

An Analysis of 2024-2025 PharmD Industry Fellowships

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Introduction

Industry Fellowships (defined below) have grown substantially over the past decade, fueled by the recognition that PharmDs are valuable to Industry employers and the continuous approval of new drugs. In 2024, the FDA's Center for Drug Evaluation and Research (CDER) approved 50 new molecular entities and biologics. This surge in approvals over the past decade is a testament to the advancements in pharmaceutical research and development (R&D), which have significantly improved the discovery and evaluation of innovative therapies. The evolving complexity of the drug development process necessitates a diverse workforce, such as in technology, clinical, regulatory and commercialization of pharmaceutical drugs. These new treatments have created a heightened demand for specialized talent, including healthcare professionals and pharmacist medication experts.

PharmD Fellowships have become a cornerstone of talent acquisition strategy for Industry employers. These Fellowships provide a unique opportunity for companies to attract, train, and often retain new PharmD graduates without an obligation to offer full-time employment. As medication experts with clinical training, PharmDs are well-equipped to contribute to the new drug development and commercialization process. Currently, over 100 Industry employers, including most of the leading pharmaceutical companies, sponsor these Fellowships.²

The number of PharmDs participating in Fellowships has increased substantially over the past decade. In 2024-2025, there are 925 Fellows participating in Fellowships, representing over 253% growth from the 2015-2016 Fellowship cycle. In contrast, the overall growth rate of Industry related employment was about 5% during similar periods, highlighting the rapid expansion of Fellowship programs compared with general employment trends.^{3,4} The impact of these Fellowships is evident, with the number of Fellowship Alumni reaching about 5,000 over the past 40 years. Thus, about 25% of the 20,000+ pharmacists currently employed in the (US) Industry have completed a Fellowship.^{2,5,6} This underscores the continued recognition of Fellowships as a vital pathway for pharmacists to pursue a career in the pharmaceutical industry.

Recent studies have highlighted significant challenges within traditional pharmacy practice, including low job satisfaction, stagnant compensation, and limited career growth opportunities.⁷ These issues have been exacerbated by a decrease in pharmacy school enrollment and the number of degrees conferred.⁸ Many pharmacists have transitioned from traditional roles to Industry careers in search of improved job satisfaction and professional fulfillment.⁷

The objectives of this annual report from the Industry Pharmacists Organization (IPhO) are to provide a comprehensive overview of the 2024-2025 Fellowship programs and to analyze trends in these programs based on a decade of longitudinal data. This report aims to increase awareness among all stakeholders involved in Fellowship programs, including students and recent graduates interested in industry careers, current Fellows, Fellowship leaders and preceptors, industry employers, and Fellowship sponsors. By offering insights into the characteristics and evolution of Fellowship programs, the report seeks to support informed decision-making and strategic planning for all parties involved.

Methodology

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, combined with information proprietary to IPhO. For the 2024-2025 Annual Analysis, database lockdown was December 1, 2024. The following data fields were utilized and evaluated:

A) Analysis of 1st-Year and 1-Year Fellows

- Figure 1a: 1st-Year Fellows of 1-Year & 2-Year Fellowships
- Figure 1b: Comparison of 1st-Year and 2nd-Year Fellows in Recent Years
- Table 1: 1st-Year Fellows and 1-Year Fellows By Functional Area for 2023-2024 & 2024-2025
- Table 2: 1st-Year Fellows & 1-Year Fellows By Fellowship Affiliation for 2023-2024
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B) Characterization of PharmD Fellows in 2024-2025 Industry Fellowship Programs

- Figure 2: Fellowship by Functional Area
- Figure 3: Number of Fellows by Fellowship Sponsor
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- Figure 6: Fellows' Alma Mater

Data from the 2024-2025 analysis were also compared with results from similar analyses from 2015-16 through 2023-2024 to yield 10-year trends.

C) Ten-Year Fellowship Trends

- Figure 7: 10-Year Trend in Fellowship Program Size
- Figure 8: 10-Year Trend in Fellowships by Functional Area
- Figure 9: 10-Year Trend in Fellowships Offered Through various Fellowship Sponsors

For the purposes of this analysis, the following definitions apply:

"Fellow" is defined as a PharmD participant in a Fellowship.

