

Analysis of 2018-2019 PharmD Industry Fellowships

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Introduction:

Approximately 14,500 pharmacists completed their degrees in 2017 compared to 7,000 in the year 2000.¹ Unfortunately, there has not been a corresponding increase in jobs for pharmacists, or an offset in pharmacists leaving the workforce. These statistics contribute to student pharmacists and recent graduates pursuing career paths in non-traditional practice settings such as the pharmaceutical industry.

Industry provides an environment where pharmacists can utilize their clinical training and experience to impact larger patient populations as compared to traditional direct patient care settings. Additionally, for those pharmacists who are interested in learning more about the business of healthcare, industry provides opportunities to integrate clinical training with commercial experiences in a corporate environment.

While traditional pharmacy practice opportunities may be stagnating, the pharmaceutical industry has experienced a record high number of new product approvals, which has contributed to an increase in industry employment opportunities, including roles for pharmacists. The FDA Center for Drug Evaluation and Research (CDER) approved 46 new molecular entities (NMEs) and biologics in 2017 and the data for approvals in 2018 appear to be on pace to exceed 2017.² This robust R&D environment provides increasing professional opportunities within the industry and is also likely contributing to the continued growth of pharmaceutical industry fellowships.

As a result, pharmaceutical companies continue to fill their talent pipelines with pharmacists as they recognize that PharmDs are among the best-equipped professionals to contribute to the development, commercialization, promotion, and optimal use of medications.

Currently, 68 companies train PharmDs through Post-Doctoral Industry Fellowship Programs. The number of PharmDs participating in fellowships has grown significantly over the past decade and has reached a milestone of 500 fellows this year. Of the 11,000+ pharmacists currently employed in the US pharmaceutical industry, more than 25% have completed a PharmD Industry Fellowship.³

The objectives of this annual report from the Industry Pharmacists Organization (IPhO) are to describe: i) characteristics of current 2018-19 fellowship programs, and ii) emerging trends in PharmD Industry Fellowships based on 5-year longitudinal data. This valuable report is designed to increase awareness among all fellowship program stakeholders, including students and recent graduates interested in industry, current fellows, fellowship program administrators, and fellowship preceptors and leaders at sponsor companies.

Methods:

IPhO maintains a comprehensive, proprietary database of all PharmD fellows currently participating in PharmD Industry Fellowship Programs. Data is obtained from a variety of publicly available sources, and combined with information proprietary to IPhO.

The following data fields were utilized and evaluated:

1. Fellowship Department/Functional Area
2. Fellowship Sponsor Company
3. Fellowship Program Affiliation
4. Fellowship Program Duration
5. Fellows' Alma Mater

Data from the 2018-19 analysis were also compared with results from similar analyses from 2014-15, 2015-16, 2016-17, and 2017-18^{4,5,6,7} to yield 5-year trends.

1. 5-Year Trend in Fellowship Program Size
2. 5-Year Trend in Fellowship Functional Area
3. 5-year Trend in Sponsor Companies

Results and Discussion:

Results are described in the following sections:

A. Characterization of PharmD Fellows in 2018-19 Industry Fellowship Programs

1. Fellows by Department/Functional Area
2. Fellowship Sponsor Company
3. Fellowship Program Affiliation
4. Fellowship Program Duration
5. Fellows' Alma Mater

