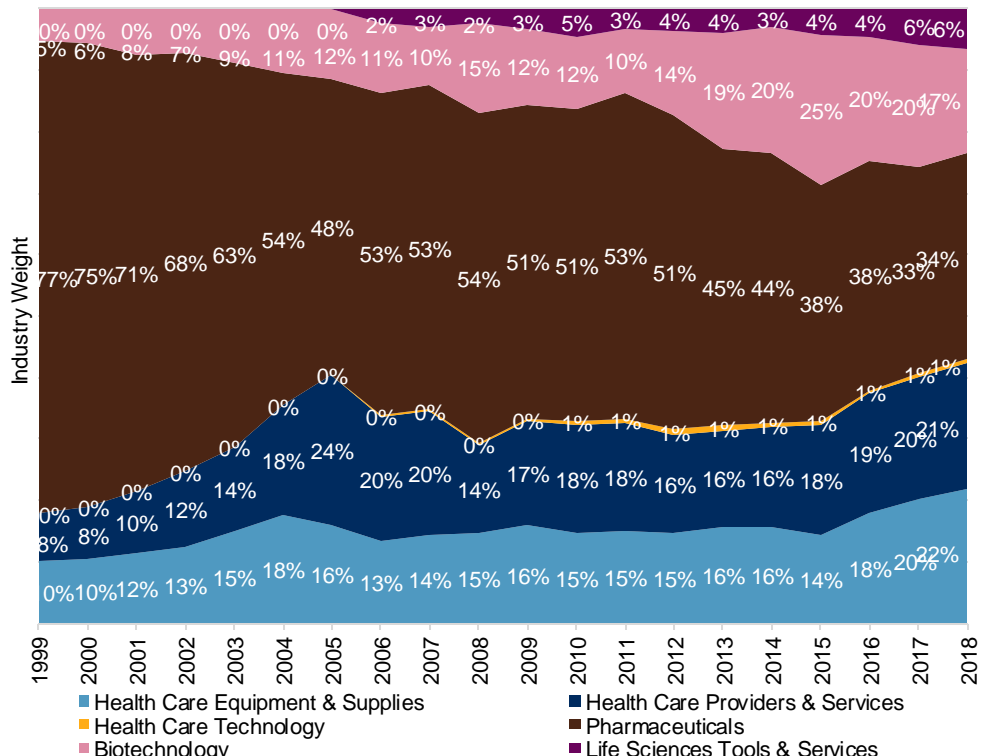


Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2018. Charts are provided for illustrative purposes.

Two key features of GICS are that it is reliable and evolving. The structure correctly reflects the current state of industries in the equity investment universe. Additionally, annual reviews are conducted by S&P Global and MSCI to ensure that the structure remains fully representative of the current global market. Since the development of the GICS structure in 1999, the composition characteristics of the Health Care sector have evolved. As of Dec. 31, 1999, there were 37 Health Care companies in the S&P 500. The component count increased to 61 as of Dec. 31, 2018. At the onset of GICS, the Pharmaceuticals industry had a weight of over 75% in the sector. That weight gradually decreased over the following 20 years to approximately 34% as of Dec. 31, 2018. This gave way to companies from the Biotechnology, Health Care Providers & Services, and Health Care Equipment & Supplies industries, whose combined weights increased from 23% to 59% over the same time period.

*From 1999 to 2018, the number of health care companies in the S&P 500 went from 27 to 61...*

**Exhibit 5: Industry Weights of the S&P 500 Health Care Sector**



*...while the Pharmaceuticals industry went from over 75% of the weight of the sector to 34%.*

Source: S&P Dow Jones Indices LLC. Data from Dec. 31, 1999, through Dec. 31, 2018. Chart is provided for illustrative purposes.

**FUNDAMENTALS**

From a fundamentals perspective, the Health Care sector has carried higher price multiples and lower dividend yields when compared with the broader market (see Exhibit 6).

