



**C L I F F O R D
C H A N C E**

YEAR IN REVIEW

SURVEY OF HEALTH CARE IPOs IN THE UNITED STATES DURING 2018

FEBRUARY 2019

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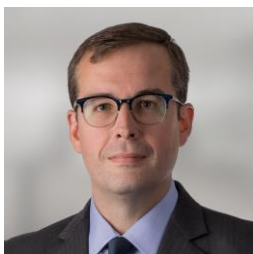
INTRODUCTION

We have developed this survey to provide information to our clients and other interested parties about initial public offerings (IPOs) of equity securities in the United States, which were registered during 2018 with the US Securities and Exchange Commission (SEC) by companies in the health care sector and listed on a US exchange (such as Nasdaq).

The following charts reflect selected statistics regarding these IPOs that we believe provide useful information about the characteristics of these offerings and related market practices. Where appropriate, we have sought to show how these offerings may have different characteristics when they involve a non-US company that qualifies for foreign private issuer (FPI) status under the US federal securities laws.

A list of the IPOs we included in our survey is provided in [Annex A](#).

We hope you find this survey helpful in developing an understanding of US Health Care IPOs. Please contact Per Chilstrom or any other members of your Clifford Chance client service team if you would like to discuss this survey or have any related questions.



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SURVEY HIGHLIGHTS

During 2018, the US market for initial public offerings (IPOs) saw increased activity levels as compared to 2017. A total of 80 companies in the health care sector completed SEC-registered IPOs in connection with listing on a US exchange (Health Care IPOs). Of these Health Care IPOs, only 10 were completed by non-US companies that qualified as foreign private issuers (FPIs) (down from 15 during 2017). At the end of 2018, an additional 12 health care companies were in advanced stages of the IPO registration process (but not yet effective), including three FPIs.

- **Number of Health Care IPOs by FPIs.** Of the 80 completed health care IPOs, 10 were completed by FPIs. By comparison, of the 50 completed Health Care IPOs during 2017, 15 were completed by FPIs. In addition, by the end of 2018, three FPIs had publicly-filed registration statements pending for Health Care IPOs that were neither effective nor withdrawn. FPIs registering Health Care IPOs during 2018 were from five different countries. By comparison, FPIs registering Health Care IPOs during 2017 were from 10 different countries.
- **IPO Proceeds.** Health Care IPOs raised aggregate gross proceeds of approximately US\$7.72 billion (up from approximately US\$4.45 billion during 2017), of which approximately US\$766 million was raised by FPIs (as compared to US\$1.35 billion during 2017). At around US\$72 million, the average proceeds for Health Care IPOs by FPIs were less than the average proceeds raised during 2018 by US domestic and other issuers that do not qualify as FPIs, which was approximately US\$99 million. Of the 10 Health Care IPOs completed by FPIs during 2018, only three of them raised offering proceeds in excess of US\$75 million. 11 Health Care IPOs raised offering proceeds of less than US\$25 million per IPO, and four of these were completed by FPIs.
- **Insider Investment.** Existing shareholders, members of management or their respective affiliates either indicated an interest in purchasing or agreed to purchase shares in 51 of the 80 Health Care IPOs completed during 2018. These insider investments represented approximately \$1.62 billion, or approximately 21%, of the aggregate proceeds of all Health Care IPOs during 2018 (down from approximately 25% during 2017). By contrast, insider investment was reported for only four of the 10 Health Care IPOs completed by FPIs during 2018, and contributed approximately US\$133.5 million, or approximately 17%, to the aggregate proceeds for these IPOs.
- **Listing Venue Selection.** During 2018, most of the companies registering Health Care IPOs sought to list their securities on Nasdaq. During 2018, 70% of all companies registering Health Care IPOs seeking to raise more than US\$75 million in IPO proceeds selected the Nasdaq Global Select Market. Only four Health Care IPOs registered during 2018 involved a New York Stock Exchange listing.

SURVEY HIGHLIGHTS

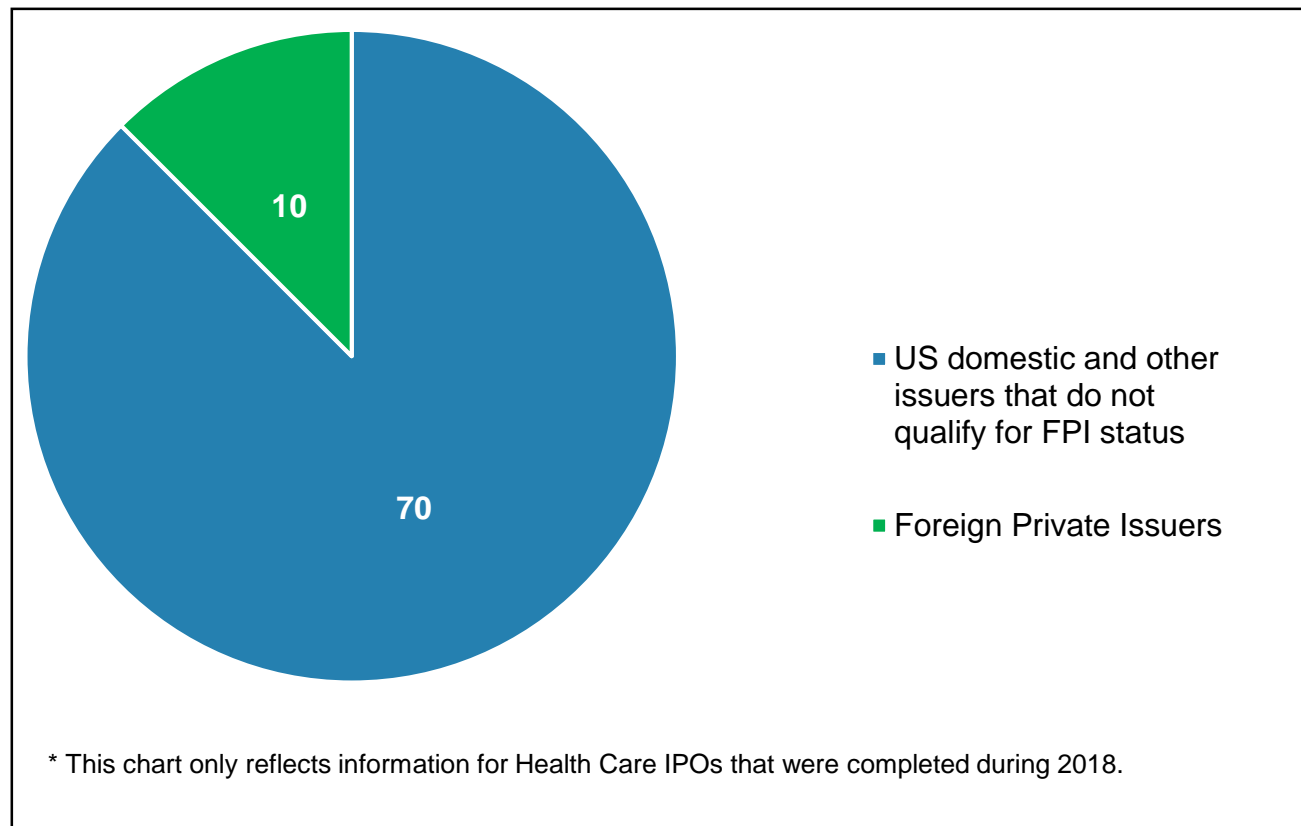
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- **Use of ADR Programs by FPIs.** More than half of the FPIs who registered Health Care IPOs during 2018 established a Level 3 ADR program in connection with their listing. Five of the seven FPIs offering ADSs as part of their SEC-registered offering had a dual listing on a non-US exchange.
 - **Common Standard Industrial Classifications.** As in 2018, the two most common SIC codes for companies registering Health Care IPOs during 2018 were: (1) 2834 – Pharmaceutical preparations; and (2) 2836 – Biological products (no diagnostic substances). Collectively, companies indicating these two codes represented over 80% of the Health Care IPOs registered during 2018.
 - **Development Phase for Product Candidates.** Of the 64 Health Care IPO companies that reported developing pharmaceutical or biopharmaceutical product candidates during 2018, the most common development phase for the most advanced product candidates was Phase 2 (reported for 22 IPOs), followed by Phase 1 (reported for 21 IPOs), and Phase 3 (reported for 12 IPOs). By contrast, during 2017, Phase 1 was reported for only five IPOs, Phase 2 for 27 IPOs and Phase 3 for 14 IPOs.
- Of the nine FPIs that reported developing product candidates during 2018, two reported a lead candidate in Phase 1, four reported a lead candidate in Phase 2, and two reported a lead candidate in Phase 3.
- **Estimated Offering Expenses.** Estimated offering expenses (excluding underwriter compensation) for Health Care IPOs completed during 2018 varied widely, with an average amount of approximately \$2.78 million (up from US\$2.5 million in 2017). Average estimated offering expenses reported by FPIs were slightly lower than the average for all other Health Care IPOs during 2018.
 - **Presentation of Audited Financial Statements.** All of the Health Care IPO issuers during 2018 qualified as “emerging growth companies” and, as during 2017, most of them took advantage of regulatory relief permitting the presentation of two years of audited financial statements in their IPO prospectus (rather than three years). Of the 13 FPIs in the health care sector that filed IPO registration statements during 2018, eight presented their financial statements using IFRS and five chose to present their financial statements using US GAAP.
- **Board Size and Director Independence.** For companies filing registration statements for Health Care IPOs during 2018, the average board size was approximately seven directors. Of the companies using Form S-1 for their Health Care IPOs, 70 reported that a majority of their board members were independent. While not strictly required to comply with US stock exchange requirements regarding board independence, eight FPIs reported that a majority of their board members were independent as well.
 - **Length of Time in Registration.** The average number of days from first submission to effectiveness for Health Care IPOs during 2018 was approximately 150 days, significantly down from an average of 232 days during 2017. During 2018, 16 health care companies (including one FPI) achieved effectiveness in less than 80 days.
 - **Confidential Treatment for Information in Registration Statement Exhibits.** As in 2017, the SEC staff granted requests for the confidential treatment of sensitive information in registration statement exhibits for over 80% of the completed Health Care IPOs during 2018. It was most common for a company to request confidential treatment with respect to sensitive information contained in only two exhibits to the registration statement.

For more information regarding 2017 US Health Care IPOs, see our 2017 survey, which can be downloaded here: https://www.cliffordchance.com/briefings/2018/01/year_in_review_surveyofhealthcareiposi.html

NUMBER OF COMPLETED HEALTH CARE IPOs

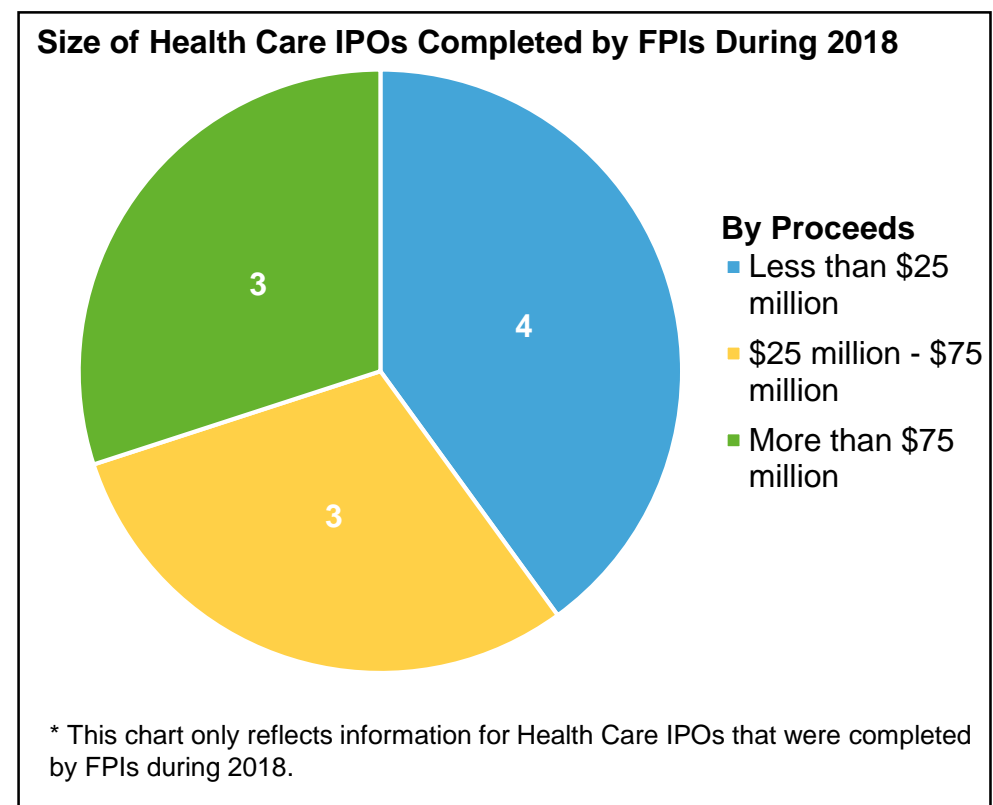
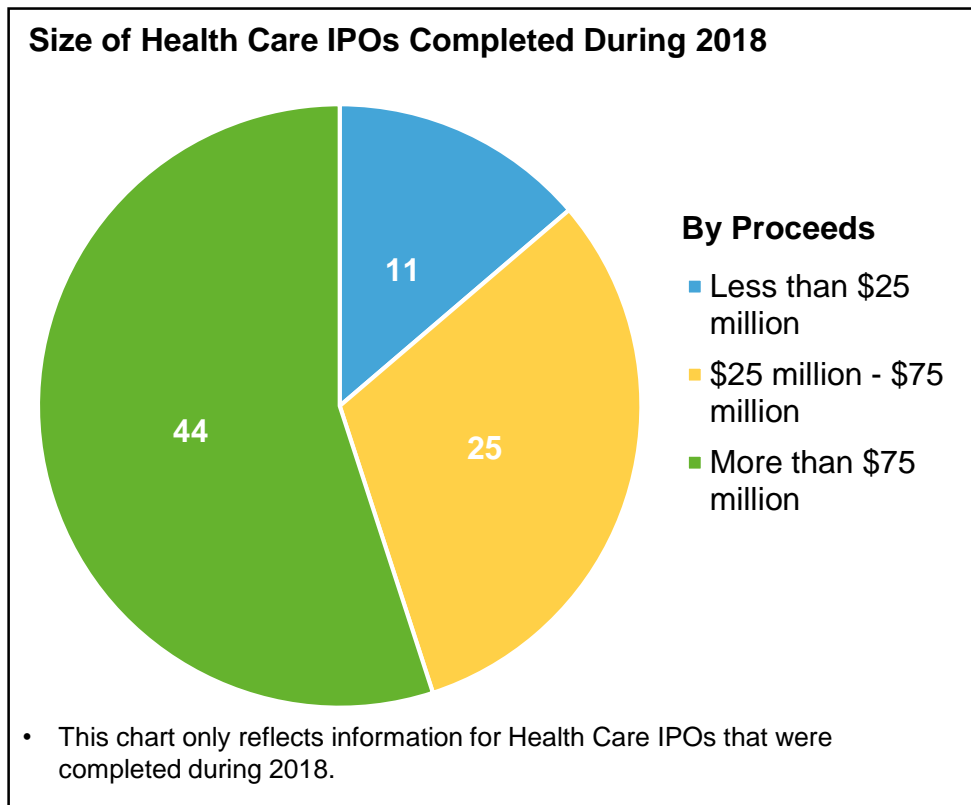
During 2018, 80 companies completed SEC-registered Health Care IPOs that featured a listing on a US exchange, such as Nasdaq. FPIs completed 10 of these IPOs. By comparison, of the 50 completed Health Care IPOs during 2017, 15 were completed by FPIs. An additional 12 companies publicly filed IPO registration statements that were not withdrawn or declared effective by the end of 2018 – three of these companies were FPIs.



SIZE OF COMPLETED HEALTH CARE IPOs

Of the 80 Health Care IPOs completed during 2018, offering proceeds exceeded US\$75 million per IPO for more than half of these IPOs. 11 Health Care IPOs, however, raised offering proceeds of less than US\$25 million per IPO.

Of the 10 Health Care IPOs completed by FPIs during 2018, only three of them raised offering proceeds in excess of US\$75 million. Four Health Care IPOs by FPIs raised offering proceeds of less than US\$25 million.