B. Five-Year Trends in Fellowship Positions

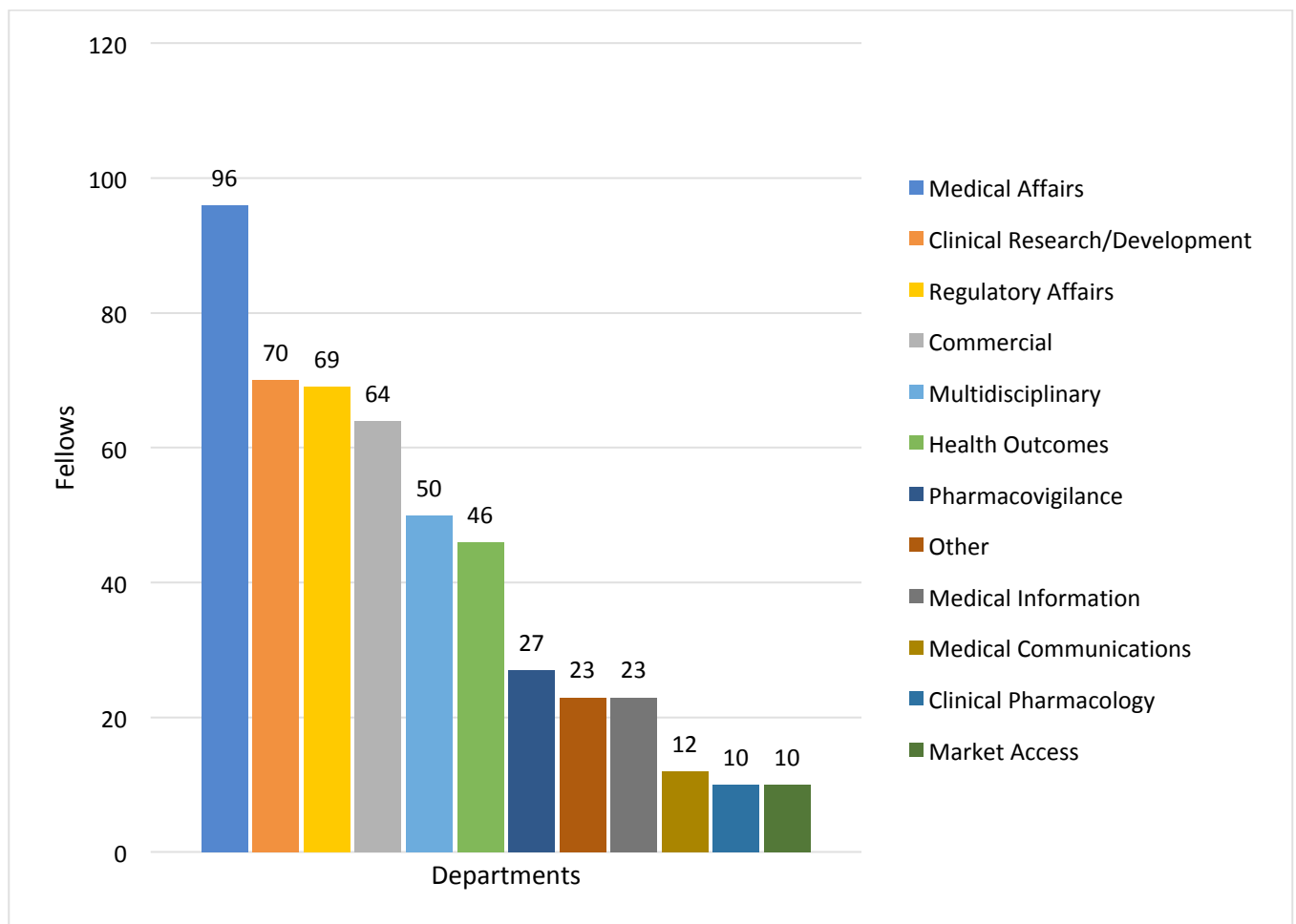
1. 5-Year Trends in Number of Fellowship Positions
2. 5-Year Trends in Fellowship Department/Functional Area
3. 5-Year Trends in Fellowship Sponsor Company

Characterization of PharmD Fellows in 2018-19 Industry Fellowship Programs

1. Fellowship Department/Functional Area

The top individual fellowship functional areas in 2018-19 included Medical Affairs (n=96), Clinical Research/Development (n=70), Regulatory Affairs (n=69), Commercial (n=64), and Health Outcomes (n=46). Fifty fellowships were multi-disciplinary in nature, which allow the fellow to rotate through multiple functional areas. Functional areas defined as “Other” included areas that did not fall into the pre-defined categories, such as medical writing, quality assurance, or knowledge management. PharmDs continue to be very well equipped to fulfill many different fellowship roles in the pharmaceutical industry according to these data.

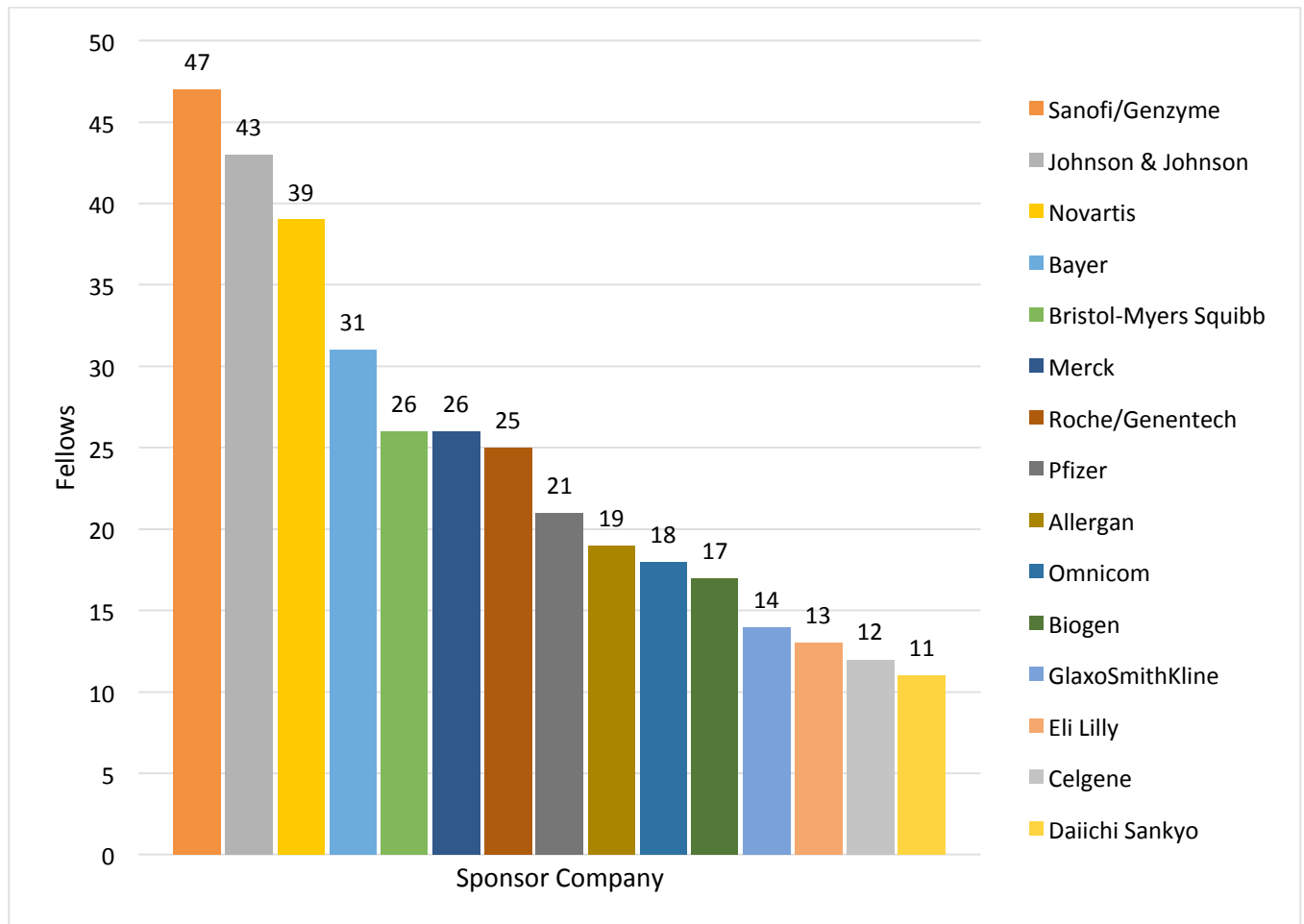
Figure 1: Fellows by Department/Functional Areas (N=500 Fellows)