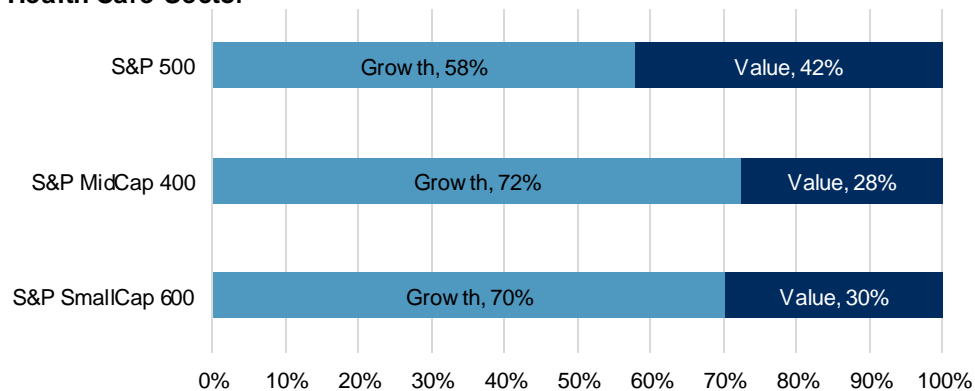
**Exhibit 6: Fundamental Data Comparison**

INDEX	12-MONTH TRAILING P/E	ONE-YEAR FORWARD P/E	PRICE-TO-BOOK VALUE	PRICE-TO-SALES RATIO	INDICATED DIVIDEND YIELD (%)
S&P 500	22.35	15.55	3.49	2.20	2.23
S&P 500 Health Care Index	34.28	15.92	4.48	1.94	1.80
S&P MidCap 400	22.72	15.45	2.47	1.38	1.90
S&P MidCap 400 Health Care Index	30.46	18.37	3.34	1.68	0.37
S&P SmallCap 600	43.03	17.11	2.30	1.09	1.76
S&P SmallCap 600 Health Care Index	N/A	30.00	4.35	1.58	0.15

Source: S&P Dow Jones Indices LLC. Data for the one-year forward P/E and indicated dividend yield as of Dec. 31, 2018. Data for the 12-month trailing P/E and price-to-book and price-to-sales ratios as of Sept. 28, 2018. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

*The Health Care sector tends to be tilted toward the growth factor...*

Related to the fundamental data in Exhibit 6, the Health Care sector tends to be tilted toward the growth factor. Mid-cap and small-cap Health Care companies were more strongly tilted toward growth than large-cap Health Care companies (see Exhibit 7). As of Dec. 31, 2018, S&P 500 Health Care Index companies averaged 58% growth and 42% value. The average was 72% growth and 28% value for Health Care companies in the S&P MidCap 400 and 70% growth and 30% value in the S&P SmallCap 600.

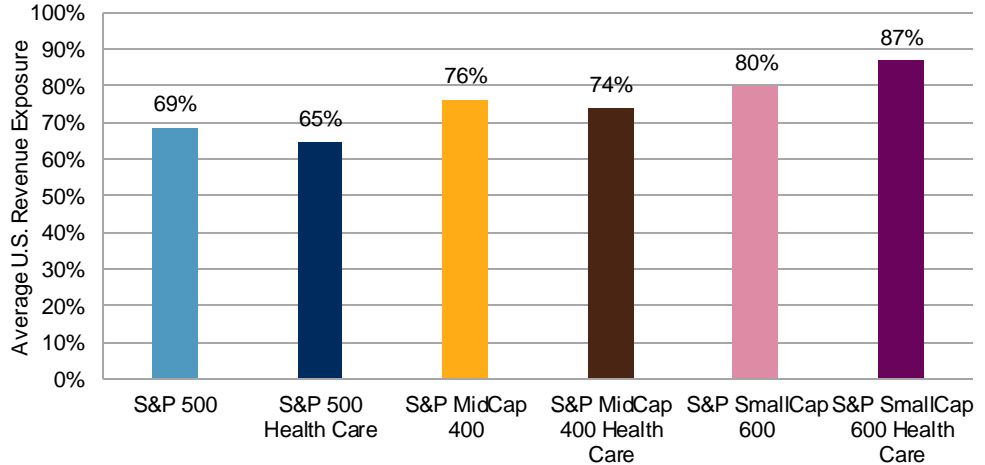
**Exhibit 7: Growth and Value Factor Tilts of the Large-, Mid-, and Small-Cap Health Care Sector**

*...averaging 58% growth and 42% value for S&P 500 Health Care companies.*

Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2018. Chart is provided for illustrative purposes.