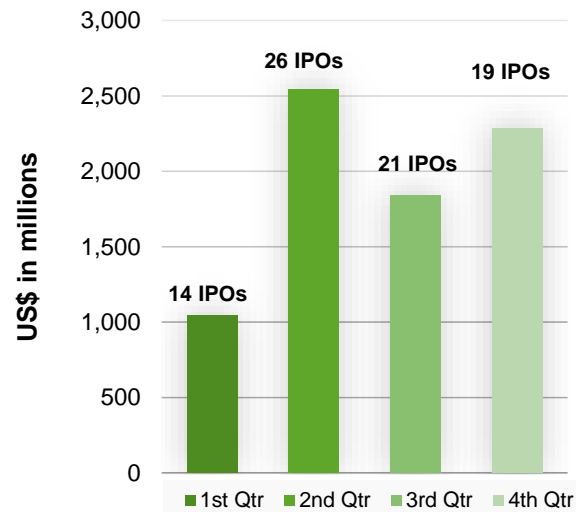


AGGREGATE PROCEEDS OF COMPLETED HEALTH CARE IPOs

During 2018, IPOs in the health care sector raised aggregate gross proceeds of approximately US\$7.72 billion (up significantly from approximately US\$4.45 billion during 2017). The average gross proceeds raised by these IPOs was approximately US\$96 million. The second quarter of 2018 featured the highest number of IPOs and raised the most proceeds.

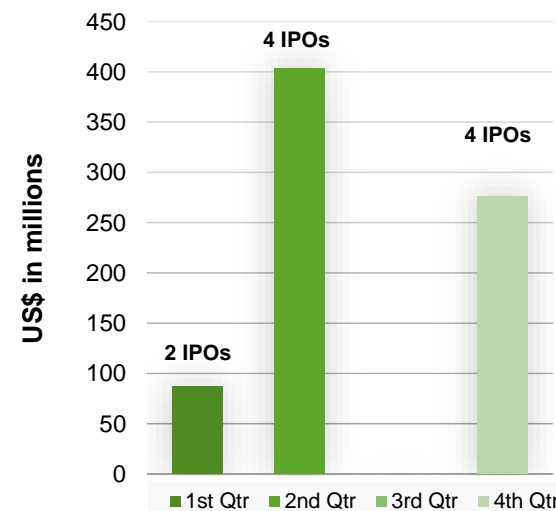
Aggregate Health Care IPO proceeds raised by FPIs during 2018 were approximately US\$766 million (down from approximately US\$1.35 billion during 2017). Average proceeds for Health Care IPOs for FPIs were approximately US\$72 million, much less than the average proceeds for Health Care IPOs completed by all other issuers (US\$99 million). During 2017, average proceeds had been approximately equal for FPIs and the other issuers.

Aggregate Proceeds of Health Care IPOs Completed During 2018



* This chart only reflects information for Health Care IPOs that were completed during 2018.

Aggregate Proceeds of Health Care IPOs Completed by FPIs During 2018

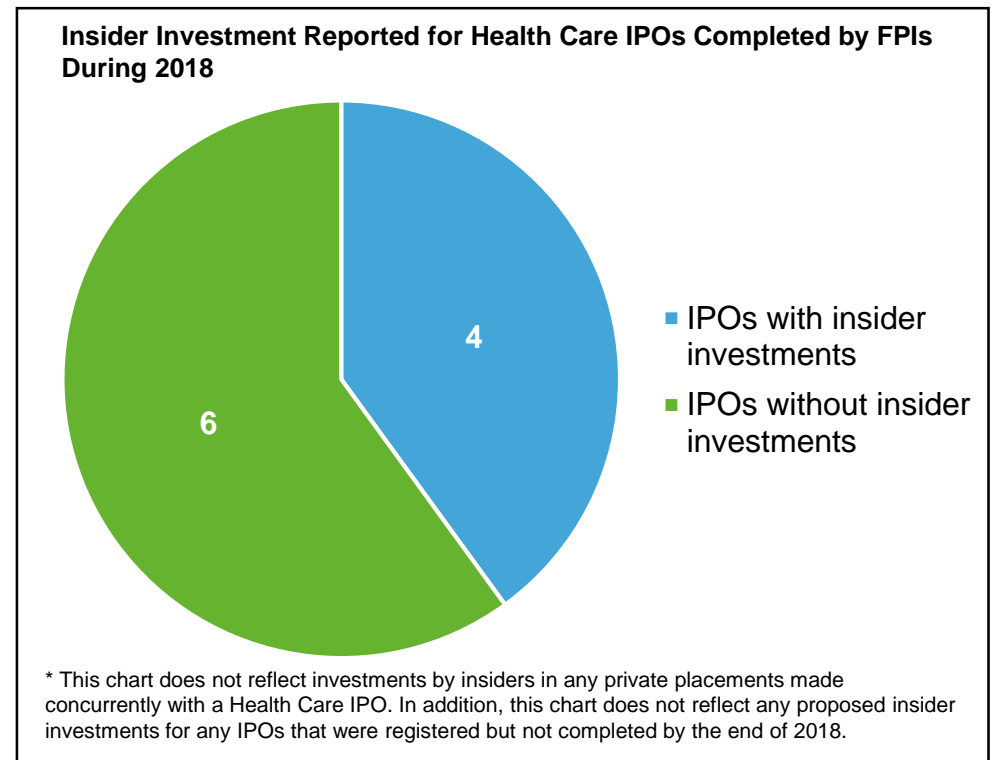
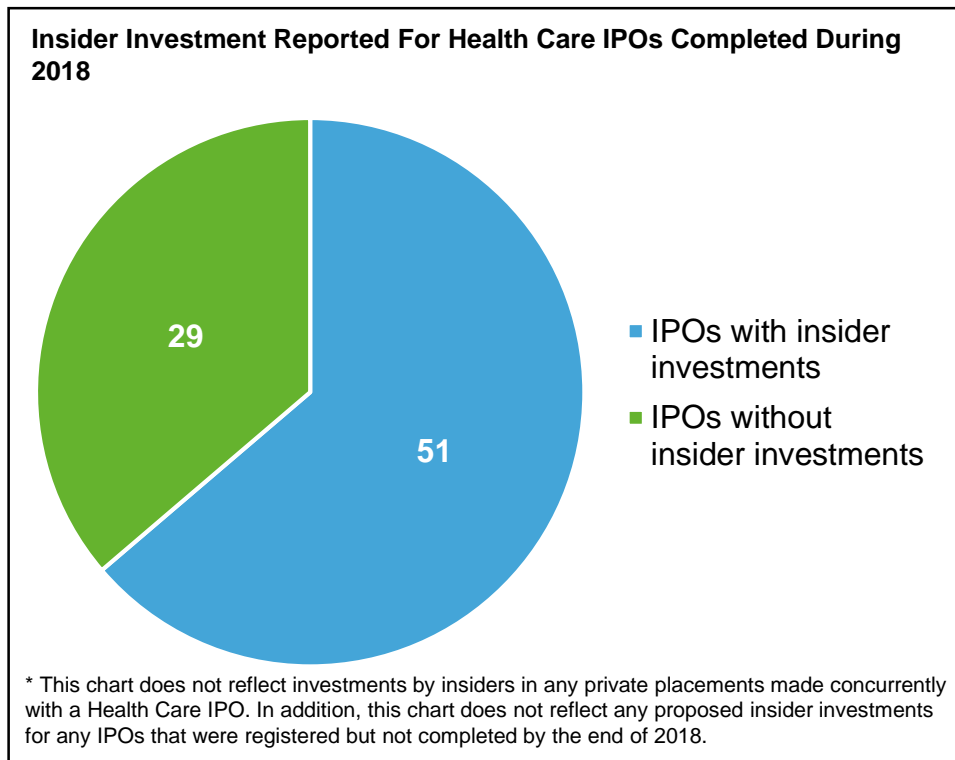


* This chart only reflects information for Health Care IPOs that were completed by FPIs during 2018.

INSIDER INVESTMENT

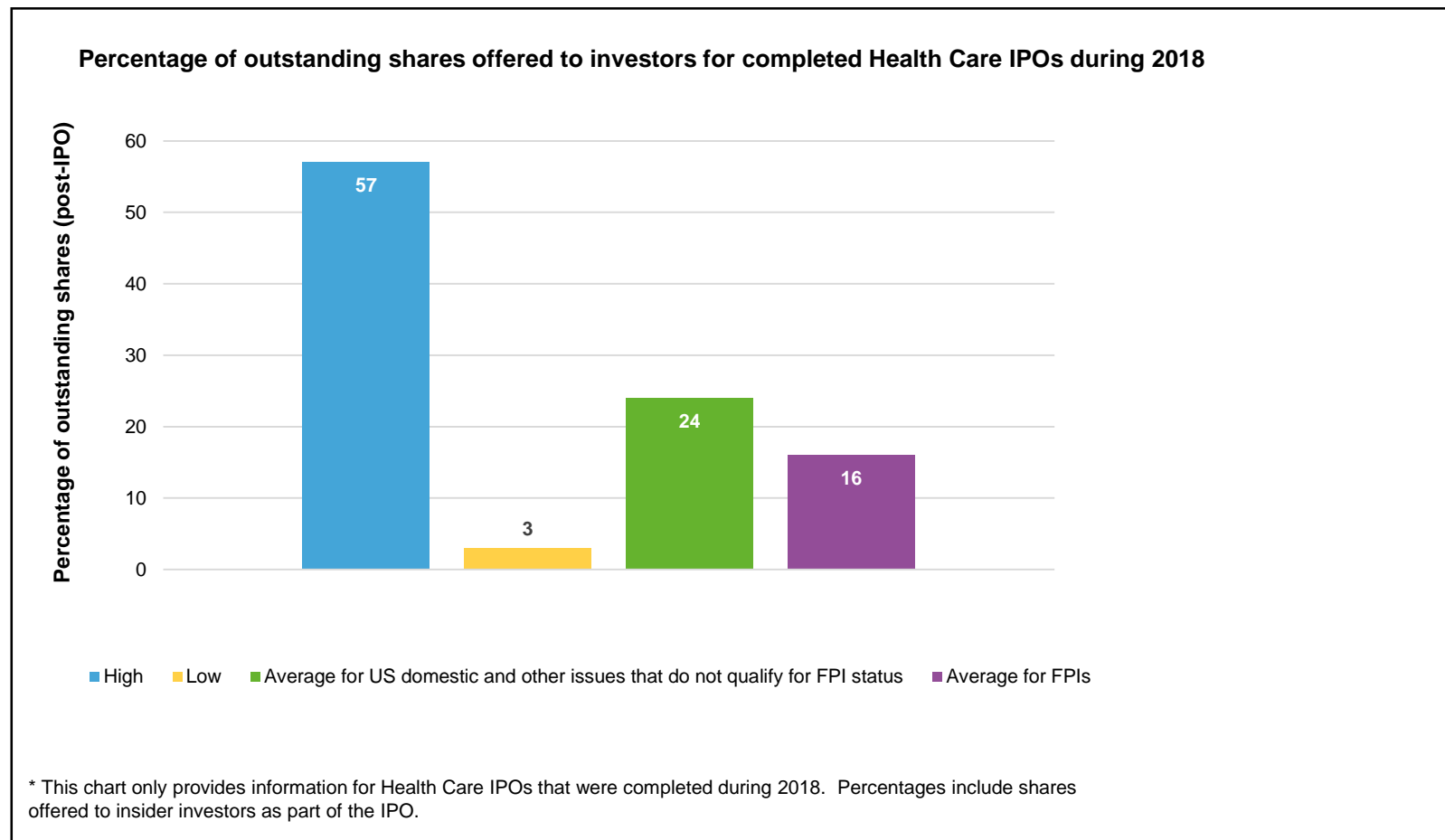
Existing shareholders, members of management or their respective affiliates either indicated an interest in purchasing or agreed to purchase shares in 51 of the 80 Health Care IPOs completed during 2018. These insider investments represented approximately US\$1.62 billion, or approximately 21%, of the aggregate proceeds of all Health Care IPOs.

Insider investment was reported for four of the 10 Health Care IPOs completed by FPIs during 2018, and contributed approximately US\$133.5 million, or approximately 17%, to the aggregate proceeds for these IPOs.



PERCENTAGE OF OUTSTANDING SHARES OFFERED TO INVESTORS

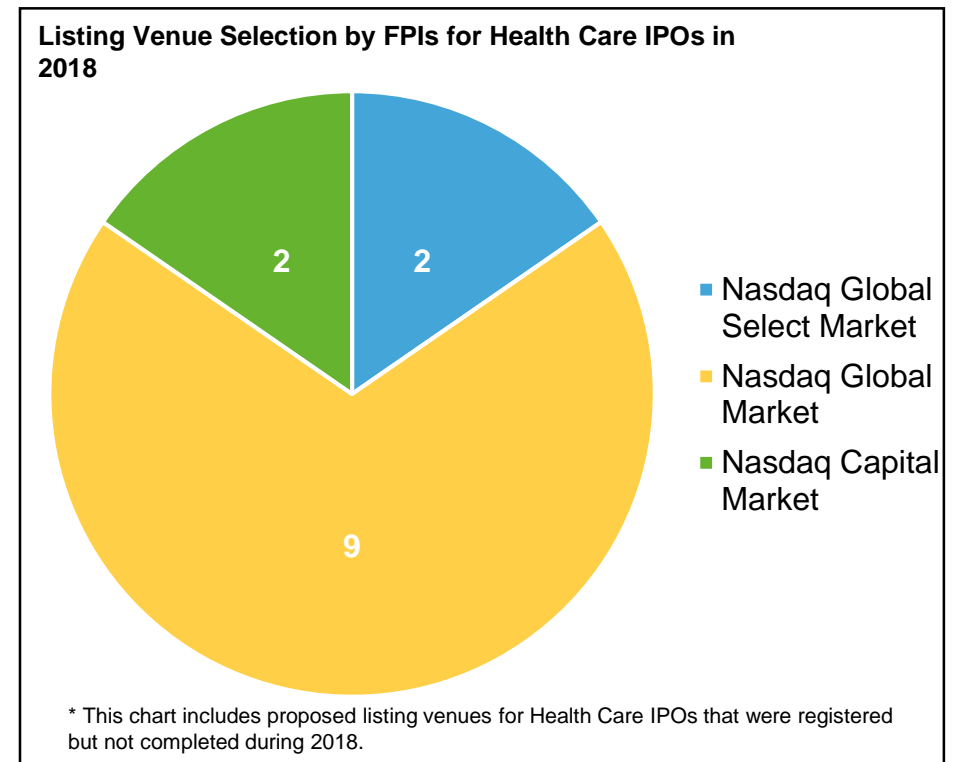
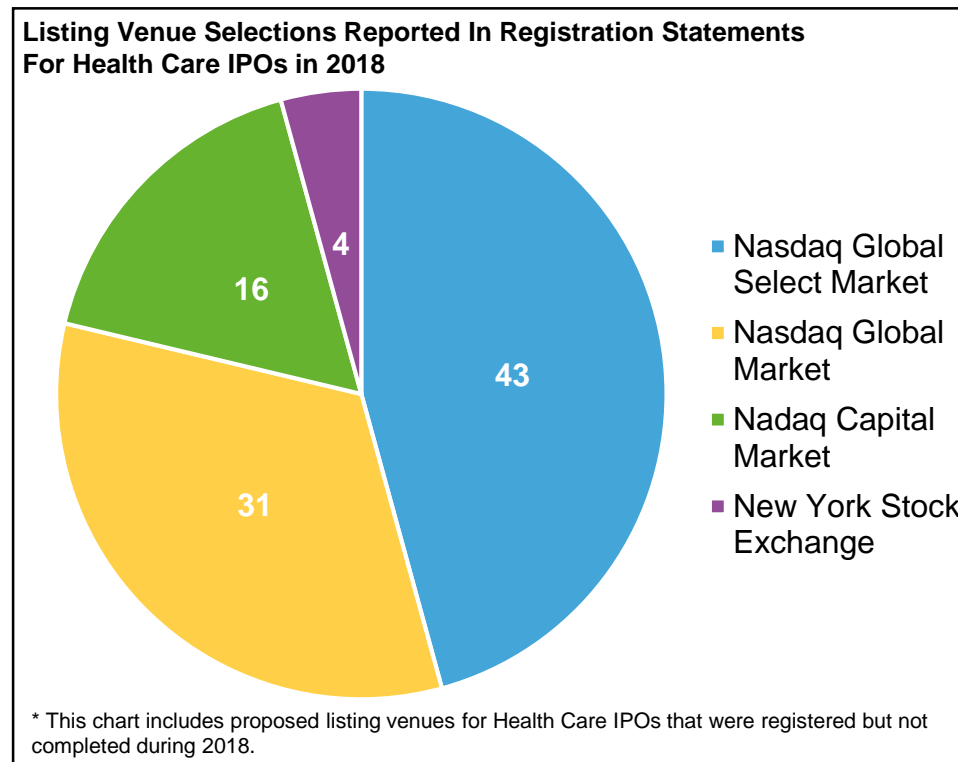
The percentage of outstanding shares offered to investors (without giving effect to the exercise of any overallotment options or the exercise of any warrants that were issued to investors as part of the IPO) for Health Care IPOs completed during 2018 varied widely, with an average of approximately 23% of the shares outstanding immediately after the IPO.