2. Fellowship Sponsor Company

Of the 65 companies sponsoring fellows in 2018-19, the top five companies with regard to number of fellows were: Sanofi/Sanofi Genzyme (n=47), Johnson & Johnson (n=43), Novartis (n=39), Bayer (n=31), and Bristol-Myers Squibb and Merck (both n=26). The top 15 sponsoring companies are represented in the figure below. Several of these sponsors have maintained a position as a top employer of PharmD Fellows over several years, suggesting that PharmDs are highly valued within these companies (see “5-Year Trend in Fellowship Positions Offered Through Various Sponsor Companies”)

Figure 2: Fellows by Sponsor Companies* (n=362 Fellows in Top 15 Companies)

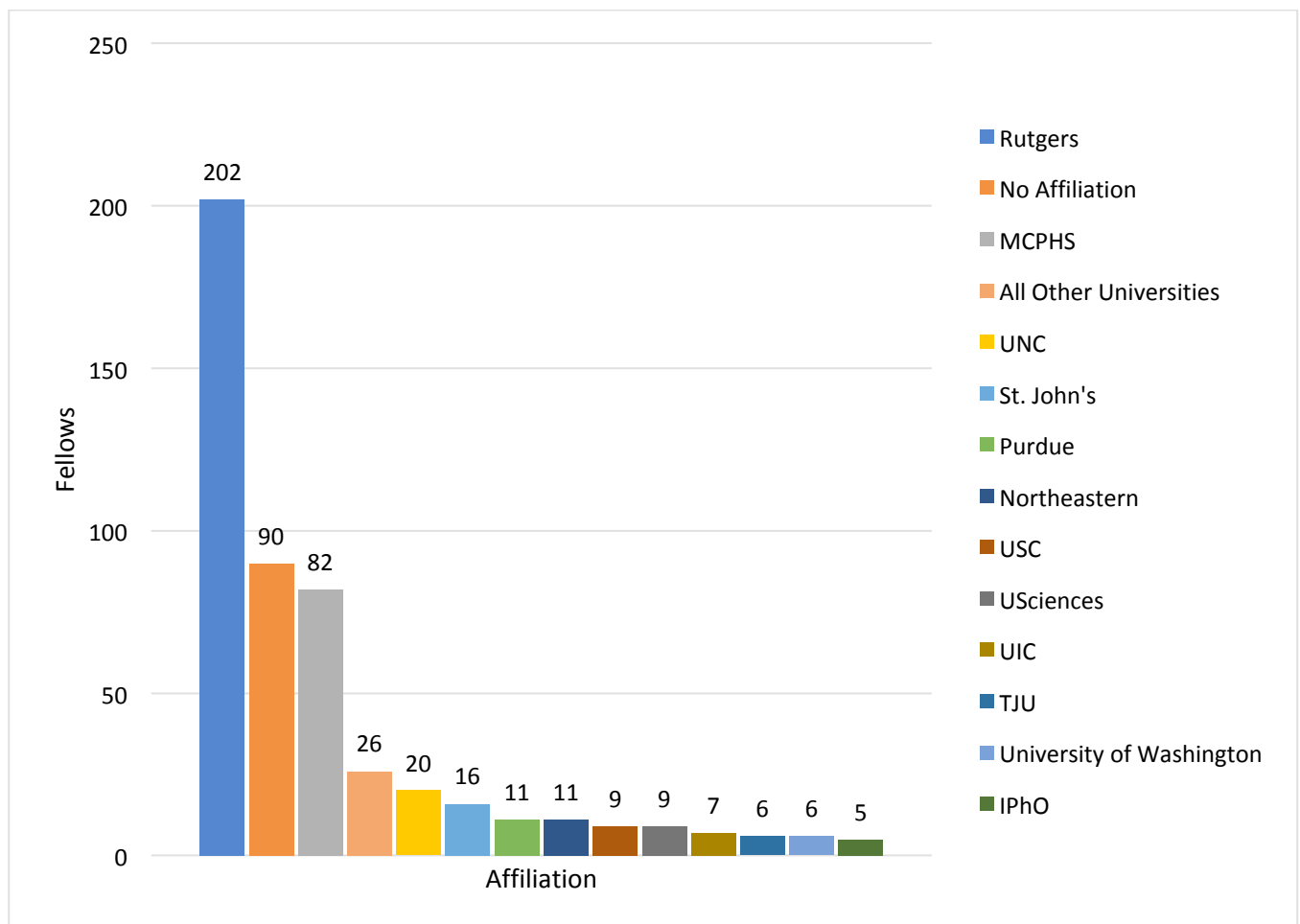


*The following sponsor companies were combined under: “Sanofi/Genzyme” – Sanofi, Genzyme, Pasteur, and Bioverativ; “Novartis” – Novartis and AveXis; “Johnson & Johnson” – Johnson & Johnson Consumer Inc, McNeil, Janssen and Actelion; “Roche/Genentech” – Roche and Genentech

3. Fellowship Program Affiliation