According to data from the FactSet Geographic Revenue Exposure (GeoRev™) database, large-cap and mid-cap Health Care companies have had a relatively similar revenue exposure to regions outside the U.S. compared with the broader U.S. equities market (see Exhibit 8). Generally, if applying U.S. equities to get international exposure is a goal, large-cap companies do the most global business. As of Dec. 31, 2018, S&P 500 Health Care companies had an average U.S. revenue exposure of 65%. Small-cap Health Care companies were relatively more insulated from foreign markets, with an average of approximately 87% of revenue sourced domestically. Notably, this 22 percentage point difference between large and small cap is the largest of any sector.

**Exhibit 8: Average U.S. Revenue Exposure**



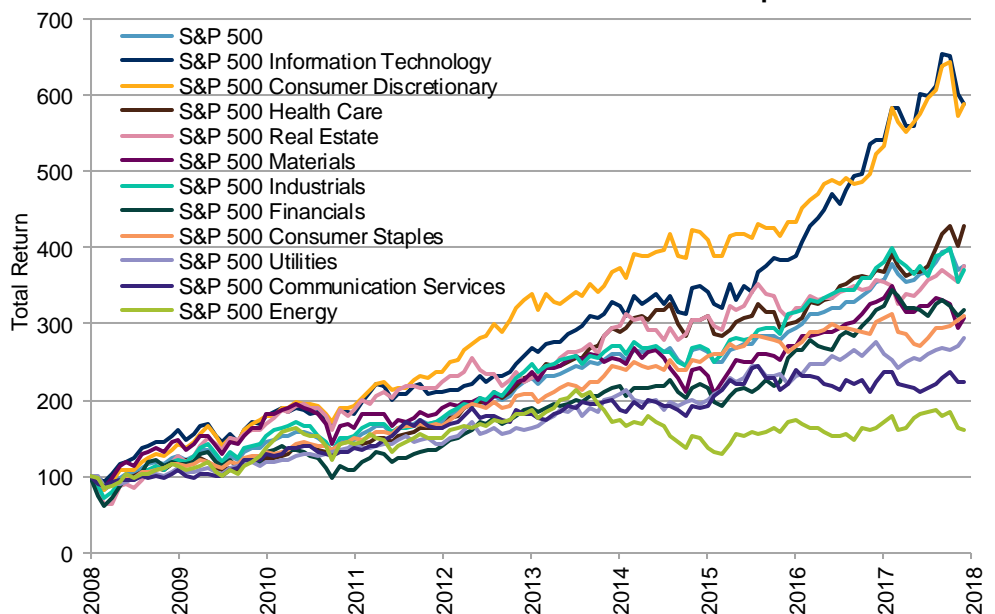
*Over the past 10 years, Health Care has been one of the top-performing GICS sectors.*

Source: S&P Dow Jones Indices LLC, FactSet GeoRev database. Data as of Dec. 31, 2018. Chart is provided for illustrative purposes.

**PERFORMANCE**

Over the past 10 years, Health Care has been one of the top-performing GICS sectors. As the second most heavily weighted sector in the S&P 500, a fair amount of the benchmark index’s performance over the 10-year period can be attributed to these companies. As of Dec. 31, 2018, Health Care’s 10-year annualized total return of 14.65% was the third best of any sector (see Exhibit 9). On a total return basis, the S&P 500 Health Care Index offered a 10-year annualized risk-adjusted return of 1.10 (see Exhibit 10).