LISTING VENUE SELECTIONS

During 2018, most of the companies registering Health Care IPOs sought to list their securities on Nasdaq. As in 2017, approximately half of these companies selected the Nasdaq Global Select Market for their listing.

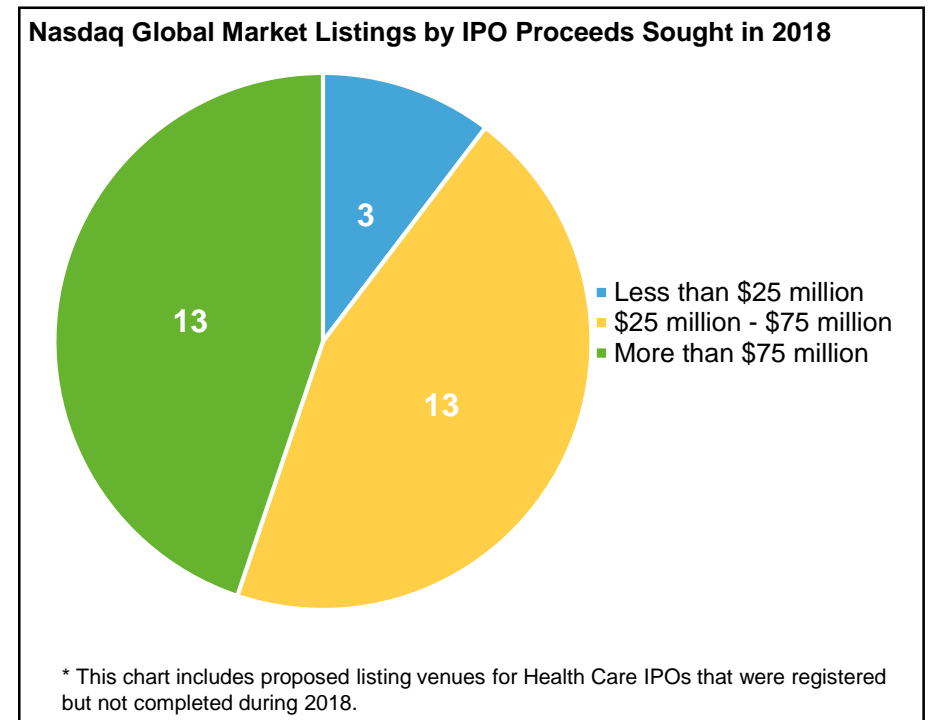
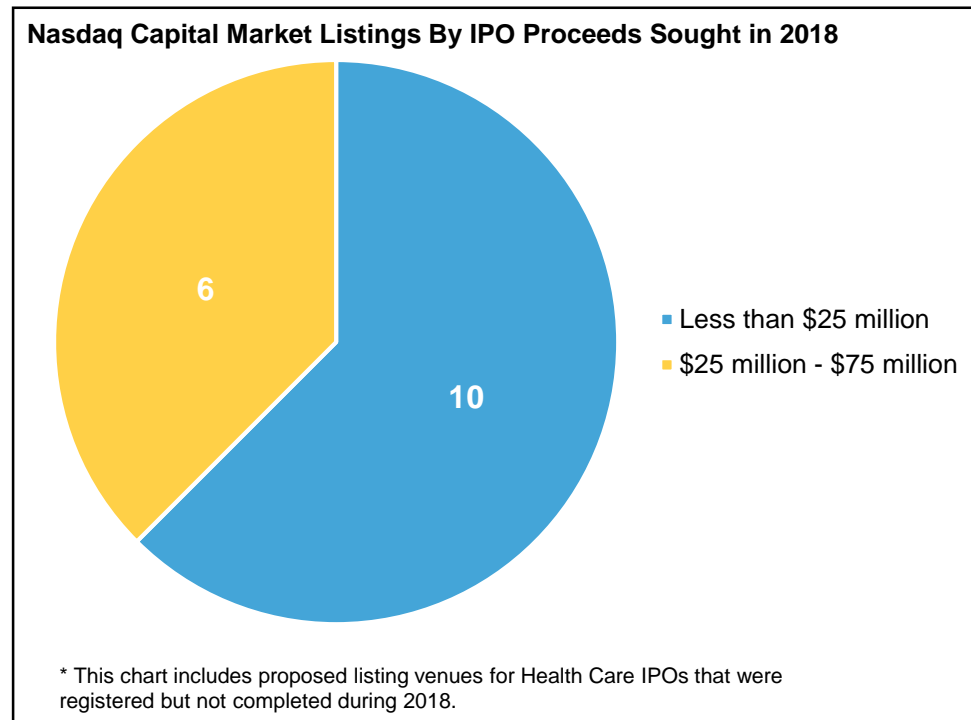
During 2018, all of the FPIs registering Health Care IPOs sought to list their securities on Nasdaq. About two thirds of these FPIs selected the Nasdaq Global Market for their listing.



LISTING VENUE SELECTIONS BY PROCEEDS: NASDAQ CAPITAL MARKET & NASDAQ GLOBAL MARKET

During 2018, as in 2017, most of the companies registering Health Care IPOs seeking to raise proceeds of less than US\$25 million selected the Nasdaq Capital Market for their listing. One quarter of the companies registering Health Care IPOs seeking proceeds in the US\$25 million - US\$75 million range also selected the Nasdaq Capital Market (up from only two during 2017). This listing venue was not chosen for any Health Care IPOs seeking to raise more than US\$75 million in proceeds.

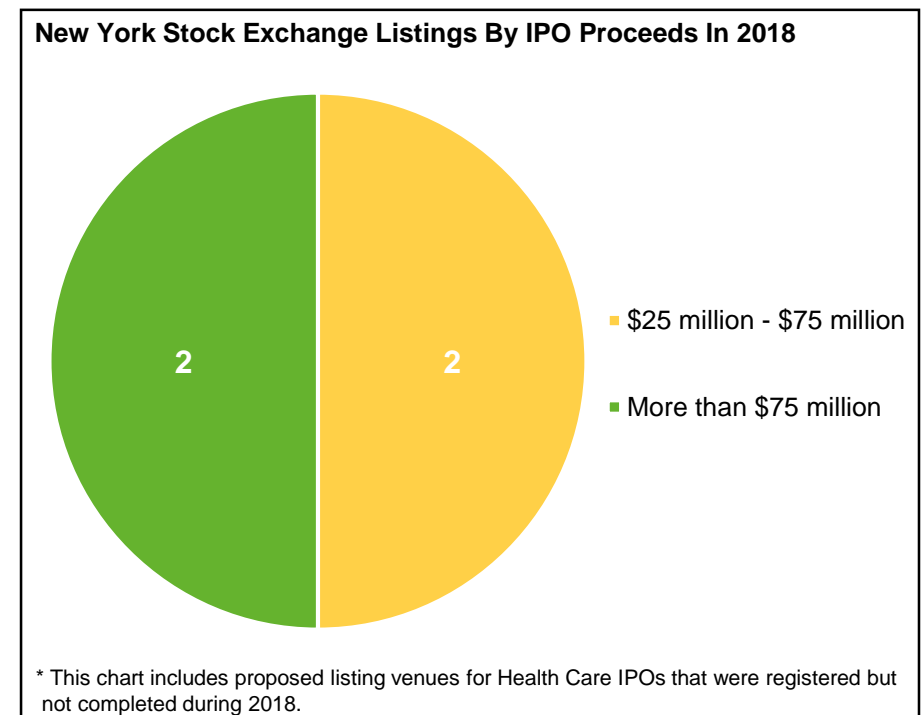
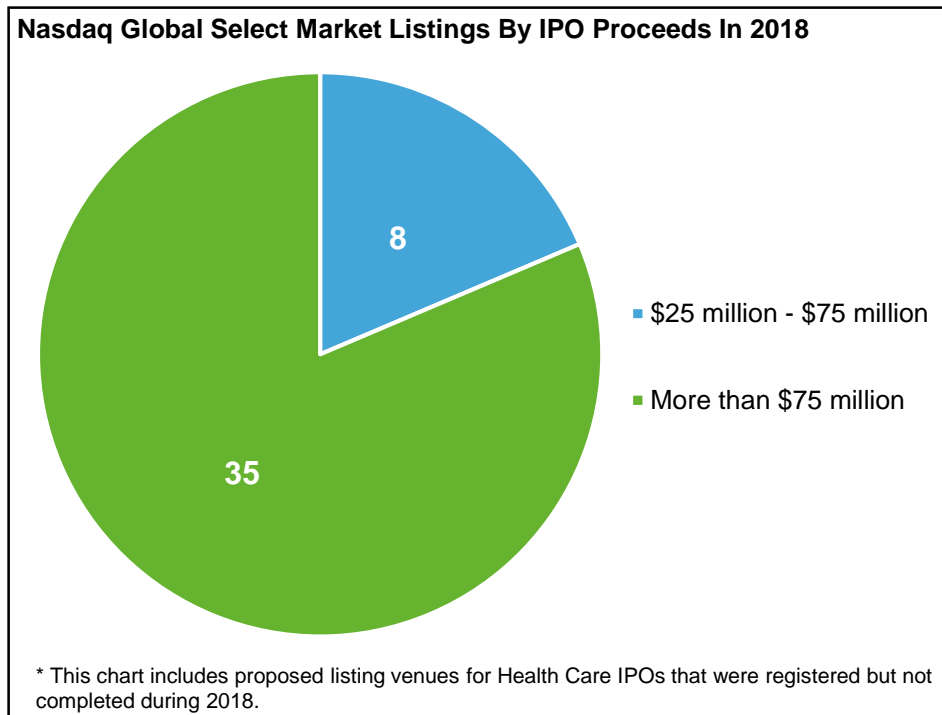
During 2018, a little less than half of the companies registering Health Care IPOs seeking to raise proceeds in the US\$25 million - US\$75 million range selected the Nasdaq Global Market. This listing venue was chosen for one quarter of all Health Care IPOs seeking to raise more than US\$75 million in proceeds in 2018.



LISTING VENUE SELECTIONS BY PROCEEDS: NASDAQ GLOBAL SELECT MARKET & NYSE

During 2018, 70% of all companies registering Health Care IPOs seeking to raise more than US\$75 million in IPO proceeds selected the Nasdaq Global Select Market. In addition, this listing venue was chosen by a little less than one third of the companies registering Health Care IPOs seeking to raise proceeds in the US\$25 million - US\$75 million range.

Four companies that completed their Health Care IPOs during 2018 selected to list their securities on the New York Stock Exchange. Two of these sought to raise proceeds in excess of US\$75 million.

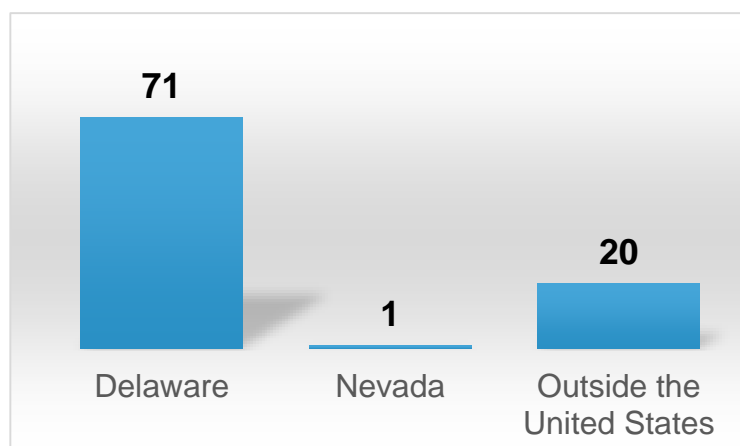


JURISDICTION OF INCORPORATION

All but one of the US companies in the health care sector who registered IPOs during 2018 were incorporated in Delaware. Only two-thirds of the non-US companies in the health care sector who registered IPOs during 2018 made filings that indicated they qualified as FPIs.

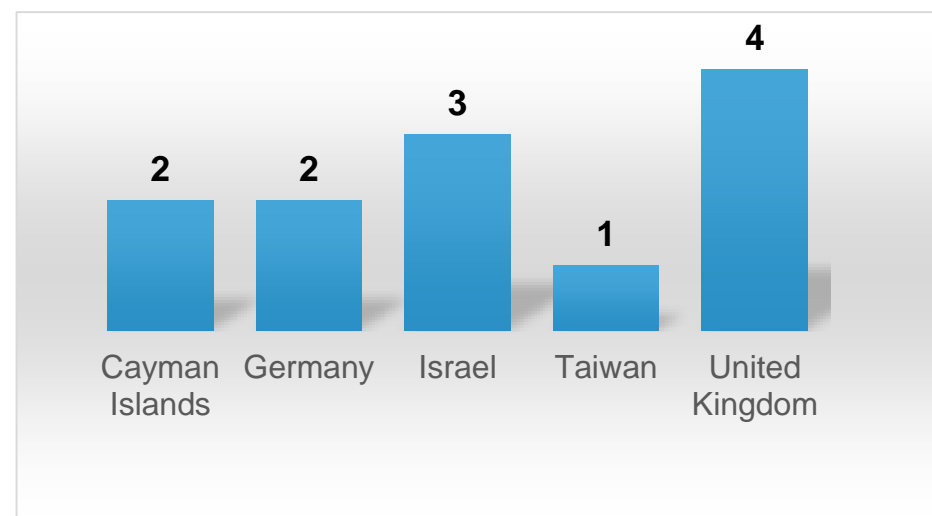
Non-US companies that qualified as FPIs when registering Health Care IPOs were from 5 different countries.

Jurisdiction of Incorporation of Companies Registering Health Care IPOs During 2018



* This chart reflects information for all Health Care IPOs that were registered during 2018, including offerings that were not completed by the end of the first half of 2018.