Overall, 82% (n=410) of all fellowship positions were offered through collaboration, or “affiliation” between two or more entities. The vast majority of positions offered through academic partners were Rutgers University (RU) (n=202) and MCPHS University (n=82). Together, the two programs employ over 50% of all current fellows. There was double digit growth in all program types in 2018-19 vs. 2017-18, including both affiliated and non-affiliated fellowships. Currently, 90 fellowship positions (18%) are offered through employers who do not have an affiliation with an academic institution. Possible reasons for this may include: monetary cost of affiliation, distance from affiliating university, significant time spent at academic institution away from the sponsor company, or a lack of sponsor interest in an academic affiliate. The largest non-affiliated fellowship program is the Omnicom Health Group Fellowship program (n=18).

Figure 3: Fellowship Programs with an Academic or Non-Academic Affiliation (N=500 Fellows)

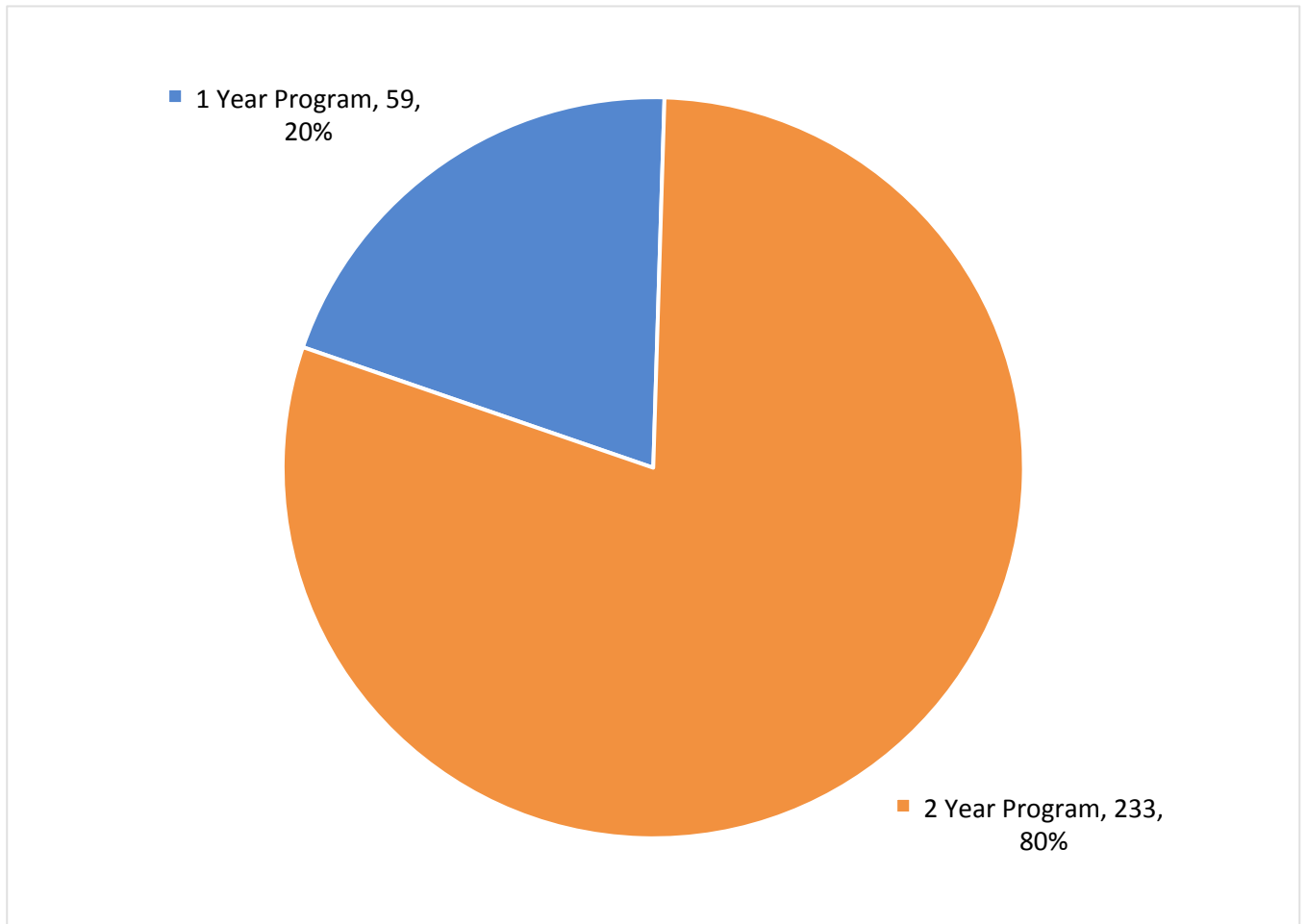


*Abbreviations: MCPHS –Massachusetts College of Pharmacy and Health Science; UNC – University of North Carolina; USC – University of Southern California; USciences – University of the Sciences; UIC – University of Illinois at Chicago; TJU – Thomas Jefferson University; IPhO – Industry Pharmacists Organization