**Exhibit 9: S&P 500 Sector Indices 10-Year Total Return Comparison**



*Health Care’s 10-year annualized total return of 14.65% was the third best of any sector.*

Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2018. Indices rebased to 100 on Dec. 31, 2008. Performance based on total return in USD. Past performance is no guarantee of future results. Chart is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

**Exhibit 10: Annualized Returns of S&P 500 Sector Indices**

INDEX NAME	1-YEAR	3-YEAR	5-YEAR	10-YEAR
<b>ANNUALIZED RETURN (%)</b>				
S&P 500 Health Care Index	6.47	8.14	11.12	14.65
S&P 500	-4.38	9.26	8.49	13.12
S&P 500 Communication Services Index	-12.53	2.17	2.58	7.51
S&P 500 Consumer Discretionary Index	0.83	9.55	9.69	18.35
S&P 500 Consumer Staples Index	-8.38	3.09	6.26	10.96
S&P 500 Energy Index	-18.10	1.07	-5.56	3.50
S&P 500 Financials Index	-13.03	9.28	8.16	10.92
S&P 500 Industrials Index	-13.29	7.65	5.95	12.68
S&P 500 Information Technology Index	-0.29	16.37	14.93	18.36
S&P 500 Materials Index	-14.70	7.22	3.84	11.07
S&P 500 Real Estate Index	-2.22	3.87	8.84	13.28
S&P 500 Utilities Index	4.11	10.72	10.74	10.46
<b>RISK</b>				
S&P 500 Health Care Index	18.47	13.69	13.06	13.33
S&P 500	15.33	10.95	10.94	13.60
S&P 500 Communication Services Index	13.60	15.90	14.40	14.54
S&P 500 Consumer Discretionary Index	19.89	13.58	13.69	16.54
S&P 500 Consumer Staples Index	15.13	11.39	11.35	11.32
S&P 500 Energy Index	23.75	18.71	18.95	19.33
S&P 500 Financials Index	16.57	16.46	14.69	21.95
S&P 500 Industrials Index	20.11	14.59	13.53	18.11
S&P 500 Information Technology Index	18.65	15.29	14.53	16.10
S&P 500 Materials Index	15.36	14.51	15.34	19.50
S&P 500 Real Estate Index	14.46	13.01	13.08	21.48
S&P 500 Utilities Index	9.80	12.39	12.78	12.62
<b>ANNUALIZED RISK-ADJUSTED RETURNS</b>				
S&P 500 Health Care Index	0.35	0.59	0.85	1.10
S&P 500	-0.29	0.85	0.78	0.96
S&P 500 Communication Services Index	-0.92	0.14	0.18	0.52
S&P 500 Consumer Discretionary Index	0.04	0.70	0.71	1.11
S&P 500 Consumer Staples Index	-0.55	0.27	0.55	0.97
S&P 500 Energy Index	-0.76	0.06	-0.29	0.18
S&P 500 Financials Index	-0.79	0.56	0.56	0.50
S&P 500 Industrials Index	-0.66	0.52	0.44	0.70
S&P 500 Information Technology Index	-0.02	1.07	1.03	1.14
S&P 500 Materials Index	-0.96	0.50	0.25	0.57
S&P 500 Real Estate Index	-0.15	0.30	0.68	0.62
S&P 500 Utilities Index	0.42	0.86	0.84	0.83

*The S&P 500 Health Care Index TR offered a 10-year annualized risk-adjusted return of 1.10.*

Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2018. Risk is defined as standard deviation calculated based on total returns using monthly values. Performance based on total return in USD. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.



*The Health Care sector has been most highly correlated with Industrials and least correlated with Utilities.*

The Health Care sector has been most highly correlated with Industrials and least correlated with Utilities. Exhibit 11 shows that as of Dec. 31, 2018, the S&P 500 Health Care Index (TR) had a correlation of 0.70 with the S&P 500 Industrials Index (TR), based on 10 years of monthly returns. The correlation was 0.41 with the S&P 500 Utilities Index (TR). Correlation with other major country indices also varied. Of the 12 indices tested outside of the U.S., the S&P 500 Health Care Index was most highly correlated with the S&P Switzerland BMI (0.71) and least correlated with the S&P Korea BMI (0.46).