Jurisdiction of Incorporation of FPIs Registering Health Care IPOs during 2018

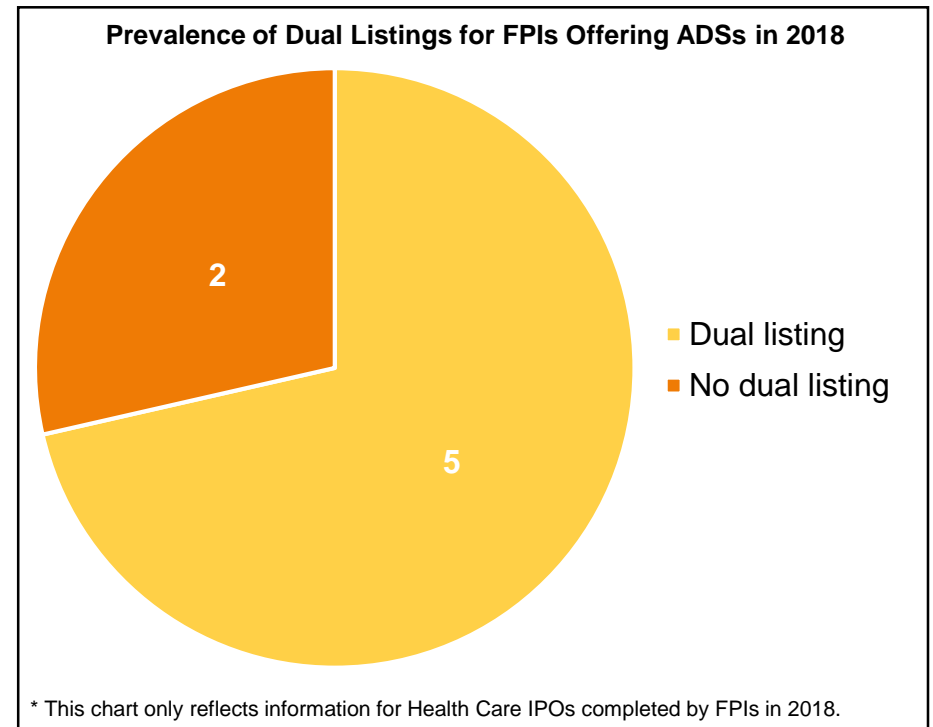
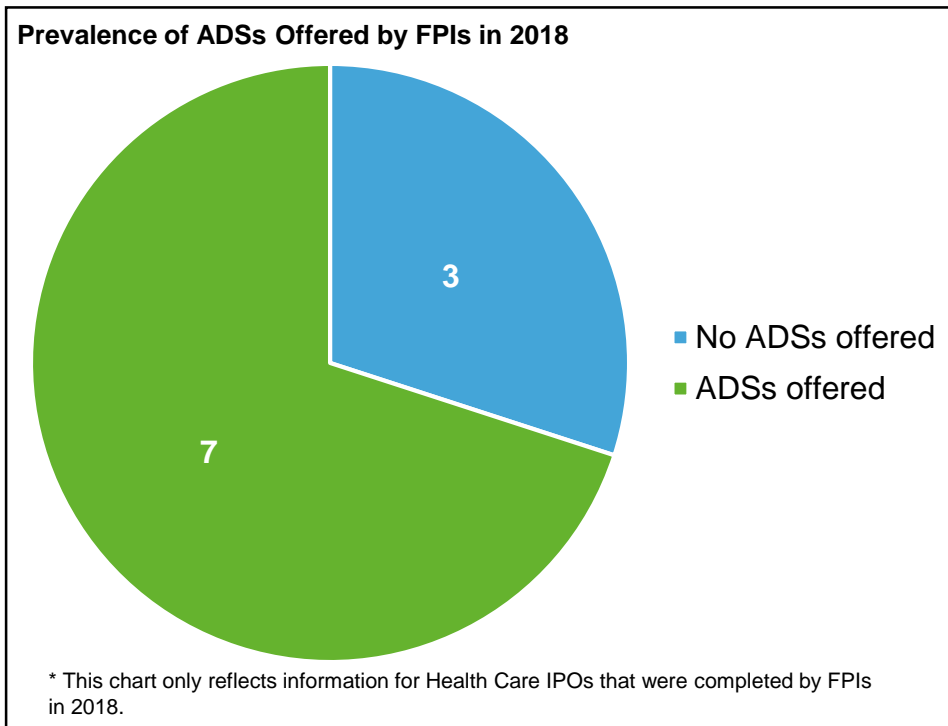


* This chart provides information for all Health Care IPOs that were registered during 2018 by non-US companies that qualified as FPIs, including offerings that were not completed by the end of 2018.

ADR PROGRAMS

More than half of the FPIs who registered Health Care IPOs during 2018 established a Level 3 ADR program in connection with their listing. The jurisdictions of issuers offering ADSs included the United Kingdom, Germany, Taiwan and the Cayman Islands. As in 2017, none of the Israeli companies that completed Health Care IPOs in 2018 opted to offer ADSs.

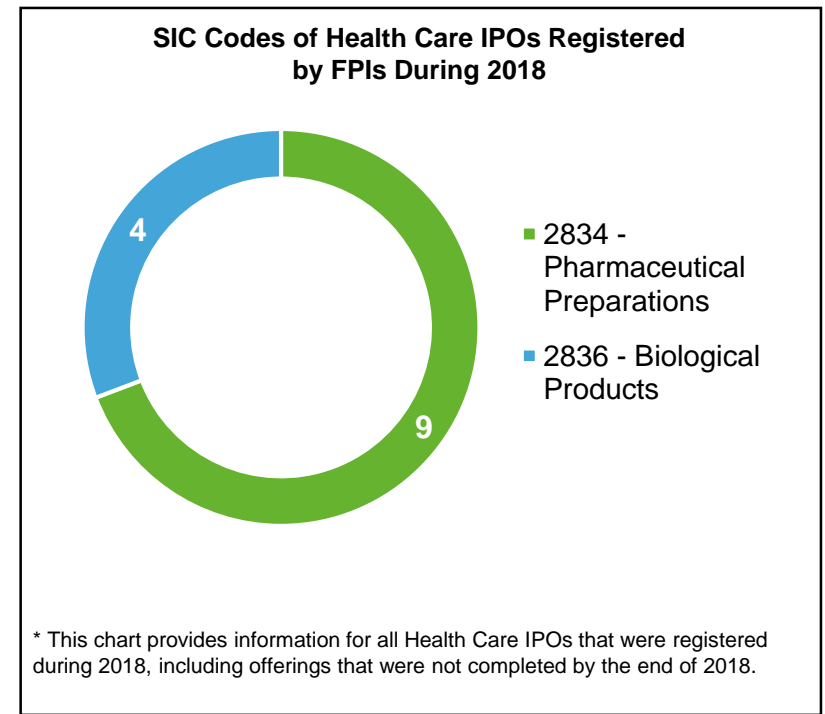
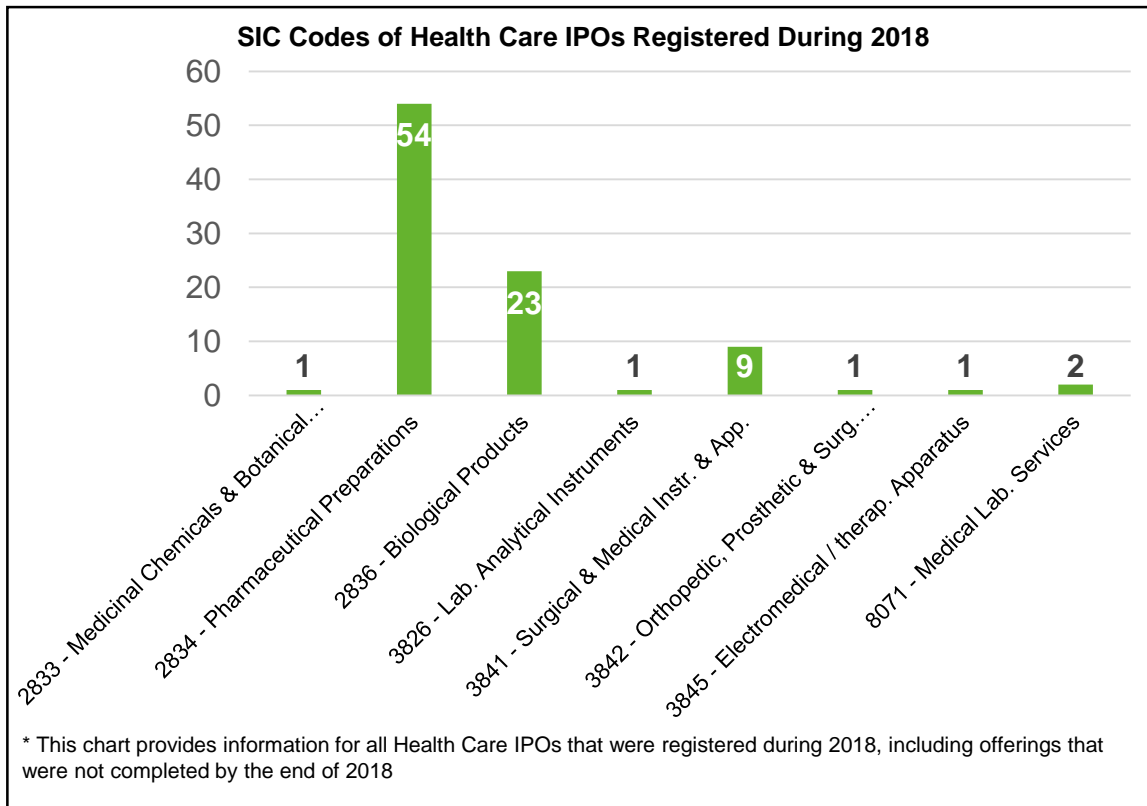
A common reason for using ADSs is to accommodate a dual listing. Five of the seven FPIs that offered ADSs in 2018 maintained pre-existing listings on one of the following non-US exchanges: London Stock Exchange (AIM), Frankfurt Stock Exchange, and Taipei Exchange.



SIC CODES

While companies registering IPOs within the health care sector indicated eight different Standard Industrial Classification (SIC) codes during 2018 on the cover of their registration statements, by far the most common SIC code was 2834 – Pharmaceutical preparations (with 54 companies). In addition, 23 companies with SIC code 2836 – Biological products (no diagnostic substances) registered IPOs during 2018.

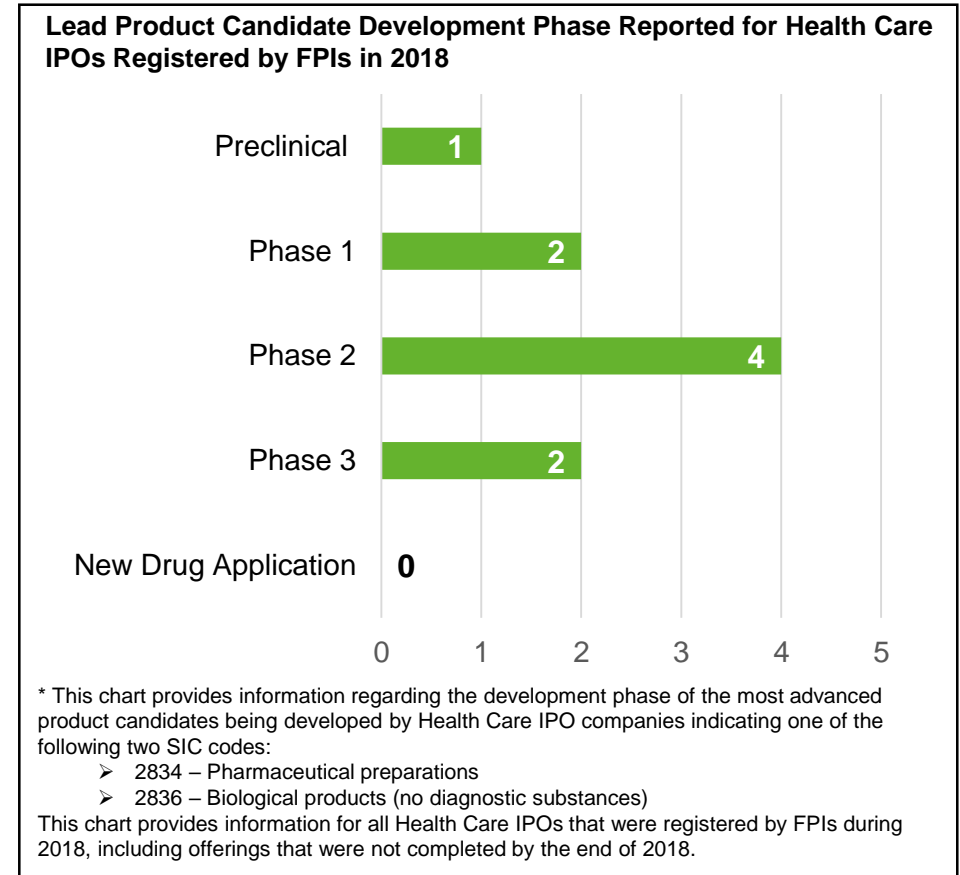
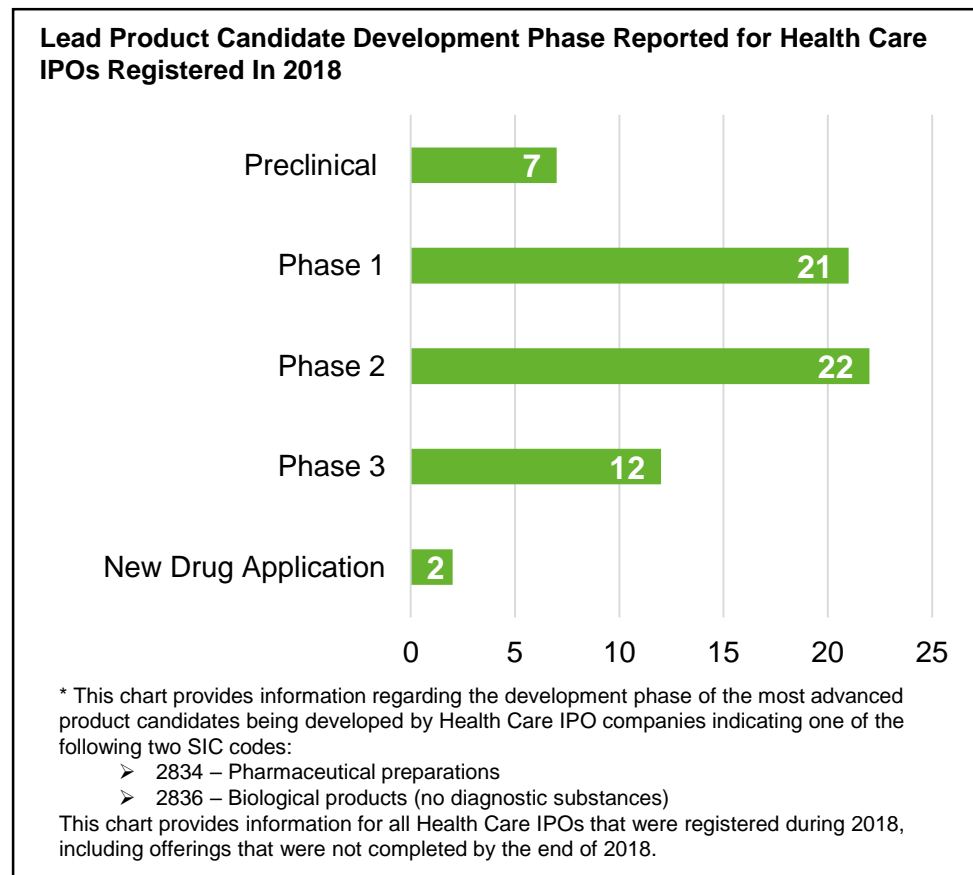
As in 2017, the most common SIC code for FPIs in the health care sector registering IPOs was 2834 – Pharmaceutical preparations, and there continues to be significantly less diversity among the SIC codes indicated by these FPIs.



LEAD PRODUCT CANDIDATE DEVELOPMENT PHASES

Of the 64 Health Care IPO companies that reported developing pharmaceutical or biopharmaceutical product candidates during 2018, the most common development phase for the most advanced product candidates was Phase 2 (reported in 22 IPO filings), followed by Phase 1 (reported in 21 IPO filings).