4. Fellowship Program Duration

Of the 292 first-year fellows included in this study, 233 (80%) were in two-year programs versus 59 (20%) in one-year programs. Among all 500 fellows (including 2nd year fellows), 12% were in a one-year program.

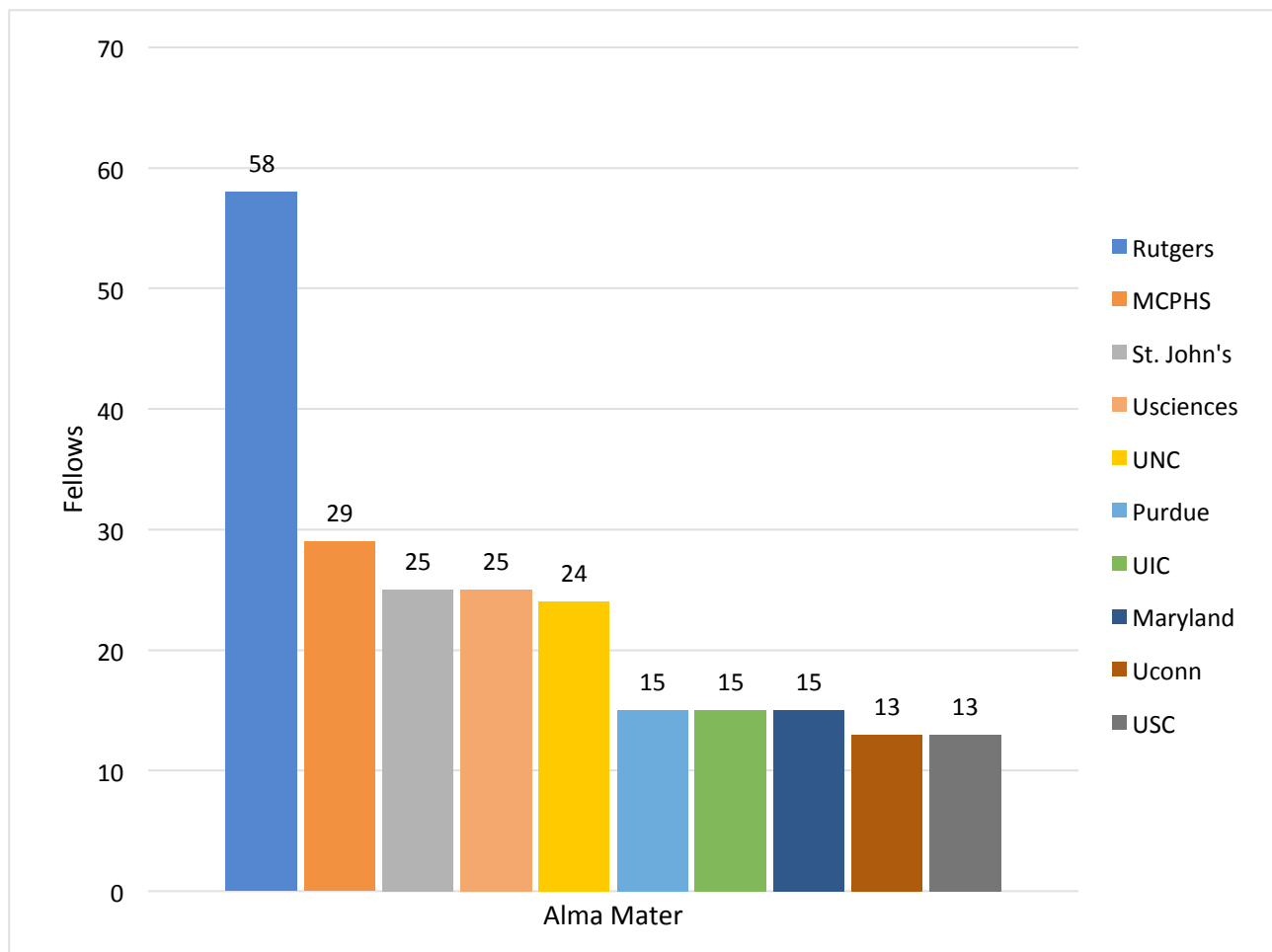
Figure 4: Fellowship Program Duration (N=292 First-year Fellows)



5. Fellows' Alma Mater

In 2018-19, over 80 unique pharmacy school alma maters were represented among the cohort of 500 fellows. The most common alma mater was Rutgers University (n=58) followed by MCPHS University (n=29), St. John's University (n=25), University of the Sciences in Philadelphia (n=24), and University of North Carolina at Chapel Hill (n=23). The top 10 most common alma maters are represented in the figure below.