**Exhibit 11: S&P 500 Health Care Correlations**

S&P 500 SECTOR (TR)	CORRELATION	INDEX (TR)	CORRELATION
Industrials	0.70	S&P Switzerland BMI	0.71
Consumer Discretionary	0.67	S&P Developed Ex-U.S. BMI	0.66
Consumer Staples	0.67	S&P Global Ex-U.S. BMI	0.65
Materials	0.65	S&P Germany BMI	0.62
Financials	0.62	S&P France BMI	0.61
Information Technology	0.59	S&P United Kingdom BMI	0.61
Energy	0.51	S&P Japan BMI	0.57
Real Estate	0.48	S&P Australia BMI	0.56
Communication Services	0.42	S&P Canada BMI	0.53
Utilities	0.41	S&P Emerging BMI	0.52
		S&P China BMI	0.49
		S&P Korea BMI	0.46
		S&P 500	0.79
		S&P United States BMI	0.78
		S&P Developed BMI	0.75
		S&P Global BMI	0.73
		S&P MidCap 400	0.69
		S&P SmallCap 600	0.64

*The S&P 500 Health Care was most highly correlated with the S&P Switzerland BMI and least correlated with the S&P Korea BMI.*

Source: S&P Dow Jones Indices LLC. Correlations based on monthly total return data from January 2009 to December 2018. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

Within the Health Care sector of the GICS structure, companies are bucketed into industry groups, industries, and sub-industries. These groupings, based on qualitative and quantitative factors, are increasingly more specific to the types of companies included. Due to this fact, performance of companies within the sector can vary. Exhibit 12 shows the annualized returns of the company groupings within the Health Care sector.

**Exhibit 12: Annualized Returns of the S&P 500 Health Care Index GICS Subindices**

INDEX	ANNUALIZED RETURN (%)			
	1-YEAR	3-YEAR	5-YEAR	10-YEAR
S&P 500 Health Care	6.47	8.14	11.12	14.65
<b>INDUSTRY GROUP</b>				
S&P 500 Health Care Equipment & Services	9.76	14.14	15.44	16.80
S&P 500 - Pharmaceuticals, Biotechnology & Life Sciences	4.34	4.69	8.67	13.50
<b>INDUSTRY</b>				
S&P 500 Health Care Equipment & Supplies	14.24	16.79	16.33	14.76
S&P 500 Health Care Providers & Services	6.42	12.54	15.43	18.94
S&P 500 - Health Care Technology	-22.18	-4.48	-1.21	15.55
S&P 500 - Biotechnology	-5.50	-0.76	6.64	14.54
S&P 500 - Pharmaceuticals	8.09	6.20	9.14	12.93
S&P 500 - Life Sciences Tools & Services	15.18	16.08	14.36	20.07
<b>SUB-INDUSTRY</b>				
S&P 500 Health Care Equipment	16.24	17.45	16.74	14.97
S&P 500 -Health Care Supplies	-13.73	4.04	7.40	9.72
S&P 500 Health Care Distributors	-20.63	-13.83	-2.85	12.16
S&P 500 Health Care Services	1.23	-1.24	3.74	9.38
S&P 500 Health Care Facilities	31.83	15.58	13.44	32.91
S&P 500 Managed Health Care	10.79	24.02	25.44	24.70
S&P 500 - Health Care Technology	-22.18	-4.48	-1.21	15.55
S&P 500 - Biotechnology	-5.50	-0.76	6.64	14.54
S&P 500 - Pharmaceuticals	8.09	6.20	9.14	12.93
S&P 500 - Life Sciences Tools & Services	15.18	16.08	14.36	20.07

Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2018. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