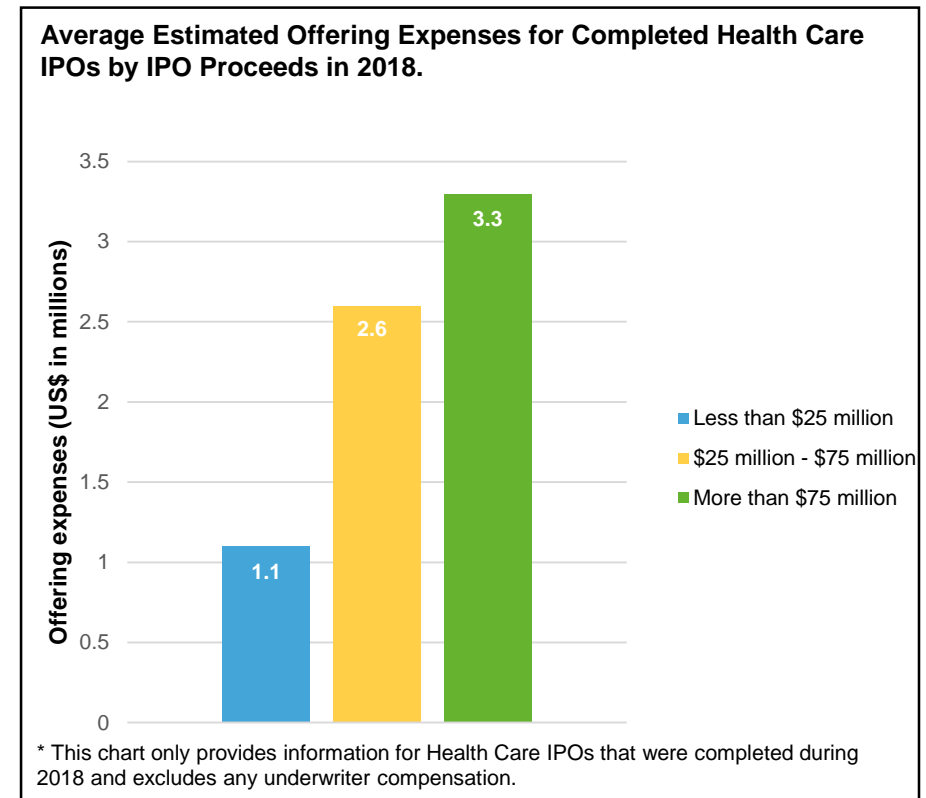
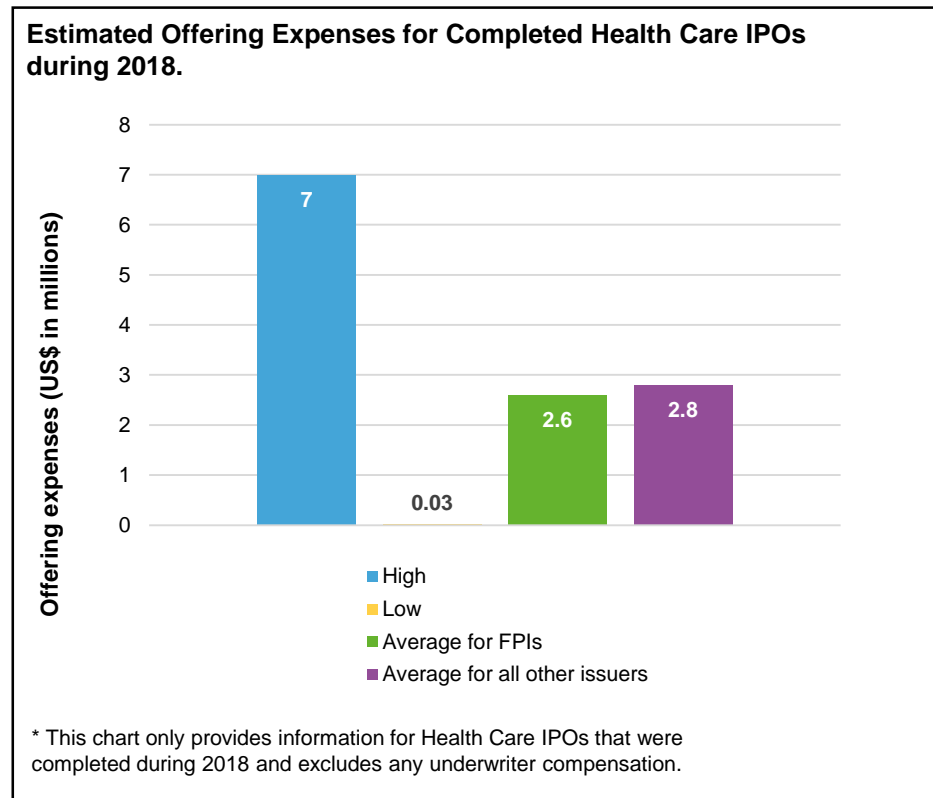
For the nine FPIs that reported developing product candidates in their Health Care IPO registration statements, four companies reported lead candidates in Phase 2.



ESTIMATED OFFERING EXPENSES

Estimated offering expenses (excluding underwriter compensation) for Health Care IPOs completed during 2018 varied widely, with an average amount of approximately \$2.78 million (up from US\$2.5 million in 2017). During 2018, average estimated offering expenses reported by FPIs were slightly lower than those reported by all other companies.

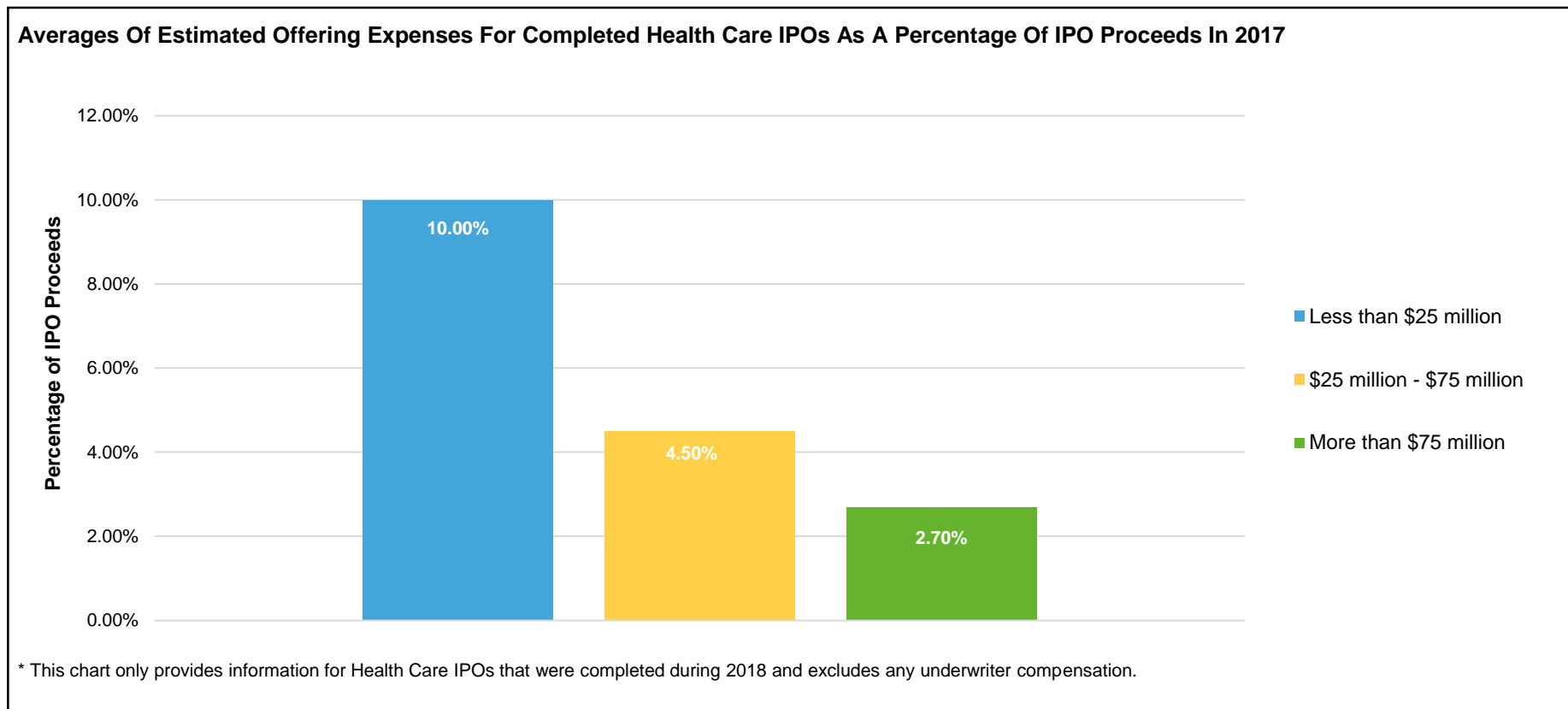
Although average estimated offering expenses generally did increase with IPO proceeds, the increases in these expenses did not appear to be fully proportionate to increases in deal size.



ESTIMATED OFFERING EXPENSES

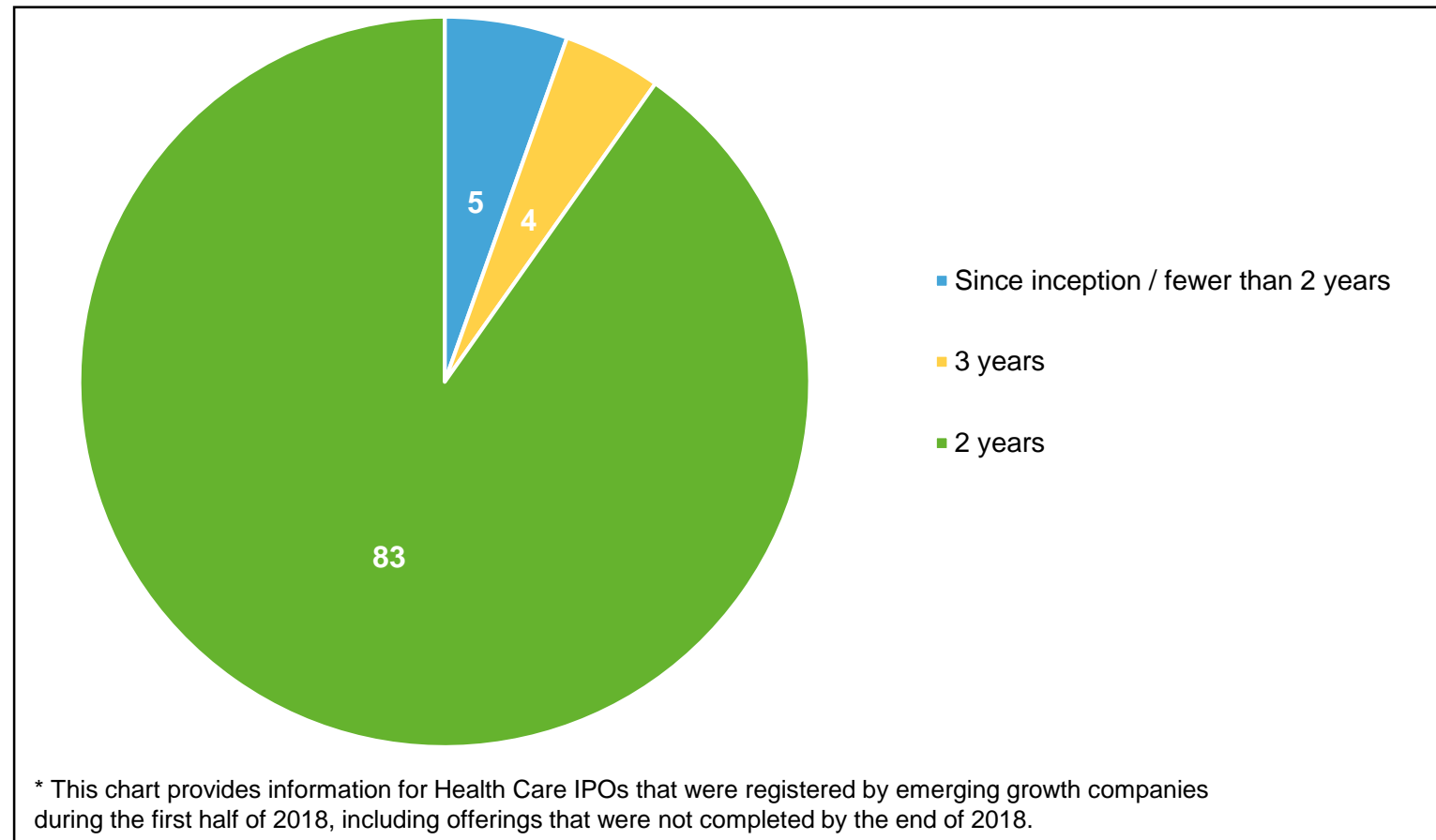
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When looking at the averages of estimated offering expenses as a percentage of IPO proceeds for three different categories of deal sizes, offering expenses tend to represent a significantly smaller portion of IPO proceeds for Health Care IPOs that raised more than US\$75 million proceeds as compared to Health Care IPOs that raised US\$75 million or less in proceeds.



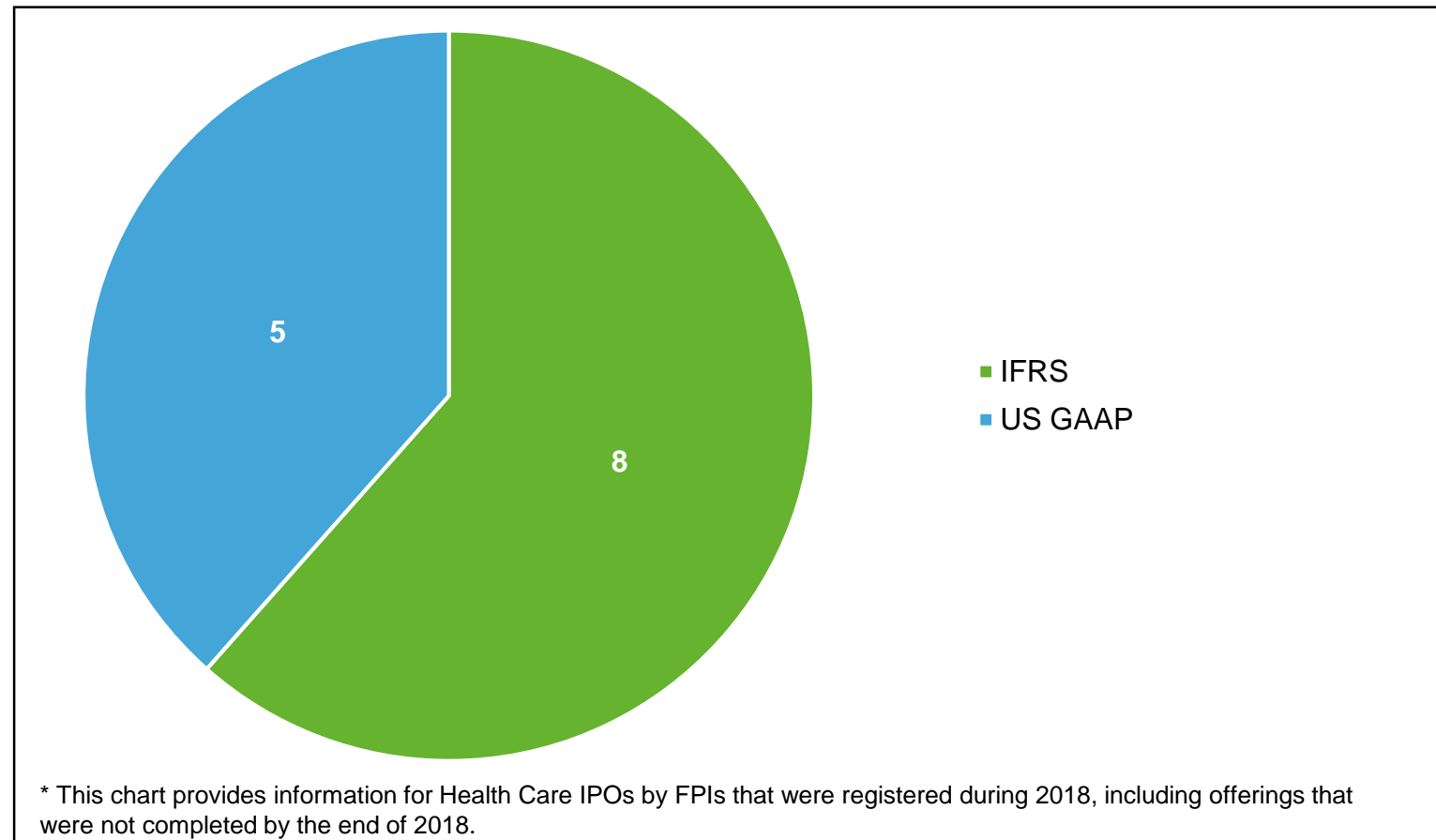
NUMBER OF YEARS PRESENTED IN AUDITED FINANCIAL STATEMENTS BY EMERGING GROWTH COMPANIES

All of the companies filing registration statements for Health Care IPOs during 2018 disclosed that they were emerging growth companies. Approximately 90% of these took advantage of the JOBS Act relief that permits filing audited financial statements for two years rather than three.