Figure 5: Fellow's Alma Mater (N=232 Fellows in Top 10 Alma Maters)



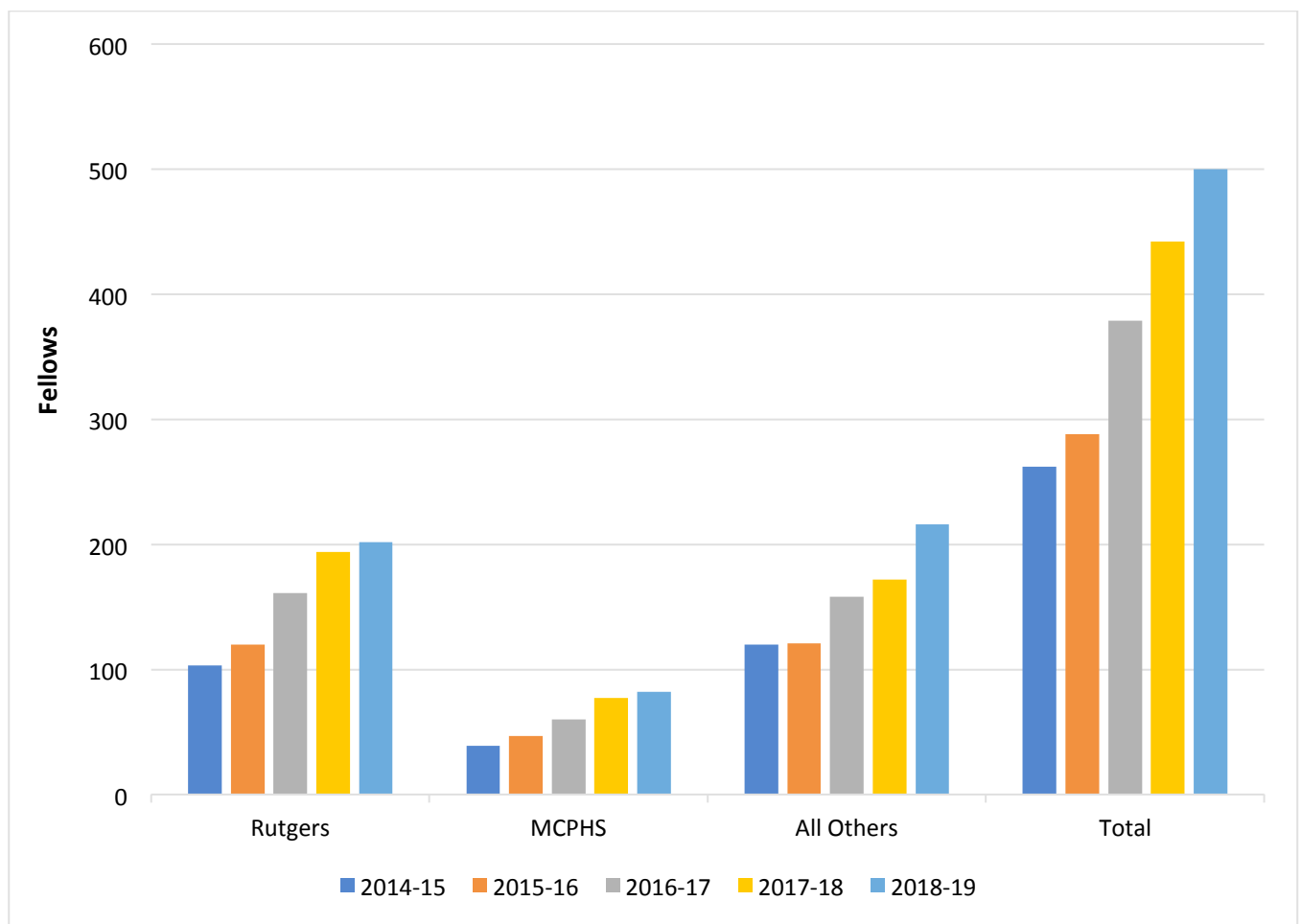
*Abbreviations: MCPHS – Massachusetts College of Pharmacy and Health Science; USciences – University of the Sciences; UNC – University of North Carolina; UIC – University of Illinois at Chicago; UConn – University of Connecticut; USC – University of Southern California

Five-Year Trends in Fellowship Positions

1. 5-Year Trend in Fellowship Program Size

Overall, there has been an 89% increase in fellowship programs over the last 5 years, increasing from 262 fellows in 2014-15 to 500 fellows in 2018-19. Rutgers University fellowship programs have grown from 103 to 202 (+96%) positions during that time, while MCPHS fellowship positions have increased from 39 to 82 (+110%). There has also been a steady increase in all other programs, with an overall increase of more than 75%.