## CONCLUSION

Health Care is the second largest of the 11 GICS sectors in the U.S. market. The sector accounts for approximately 16% of the weight of the S&P 500. Within the sector, Pharmaceuticals has historically been the highest-weighted industry, although the sector has evolved over the last 20 years, from being over 75% Pharmaceuticals to being more evenly weighted between Pharmaceuticals, Biotechnology, Health Care Providers & Services, and Health Care Equipment & Supplies. The sector tends to strongly tilt toward the growth factor, especially in mid and small cap. In terms of revenue exposure, the delta between large and small cap is the largest of any sector. Health Care has not only historically provided outperformance potential versus the broader benchmarks and against most of the other 10 sectors, but it also has shown a relatively attractive long-term annualized risk-adjusted return. Based on the sector's varying correlation with different sectors and countries, it can also offer diversification and return potential.

*Health Care has not only historically provided outperformance potential versus the broader benchmarks and against most of the other 10 sectors...*

*...but it also has shown a relatively attractive long-term annualized risk-adjusted return.*

## PERFORMANCE DISCLOSURE

The S&P 500 Real Estate was launched September 19, 2016. All information presented prior to an index's Launch Date is hypothetical (back-tested), not actual performance. The back-test calculations are based on the same methodology that was in effect on the index Launch Date. However, when creating back-tested history for periods of market anomalies or other periods that do not reflect the general current market environment, index methodology rules may be relaxed to capture a large enough universe of securities to simulate the target market the index is designed to measure or strategy the index is designed to capture. For example, market capitalization and liquidity thresholds may be reduced. Complete index methodology details are available at [www.spdji.com](http://www.spdji.com). Past performance of the Index is not an indication of future results. Prospective application of the methodology used to construct the Index may not result in performance commensurate with the back-test returns shown.

S&P Dow Jones Indices defines various dates to assist our clients in providing transparency. The First Value Date is the first day for which there is a calculated value (either live or back-tested) for a given index. The Base Date is the date at which the Index is set at a fixed value for calculation purposes. The Launch Date designates the date upon which the values of an index are first considered live; index values provided for any date or time period prior to the index's Launch Date are considered back-tested. S&P Dow Jones Indices defines the Launch Date as the date by which the values of an index are known to have been released to the public, for example via the company's public website or its datafeed to external parties. For Dow Jones-branded indices introduced prior to May 31, 2013, the Launch Date (which prior to May 31, 2013, was termed "Date of introduction") is set at a date upon which no further changes were permitted to be made to the index methodology, but that may have been prior to the Index's public release date.

The back-test period does not necessarily correspond to the entire available history of the Index. Please refer to the methodology paper for the Index, available at [www.spdji.com](http://www.spdji.com) for more details about the index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations.

Another limitation of using back-tested information is that the back-tested calculation is generally prepared with the benefit of hindsight. Back-tested information reflects the application of the index methodology and selection of index constituents in hindsight. No hypothetical record can completely account for the impact of financial risk in actual trading. For example, there are numerous factors related to the equities, fixed income, or commodities markets in general which cannot be, and have not been accounted for in the preparation of the index information set forth, all of which can affect actual performance.

The Index returns shown do not represent the results of actual trading of investable assets/securities. S&P Dow Jones Indices LLC maintains the Index and calculates the Index levels and performance shown or discussed, but does not manage actual assets. Index returns do not reflect payment of any sales charges or fees an investor may pay to purchase the securities underlying the Index or investment funds that are intended to track the performance of the Index. The imposition of these fees and charges would cause actual and back-tested performance of the securities/fund to be lower than the Index performance shown. As a simple example, if an index returned 10% on a US \$100,000 investment for a 12-month period (or US \$10,000) and an actual asset-based fee of 1.5% was imposed at the end of the period on the investment plus accrued interest (or US \$1,650), the net return would be 8.35% (or US \$8,350) for the year. Over a three year period, an annual 1.5% fee taken at year end with an assumed 10% return per year would result in a cumulative gross return of 33.10%, a total fee of US \$5,375, and a cumulative net return of 27.2% (or US \$27,200).

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