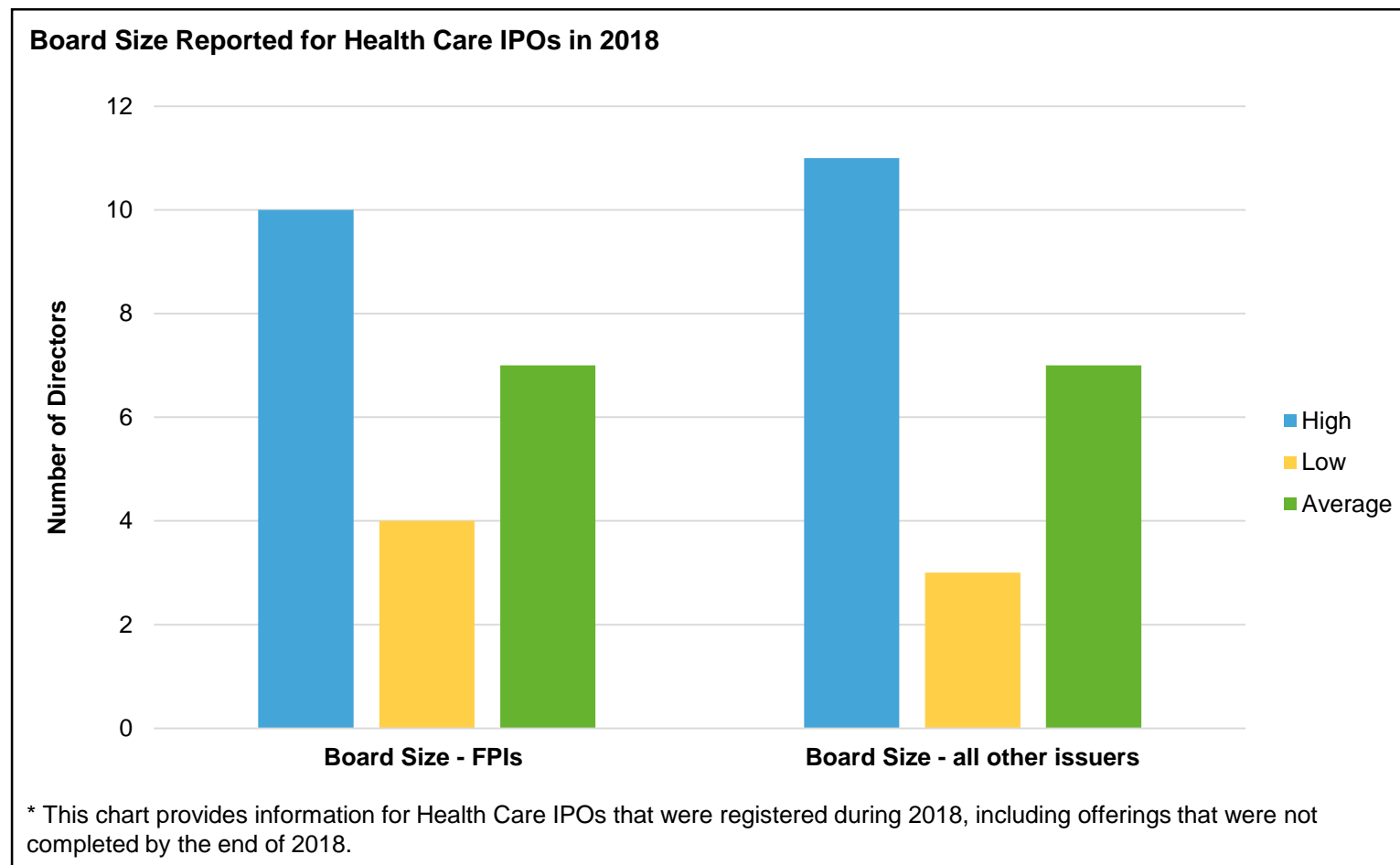
PRESENTATION OF FINANCIAL STATEMENTS BY FPIs

Eight of the FPIs that filed Health Care IPO registration statements during 2018 reported their financial statements using IFRS. The remainder chose to report their financial statements using US GAAP. None choose to report using home country GAAP with a reconciliation to US GAAP.



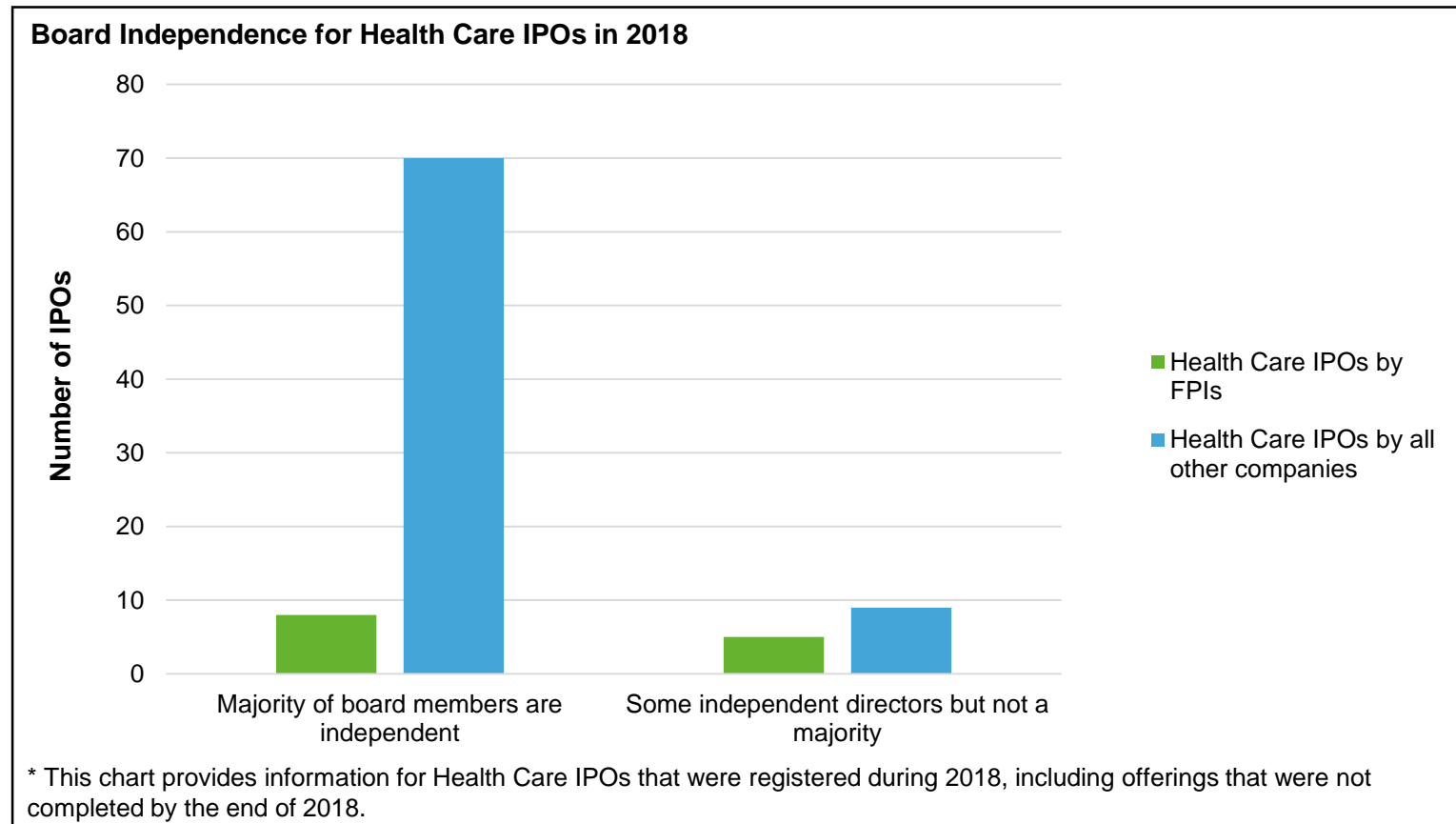
BOARD SIZE

As during 2017, for companies filing registration statements for Health Care IPOs during 2018, the average board size was approximately seven directors for both FPIs and all other types of issuers.



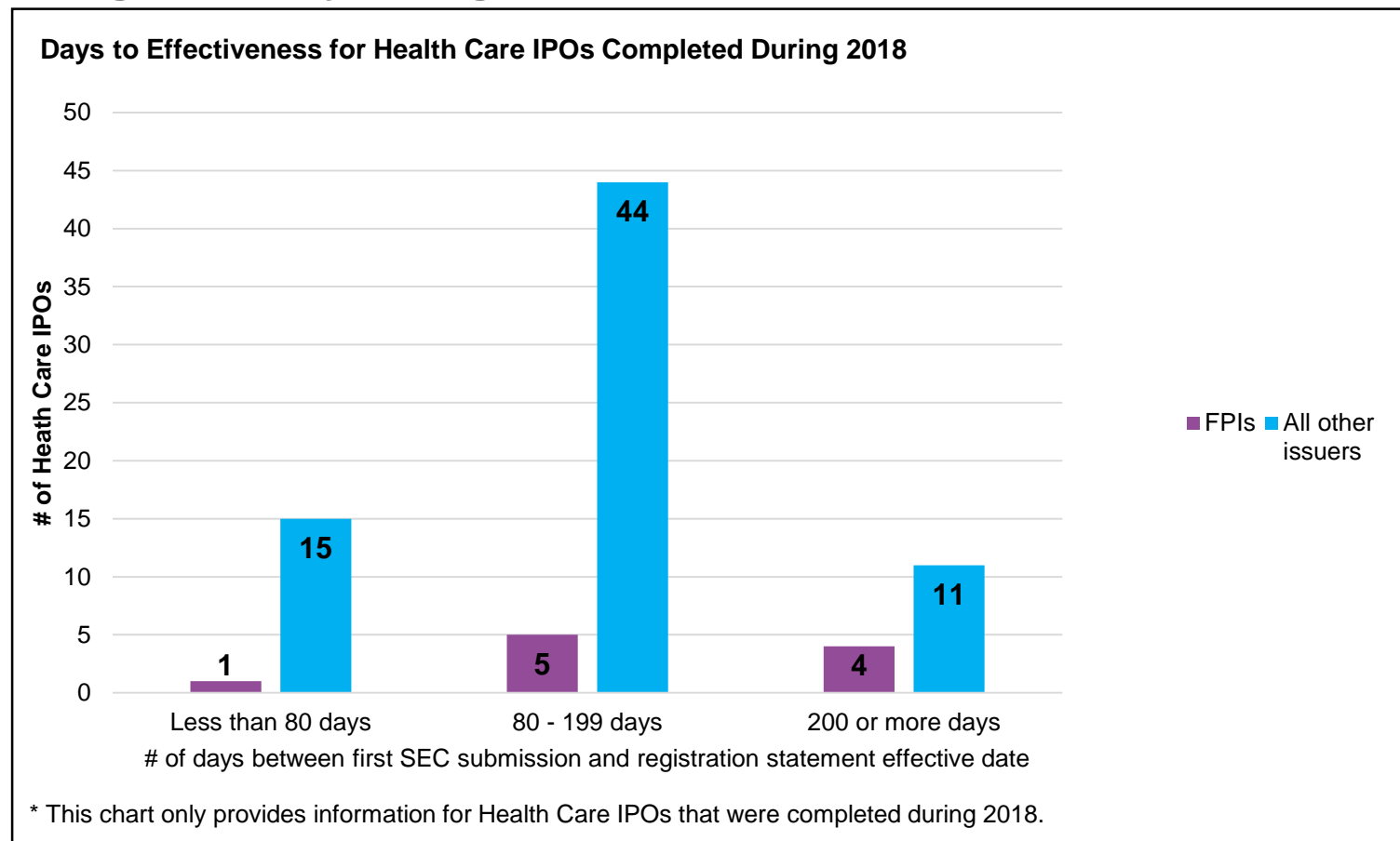
BOARD INDEPENDENCE

Among the companies filing registration statements for Health Care IPOs during 2018, 70 of the companies using Form S-1 for their Health Care IPOs reported that a majority of their board members were independent. While not strictly required to comply with US stock exchange requirements regarding board independence, eight FPIs reported that a majority of their board members were independent as well.



DAYS TO EFFECTIVENESS

During 2018, the time period from the first registration statement submission to the SEC (typically as a confidential draft registration statement) through the effective date of the registration statement lasted less than 200 days for 65 issuers (including six FPIs). Of these, 16 companies (including one FPI) achieved effectiveness in less than 80 days. The average number of days from first submission to effectiveness for Health Care IPOs during 2018 was approximately 150 days, significantly down from an average of 232 days during 2017.

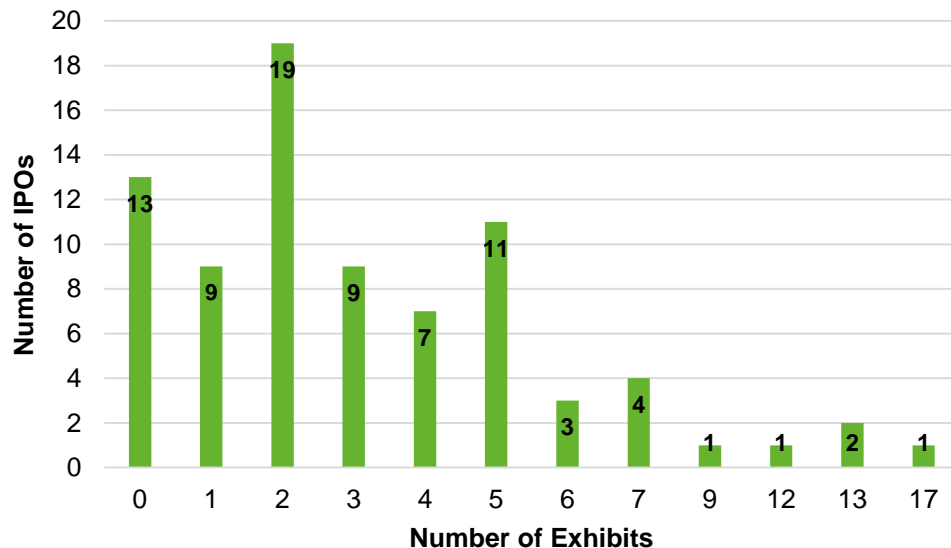


CONFIDENTIAL TREATMENT REQUESTS

As in 2017, the SEC staff granted requests for the confidential treatment of sensitive information in registration statement exhibits for over 80% of the completed Health Care IPOs during 2018. It was most common for a company to request confidential treatment with respect to sensitive information contained in only two exhibits to the registration statement. In addition, a total of 28 Health Care IPO companies received confidential treatment with respect to sensitive information contained in either three, four or five exhibits to their registration statements.

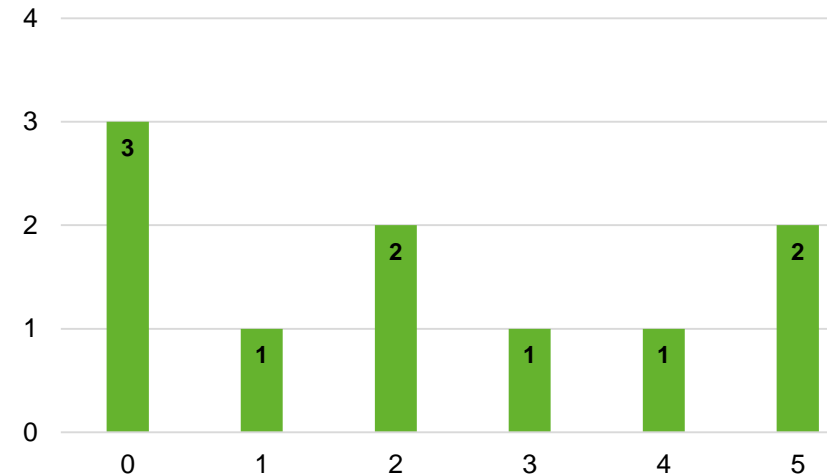
During 2018, the SEC staff granted requests for the confidential treatment of sensitive information in registration statement exhibits for approximately three quarters of the Health Care IPO completed by FPIs.

Number of Registration Statement Exhibits per Health Care IPO with Information for Which Confidential Treatment Was Granted in 2018



* This chart only provides information for Health Care IPOs that were completed during 2018.

Number of Registration Statement Exhibits per Health Care IPO by FPIs with Information for which Confidential Treatment was Granted in 2018



* This chart only provides information for Health Care IPOs that were completed by FPIs during 2018.

METHODOLOGY

SURVEY METHODOLOGY

The data points presented in this survey were gathered using a variety of sources, including, but not limited to registration statements on Form S-1 or Form F-1 (and any related final prospectuses) filed with the US Securities and Exchange Commission (SEC) during 2018. We excluded from our survey any public offerings of shares for which no US stock exchange listing was sought.