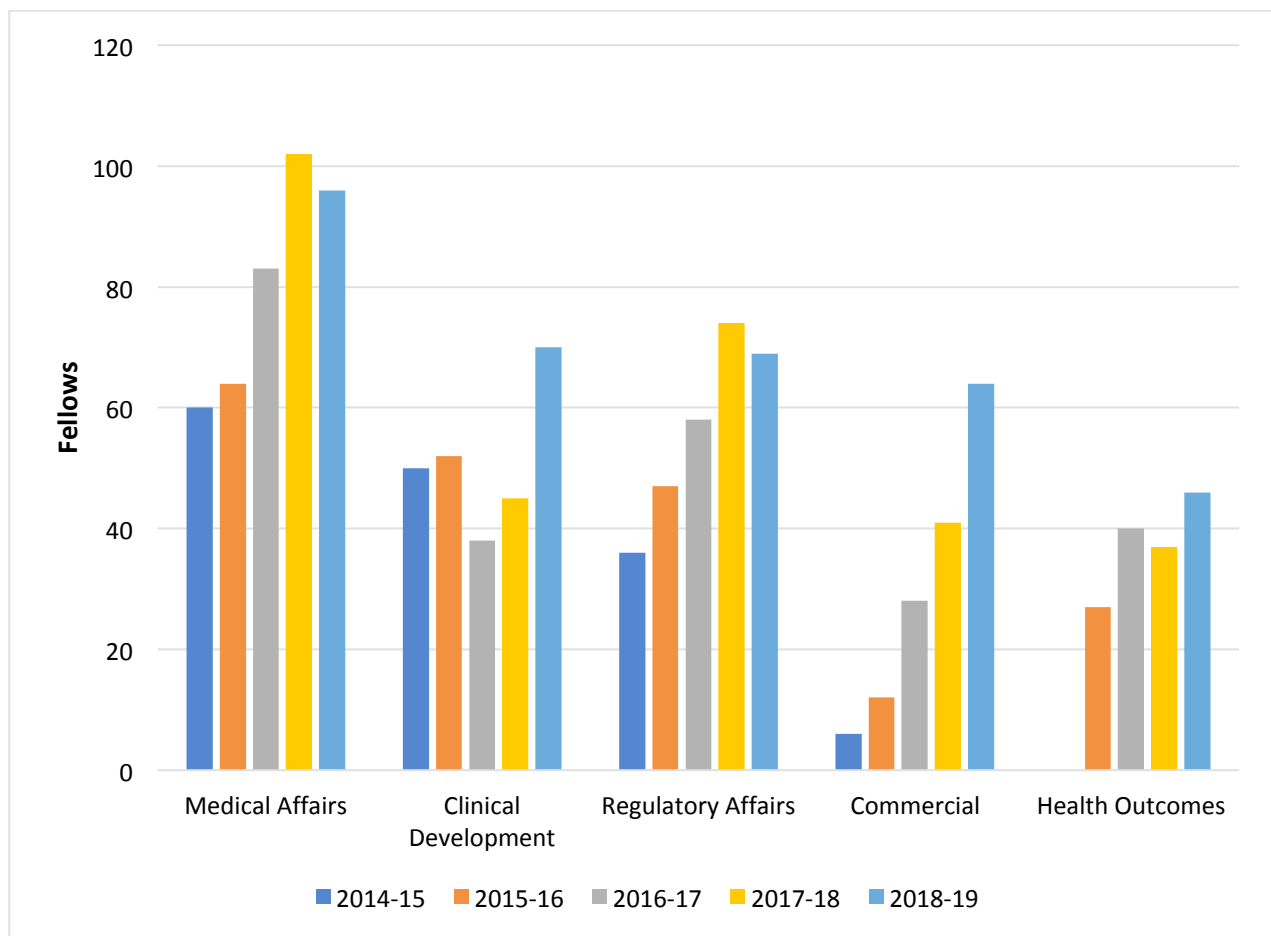
Figure 6: 5-Year Trend in Fellowship Program Size



2. 5-Year Trend in Fellowship Positions by Department/Functional Area

After continued growth in both Medical Affairs and Regulatory Affairs between 2014 and 2018, the number of fellows in these functional areas experienced a slight decline in 2018-2019. The number of fellows in Clinical Development and Health Outcomes has fluctuated over the past 5 years; however, there has been an overall increase. Clinical Development fellowships have increased from 50 positions in 2014-15 to 70 in 2018-19, while Health Outcomes fellowships have increased from 27 in 2014-15 to 46 in 2018-19. Of note, there was no data collected for Health Outcomes fellowships in 2014-15. The largest increase has been observed in the number of Commercial fellows, which increased from 6 positions in 2014-15 to 64 in 2018-19. This suggests that pharmacists are continuing to show value in new departments across pharmaceutical companies, including Marketing, Market Insights, and Market Access.