For purposes of this survey, we classified each non-US company that registered its IPO using a Form F-1 as a foreign private issuer (FPI). We made no independent determination as to whether any such company qualified for FPI status.

We identified companies as part of the health care sector based on the business descriptions provided in their registration statements. We limited our survey to health care services and products for people, and did not include companies developing or commercializing veterinary products. A list of the companies that we included in our survey follows in [Annex A](#).

Information presented regarding Health Care IPOs registered during 2018 includes information from several proposed IPOs that were not completed during 2018. To the extent that information is presented with respect to completed Health Care IPOs, such information does not reflect the proposed IPOs that were not completed during 2018.

Information presented in this survey regarding offering proceeds for completed Health Care IPOs is based on the price to the public and the number of shares offered, as reflected on the cover page of the final prospectus (to the extent available), and does not reflect any reductions for underwriter compensation or other offering expenses. In addition, such amounts do not reflect the exercise of the underwriter's overallotment option.

Information presented in this survey regarding estimated offering expenses for (1) Form S-1 filers is based on information provided in Part II of their registration statements and (2) FPIs is based on the information provided in a

section of their prospectus typically entitled "Expenses of This Offering" or "Expenses Relating to This Offering".

Information presented in this survey regarding grants of confidential treatment for sensitive information contained in registration statement exhibits is based on confidential treatment orders published by the SEC via its EDGAR database.



ANNEX A - HEALTH CARE IPOS COMPLETED DURING 2018

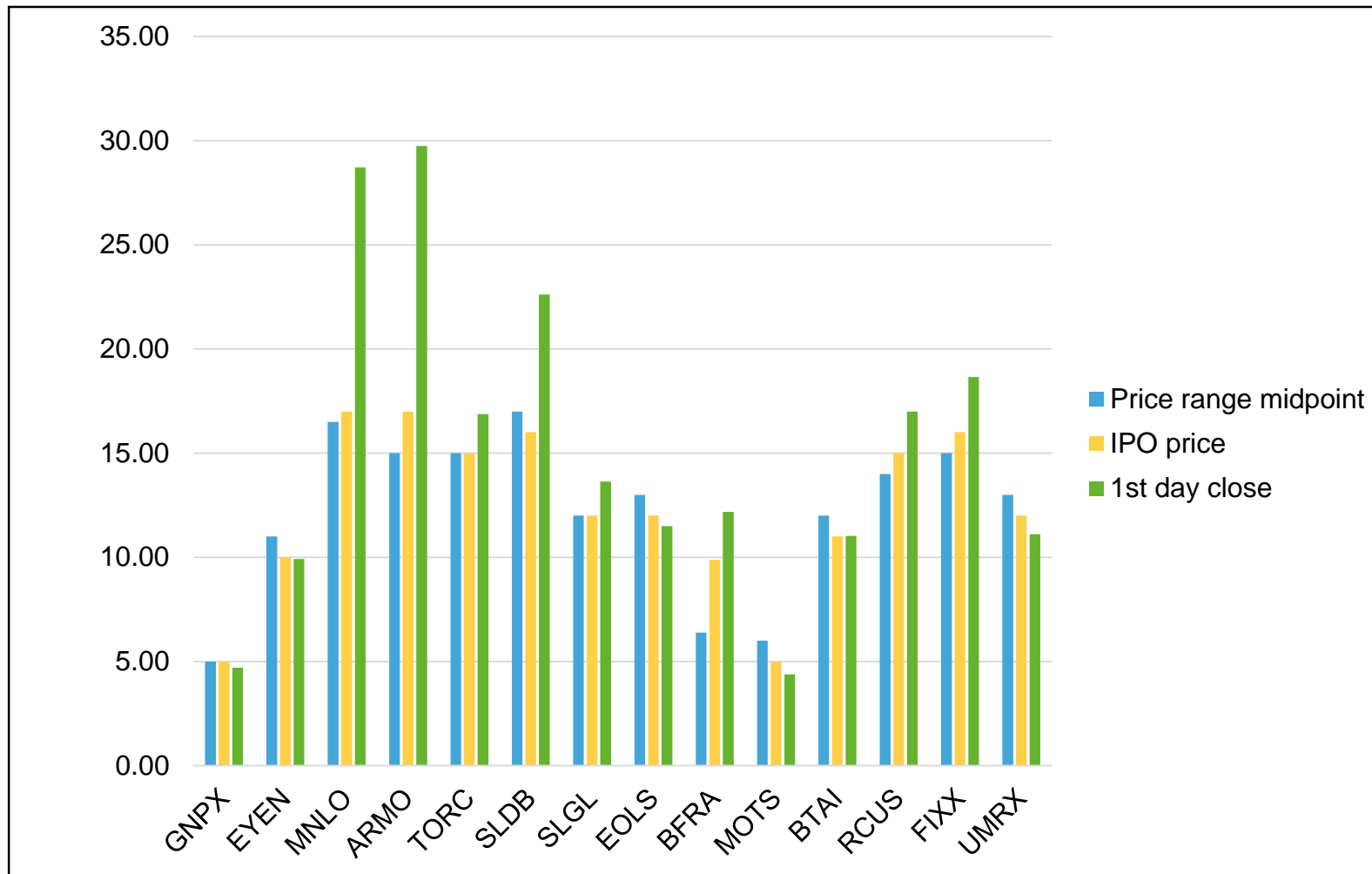
1ST QUARTER 2018

Issuer	Jurisdiction of Incorporation	US Exchange	Ticker Symbol	IPO Price (USD)	IPO Proceeds (USD)
Genprex, Inc.	Delaware	Nasdaq Capital Market	GNPX	5.00	6,400,000
Eyenovia, Inc.	Delaware	Nasdaq Capital Market	EYEN	10.00	27,300,000
Menlo Therapeutics Inc.	Delaware	Nasdaq Global Select Market	MNLO	17.00	119,000,000
ARMO BioSciences, Inc.	Delaware	Nasdaq Global Select Market	ARMO	17.00	128,000,004
resTORbio, Inc.	Delaware	Nasdaq Global Select Market	TORC	15.00	85,000,005
Solid Biosciences, Inc.	Delaware	Nasdaq Global Select Market	SLDB	16.00	125,000,000
Sol-Gel Technologies Ltd. (FPI)	Israel	Nasdaq Global Select Market	SLGL	12.00	75,000,000
Evolus, Inc.	Delaware	Nasdaq Global Market	EOLS	12.00	60,000,000
BioFrontera AG (FPI)	Germany	Nasdaq Capital Market	BFRA	9.88	12,004,200
Motus GI Holdings, Inc.	Delaware	Nasdaq Capital Market	MOTS	5.00	17,500,000
BioXcel Therapeutics, Inc.	Delaware	Nasdaq Capital Market	BTAI	11.00	59,999,995
Arcus Biosciences, Inc.	Delaware	New York Stock Exchange	RCUS	15.00	120,000,000
Homology Medicines, Inc.	Delaware	Nasdaq Global Select Market	FIXX	16.00	144,000,000
Unum Therapeutics Inc.	Delaware	Nasdaq Global Select Market	UMRX	12.00	69,240,000

(FPI) - This non-US company qualified for foreign private issuer status and related regulatory benefits in connection with its IPO.

1ST QUARTER 2018

IPO PRICING AND FIRST DAY CLOSE



2ND QUARTER 2018

Issuer	Jurisdiction of Incorporation	US Exchange	Ticker Symbol	IPO Price (USD)	IPO Proceeds (USD)
MorphoSys AG ^(FPI)	Germany	Nasdaq Global Market	MOR	25.04	199,283,760
Unity Biotechnology, Inc.	Delaware	Nasdaq Global Select Market	UBX	17.00	85,000,000
Inspire Medical Systems, Inc.	Delaware	New York Stock Exchange	INSP	16.00	108,000,000
ASLAN Pharmaceuticals Ltd ^(FPI)	Cayman Islands	Nasdaq Global Market	ASLN	7.03	42,180,000
Evelo Biosciences, Inc.	Delaware	Nasdaq Global Select Market	EVLO	16.00	85,000,000
Scholar Rock Holding Corporation	Delaware	Nasdaq Global Select Market	SRRK	14.00	75,040,000
Kiniksa Pharmaceuticals, Ltd.	Bermuda	Nasdaq Global Select Market	KNSA	18.00	152,599,986
Iterum Therapeutics plc	Ireland	Nasdaq Global Market	ITRM	13.00	79,950,000
Hancock Jaffe Laboratories, Inc.	Delaware	Nasdaq Capital Market	HJLI	5.00	7,500,000
MeiraGTx Holdings plc	Cayman Islands	Nasdaq Global Select Market	MGTX	15.00	75,000,000
Verrica Pharmaceuticals Inc.	Delaware	Nasdaq Global Market	VRCA	15.00	75,000,000
Eidos Therapeutics, Inc.	Delaware	Nasdaq Global Select Market	EIDX	17.00	106,250,000
Kezar Life Sciences, Inc.	Delaware	Nasdaq Global Select Market	KZR	15.00	75,000,000

(FPI) - This non-US company qualified for foreign private issuer status and related regulatory benefits in connection with its IPO.

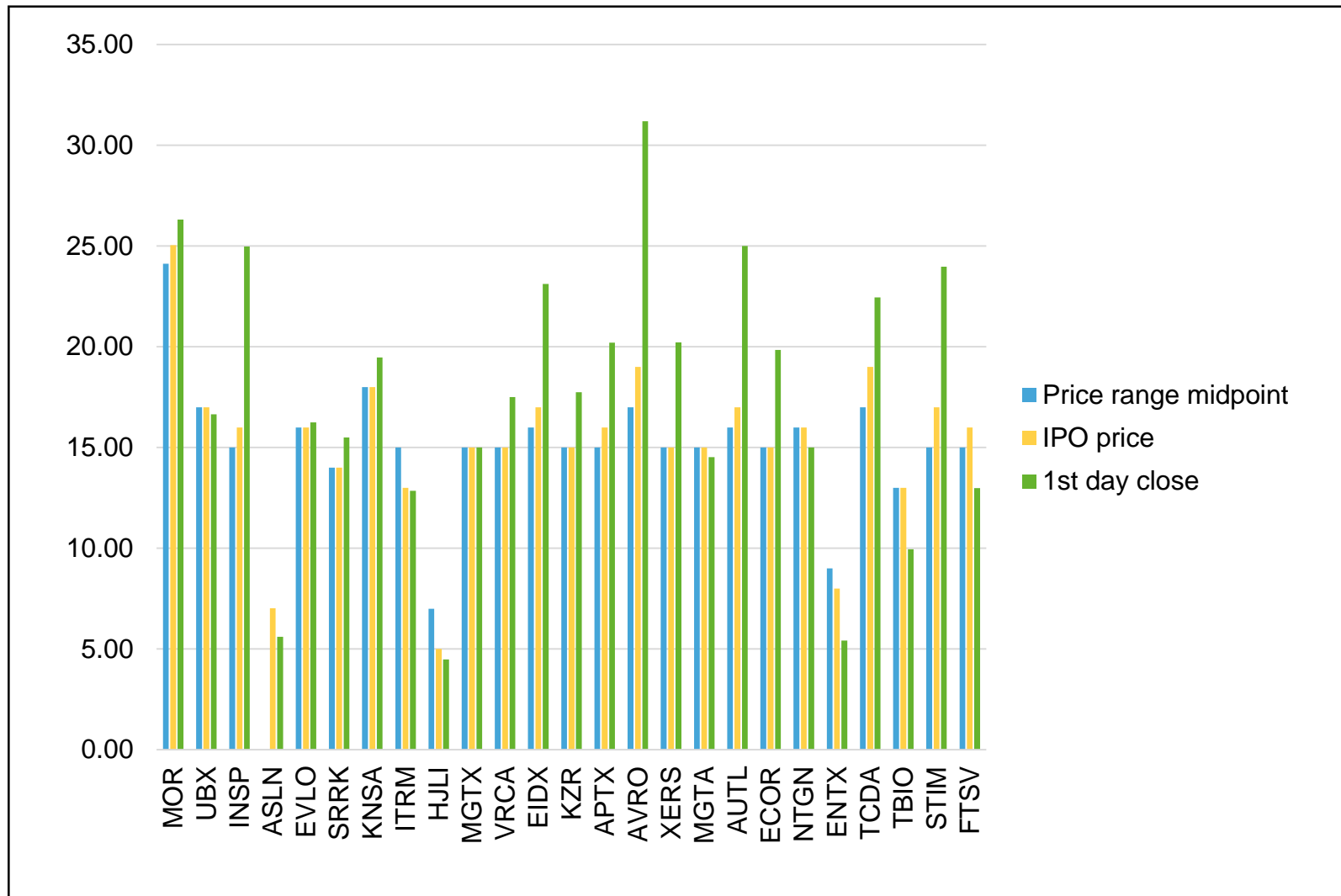
2ND QUARTER 2018

Issuer	Jurisdiction of Incorporation	US Exchange	Ticker Symbol	IPO Price (USD)	IPO Proceeds (USD)
Aptinyx Inc.	Delaware	Nasdaq Global Select Market	APTX	16.00	102,399,984
AVROBIO, Inc.	Delaware	Nasdaq Global Select Market	AVRO	19.00	99,711,202
Xeris Pharmaceuticals, Inc.	Delaware	Nasdaq Global Select Market	XERS	15.00	85,500,000
Magenta Therapeutics, Inc.	Delaware	Nasdaq Global Market	MGTA	15.00	100,000,005
Autolus Therapeutics plc ^(FPI)	United Kingdom	Nasdaq Global Select Market	AUTL	17.00	150,000,010
ElectroCore, Inc.	Delaware	Nasdaq Global Market	ECOR	15.00	72,540,000
Neon Therapeutics, Inc.	Delaware	Nasdaq Global Select Market	NTGN	16.00	100,000,000
Entera Bio Ltd. ^(FPI)	Israel	Nasdaq Capital Market	ENTX	8.00	11,200,000
Tricida, Inc.	Delaware	Nasdaq Global Select Market	TCDA	19.00	222,300,000
Translate Bio, Inc.	Delaware	Nasdaq Global Select Market	TBIO	13.00	121,550,000
Neuronetics, Inc.	Delaware	Nasdaq Global Market	STIM	17.00	93,500,000
Forty Seven, Inc.	Delaware	Nasdaq Global Select Market	FTSV	16.00	112,560,000

(FPI) - This non-US company qualified for foreign private issuer status and related regulatory benefits in connection with its IPO.