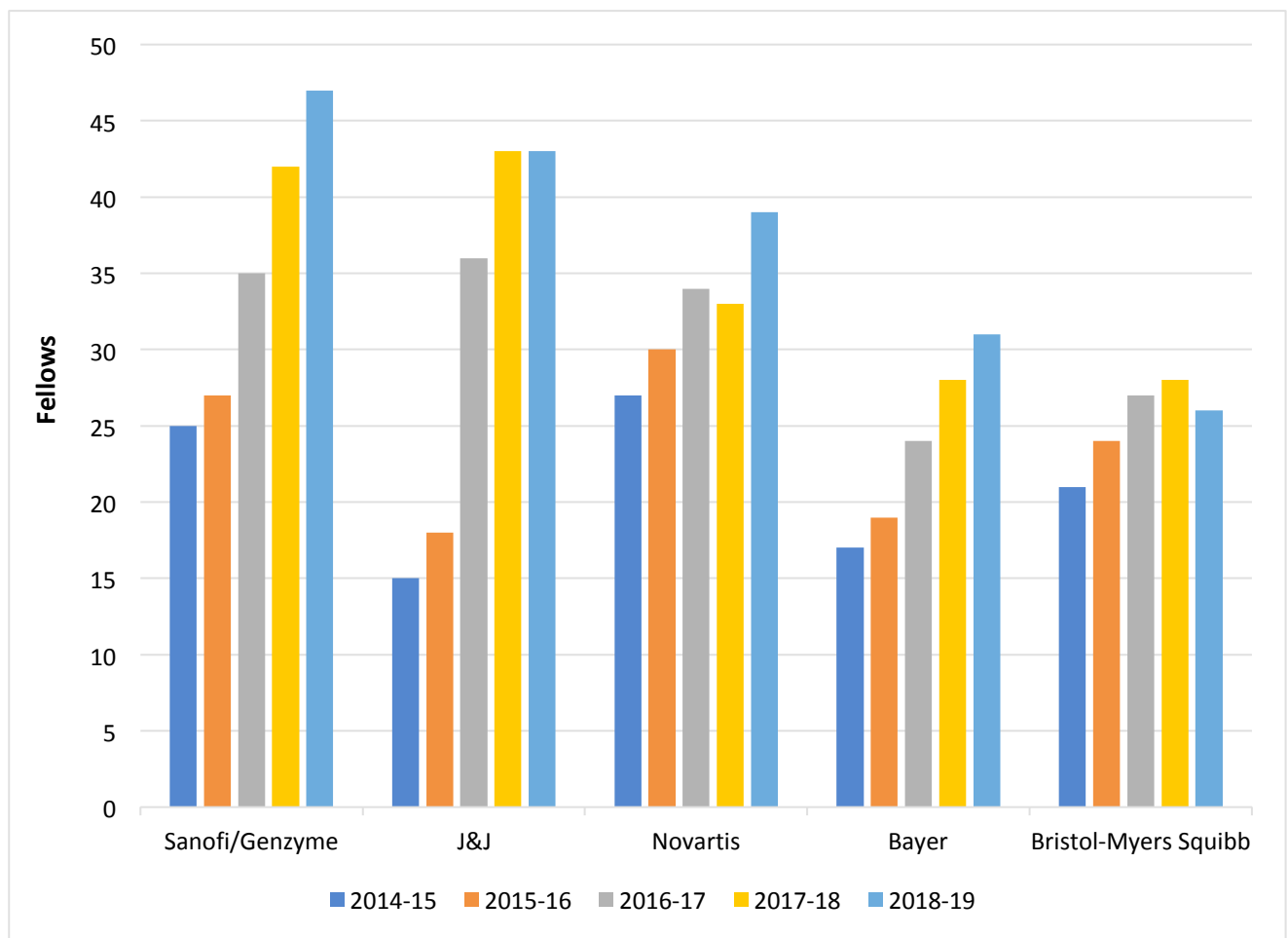
Figure 7: 5-Year Trend in Fellowship Positions by Department/Functional Area



3. 5-Year Trend in Fellowship Positions Offered Through Various Sponsor Companies

Among the top 5 companies that sponsor fellowship programs (Johnson & Johnson, Sanofi/Genzyme, Novartis, Bayer, and Bristol-Myers Squibb), there has been an overall increase in the number of positions since 2014-15. Of note, these 5 companies comprise over one-third of all available fellowship positions (37%, n=182). These data suggest that multiple large pharmaceutical companies continue to support and invest in the training of PharmD graduates for careers in the pharmaceutical industry. Of note, Bristol-Myers Squibb and Merck had the same number of fellows this year (n=26). It will be interesting to observe the trends within individual sponsoring companies throughout the years as career opportunities for pharmacists in industry continue to expand.

Figure 8: 5-Year Trend in Fellowship Positions Offered Through Various Sponsor Companies



Limitations:

Functional areas were categorized at the discretion of the authors. Due to variability in titles across companies, this was done to stratify functional areas into analyzable categories, but the categorization may lead to differences in distribution based on the stratification methodology. Additionally, the dataset is limited to information collected since 2014-15, and thusly, is not historically comprehensive of all fellowship programs, particularly fellowships offered prior to 2014-15. Nonetheless, IPhO will endeavor to maintain the most complete and accurate database of fellowship programs in the future.

Conclusions:

The number of PharmD Industry Fellowships continues to grow. Each year, fellowships are spreading into new functional areas, and into new pharmaceutical, biotechnology, agency, and service provider companies. Pharmacy students and recent graduates now have more opportunities to pursue careers in non-traditional fields, and it is important to characterize the ever-changing career landscape. Interestingly, there was an observed decrease in the number of medical affairs and regulatory affairs positions, while positions within commercial and HEOR have continued to increase. The decrease in medical and regulatory may simply be a rebalancing from the steady increases observed in recent years, while the total number of fellowships continues to rise.

The results presented are of interest not only to prospective fellowship candidates, but to fellowship program stakeholders as well. This annual analysis continues to support IPhO's position that the pharmaceutical industry recognizes the significant value and contribution of PharmDs within the industry.

References:

1. Academic Pharmacy's Vital Statistics. AACP. <https://www.aacp.org/article/academic-pharmacys-vital-statistics>. Accessed November 16, 2018.
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