2ND QUARTER 2018

IPO PRICING AND FIRST DAY CLOSE



3RD QUARTER 2018

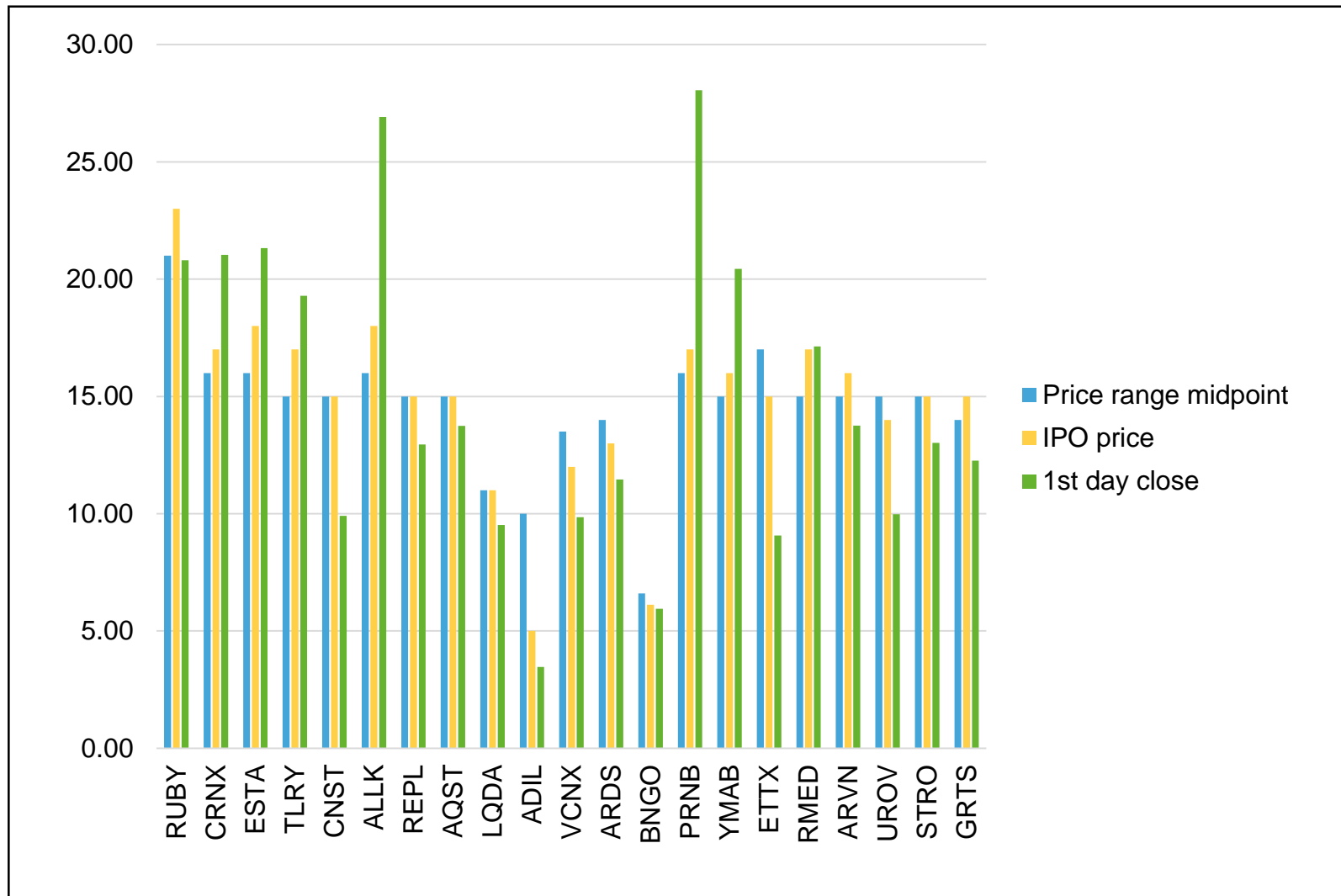
Issuer	Jurisdiction of Incorporation	US Exchange	Ticker Symbol	IPO Price (USD)	IPO Proceeds (USD)
Rubius Therapeutics, Inc.	Delaware	Nasdaq Global Select Market	RUBY	23.00	241,109,000
Crinetics Pharmaceuticals, Inc.	Delaware	Nasdaq Global Select Market	CRNX	17.00	102,000,000
Establishment Labs Holdings Inc.	British Virgin Islands	Nasdaq Capital Market	ESTA	18.00	66,874,986
Tilray, Inc.	Delaware	Nasdaq Global Select Market	TLRY	17.00	153,000,000
Constellation Pharmaceuticals, Inc.	Delaware	Nasdaq Global Select Market	CNST	15.00	60,000,000
Allakos Inc.	Delaware	Nasdaq Global Select Market	ALLK	18.00	128,399,994
Replimune Group, Inc.	Delaware	Nasdaq Global Select Market	REPL	15.00	100,500,000
Aquestive Therapeutics, Inc.	Delaware	Nasdaq Global Market	AQST	15.00	67,500,000
Liquidia Technologies, Inc.	Delaware	Nasdaq Capital Market	LQDA	11.00	50,000,005
ADial Pharmaceuticals, Inc.	Delaware	Nasdaq Capital Market	ADIL	5.00	7,320,000
Vaccinex, Inc.	Delaware	Nasdaq Global Market	VCNX	12.00	40,000,008
Aridis Pharmaceuticals, Inc.	Delaware	Nasdaq Capital Market	ARDS	13.00	26,000,000
Bionano Genomics, Inc.	Delaware	Nasdaq Capital Market	BNGO	6.13	20,580,000

3RD QUARTER 2018

Issuer	Jurisdiction of Incorporation	US Exchange	Ticker Symbol	IPO Price (USD)	IPO Proceeds (USD)
Principia Biopharma Inc.	Delaware	Nasdaq Global Select Market	PRNB	17.00	106,250,000
Y-mAbs Therapeutics, Inc.	Delaware	Nasdaq Global Select Market	YMAB	16.00	96,000,000
Entasis Therapeutics Holdings Inc.	Delaware	Nasdaq Global Market	ETTX	15.00	75,000,000
Ra Medical Systems, Inc.	Delaware	New York Stock Exchange	RMED	17.00	66,300,000
Arvinas, Inc.	Delaware	Nasdaq Global Select Market	ARVN	16.00	120,000,000
Urovant Sciences Ltd.	Bermuda	Nasdaq Global Select Market	UROV	14.00	140,000,000
Sutro Biopharma, Inc.	Delaware	Nasdaq Global Market	STRO	15.00	85,005,000
Gritstone Oncology, Inc.	Delaware	Nasdaq Global Select Market	GRTS	15.00	100,000,005

3RD QUARTER 2018

IPO PRICING AND FIRST DAY CLOSE



4TH QUARTER 2018

Issuer	Jurisdiction of Incorporation	US Exchange	Ticker Symbol	IPO Price (USD)	IPO Proceeds (USD)
Guardant Health, Inc.	Delaware	Nasdaq Global Select Market	GH	19.00	237,500,000
Kodiak Sciences Inc.	Delaware	Nasdaq Global Market	KOD	10.00	90,000,000
Allogene Therapeutics, Inc.	Delaware	Nasdaq Global Select Market	ALLO	18.00	324,000,000
Equillium, Inc.	Delaware	Nasdaq Global Market	EQ	14.00	65,380,000
SI-BONE, Inc.	Delaware	Nasdaq Global Market	SIBN	15.00	108,000,000
PhaseBio Pharmaceuticals, Inc.	Delaware	Nasdaq Global Market	PHAS	5.00	46,000,000
Osmotica Pharmaceuticals plc	Ireland	Nasdaq Global Select Market	OSMT	7.00	46,550,000
LogicBio Therapeutics, Inc.	Delaware	Nasdaq Global Market	LOGC	10.00	70,000,000
Gamida Cell Ltd. ^(FPI)	Israel	Nasdaq Global Market	GMDA	8.00	50,000,000
Axionics Modulation Technologies, Inc.	Delaware	Nadaq Global Select Market	AXNX	15.00	120,000,000
Twist Bioscience Corporation	Delaware	Nasdaq Global Select Market	TWST	14.00	70,000,000
Orchard Therapeutics plc ^(FPI)	United Kingdom	Nasdaq Global Select Market	ORTX	14.00	200,000,010

(FPI) - This non-US company qualified for foreign private issuer status and related regulatory benefits in connection with its IPO.

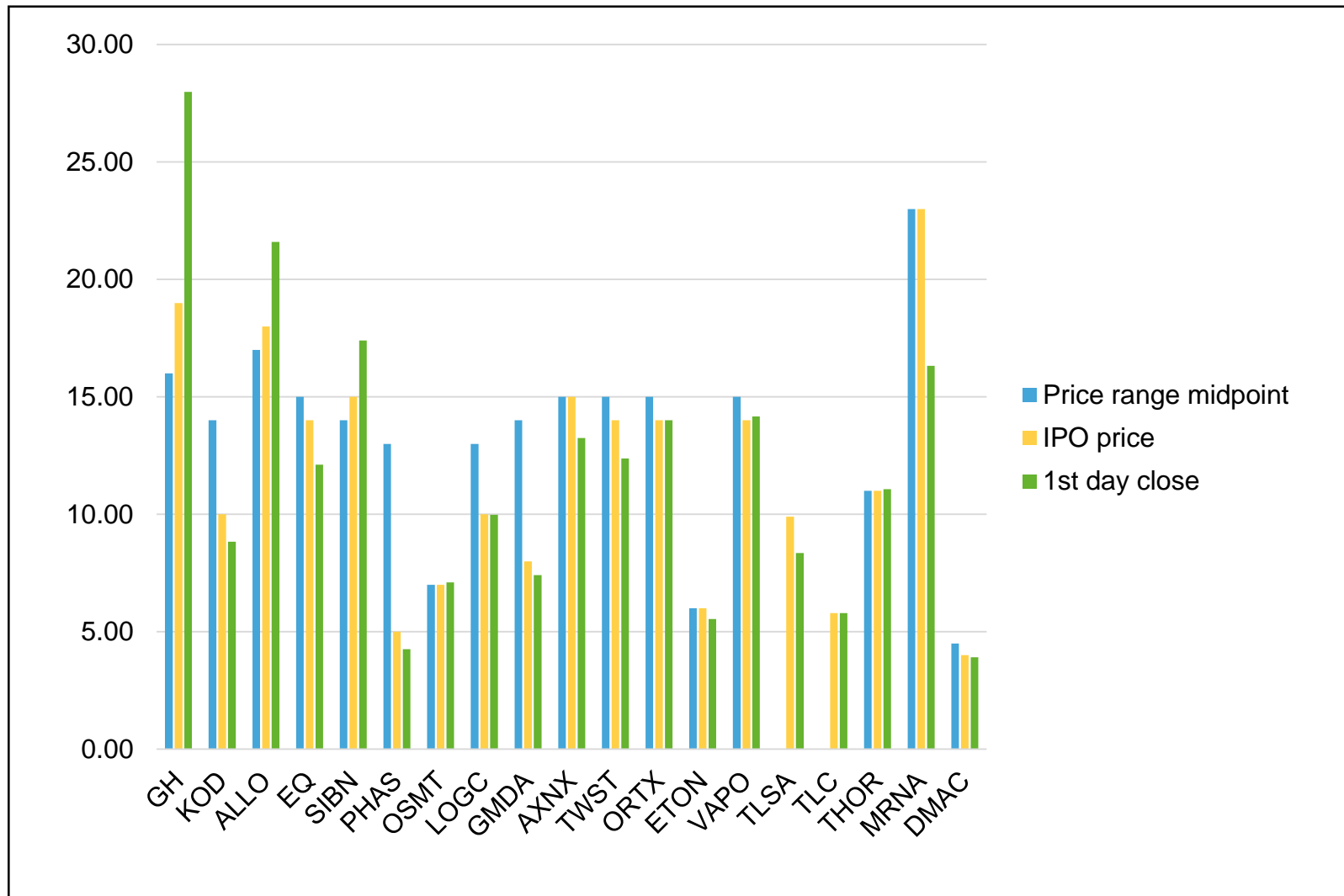
4TH QUARTER 2018

Issuer	Jurisdiction of Incorporation	US Exchange	Ticker Symbol	IPO Price (USD)	IPO Proceeds (USD)
Eton Pharmaceuticals, Inc.	Delaware	Nasdaq Global Market	ETON	6.00	21,600,000
Vapotherm, Inc.	Delaware	New York Stock Exchange	VAPO	14.00	56,000,000
Tiziana Life Sciences plc ^(FPI)	England and Wales	Nasdaq Global Market	TLSA	9.90	4,384,809
Taiwan Liposome Company, Ltd. ^(FPI)	Republic of China	Nasdaq Global Market	TLC	5.80	21,750,000
Synthorx, Inc.	Delaware	Nasdaq Global Market	THOR	11.00	131,039,997
Moderna, Inc.	Delaware	Nasdaq Global Select Market	MRNA	23.00	604,347,839
DiaMedica Therapeutics Inc.	Canada	Nasdaq Capital Market	DMAC	4.00	16,400,000

(FPI) - This non-US company qualified for foreign private issuer status and related regulatory benefits in connection with its IPO.

4TH QUARTER 2018

IPO PRICING AND FIRST DAY CLOSE



PENDING HEALTH CARE IPOs, NOT WITHDRAWN BY THE END OF 2018

Issuer	Jurisdiction of Incorporation	Proposed US Exchange Listing	Proposed Ticker Symbol	Proposed Aggregate Maximum Offering Amount (USD)
ProLung Inc.	Delaware	Nasdaq Capital Market	LUNG	\$8,050,000
Alzheon, Inc.	Delaware	Nasdaq Capital Market	ALZH	\$41,400,000
PolyPid Ltd. ^(FPI)	Israel	Nasdaq Global Market	POLY	\$92,000,000
Mereo Biopharma Group plc ^(FPI)	United Kingdom	Nasdaq Global Market	MPH	\$80,500,000
Stealth BioTherapeutics Corp ^(FPI)	Cayman Islands	Nasdaq Global Market	MITO	\$86,250,000
TCR2 Therapeutics Inc.	Delaware	Nasdaq Global Market	TCRR	\$100,000,000
Harpoon Therapeutics, Inc.	Delaware	Nasdaq Global Select Market	HARP	\$86,250,000
Gossamer Bio, Inc.	Delaware	Nasdaq Global Select Market	GOSS	\$264,500,000
Centrexion Therapeutics Corporation	Delaware	Nasdaq Global Select Market	CNTX	\$86,250,000
Hoth Therapeutics, Inc.	Nevada	Nasdaq Capital Market	HOTH	\$13,081,250
Arog Pharmaceuticals, Inc.	Delaware	Nasdaq Global Market	AROG	\$74,750,000
NGM Biopharmaceuticals, Inc.	Delaware	Nasdaq Global Select Market	NGM	\$75,000,000

(FPI) - This non-US company would have qualified for foreign private issuer status and related regulatory benefits in connection with an IPO.

KEY CONTACTS

US HEALTHCARE AND LIFE SCIENCES GROUP

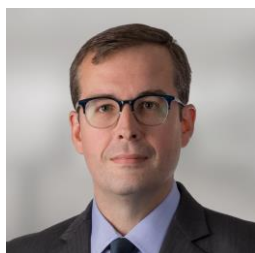
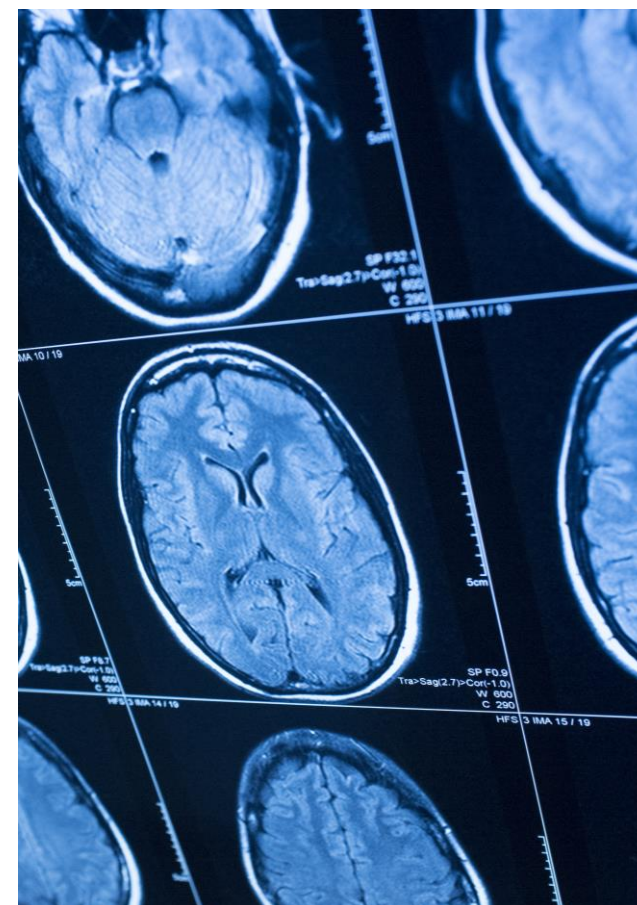
Our US Healthcare and Life Sciences group is a part of a single, integrated global Healthcare & Life Sciences sector, which combines an outstanding advisory and transactional track record with an in-depth understanding of industry developments.

Our international reach enables us to align the advice we provide with our clients' overall legal approach in other jurisdictions. It also ensures that legal solutions are presented with a uniform standard of excellence, as consistently as possible throughout the world.

Our sector approach ensures that our lawyers truly understand the healthcare and life sciences industry with its regulatory and commercial challenges. At the same time it avoids the build-up of silos between different areas of laws so that we are able to deliver to our clients commercially sound and legally robust solutions focused to their business objectives.

Having cultivated an expertise in the healthcare and life sciences industry over two decades and having worked with many of the world's leading and emerging pharmaceutical, biotechnology, medical device and healthcare services companies, we know the importance of anticipating regulatory and contractual issues in the context of corporate investment, finance, competition, strategy and operations.

If you would like to discuss this survey or have any related questions, please contact Per Chilstrom or any other members of your Clifford Chance client service team.



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