"Fellowship" is defined as a Post-Doctoral, pharmaceutical industry-focused training program for PharmDs, which may include residencies, Fellowships, and other related nomenclature.

"Fellowship Sponsor" is defined as an Industry employer/entity primarily responsible for hosting and training a Fellow during their Fellowship, regardless of whether the entity directly or indirectly employs the Fellow during their Fellowship.

"Fellowship Affiliation" is defined as the Academic Institution, Professional Organization, or other entity that collaborates with Fellowship Sponsors to recruit Fellowship candidates and deliver Fellowship training.

"Fellowship Alumni" are defined as PharmDs who previously participated in a Fellowship, including former Fellows who completed all or part of their scheduled training period.

"First-year Fellow" (or "1st-year Fellow") is defined as a Fellow currently in the first 12 months of a Fellowship with a planned duration of 24 months.

"Functional Area" is a term used in this study to describe the primary department(s) of focus for the Fellow during their Fellowship and/or the primary department of focus. For the purposes of this study, the Functional Areas were categorized at the discretion of the authors. This categorization was implemented to group Functional Areas into analyzable categories based on "best fit" despite the variability in Functional Area nomenclature across companies.

"Industry" is defined as the group of companies whose primary purpose is to develop and commercialize pharmaceutical products, together with the group of companies whose primary purpose is to provide services to them, including but not limited to:

- Pharmaceutical and Biotechnology companies
- Pharmaceutical advertising agencies or clinical research organizations
- Companies whose primary purpose is to provide a service to pharmaceutical companies (e.g. management consulting, medical information, MSL contracting, HEOR consulting, medical communications agencies)
- Market access or global branding firms

"IPhO 2024-2025 Fellows Database" is a comprehensive, proprietary database of all Fellows currently participating in Fellowships that includes data obtained from a variety of publicly available sources and combined with information proprietary to IPhO, including LinkedIn profile URL, Fellowship Affiliation (if any), Fellowship Sponsor, year of scheduled Fellowship completion, and primary Functional Area.

"One-year Fellow" (or "1-year Fellow") is defined as a Fellow whose planned Fellowship duration is twelve months.

"Second-year Fellow" (or "2nd-year Fellow") is defined as a Fellow currently in the final 12 months of a Fellowship with a planned duration of 24 months.

Study Inclusion Criteria:

- Current Fellows listed in the proprietary IPhO 2024-2025 Fellows Database.
- Study Exclusion Criteria:
- Anyone not listed in the proprietary IPhO 2024-2025 Fellows Database.
- Data collection methods included:
- LinkedIn (Basic) was utilized to search for current Fellows. Publicly available, self reported data was subsequently collected for their Fellowship Sponsor, Functional Area, and Fellowship Affiliation.
- The IPhO Fellowship Catalog was utilized to source missing data.
- No surveys were utilized.

Results & Discussion

A total of 925 Fellows were identified in the database, consisting of 465 1st-Year Fellows and 460 2nd-Year Fellows. Results are reported in all of the sections listed in methodology.

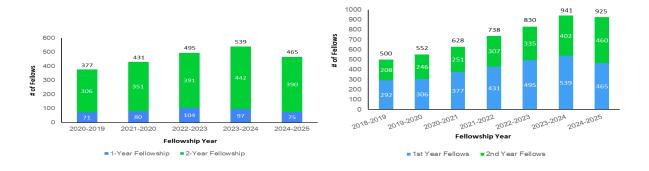
Analysis of 1st-Year and 1-Year Fellows (excluding 2nd-Year Fellows)
Currently Participating in 2024-2025 Industry Fellowship Programs

1st-Year Fellow Trends

This section evaluates recent data for 1st-year and 1-year Fellows only, excluding 2nd-year Fellows.

Until this year, recent Fellowship cycles have consistently demonstrated year on year growth in the total number of Fellows. The 2024-2025 cycle is the first cycle ever with a documented decrease in the total number of 1st-year Fellows, and represents the second consecutive year of decrease in the number of 1-year Fellows. Notably for 2024-25, the number of 1st-year Fellows participating in 2-year Fellowships decreased substantially from 539 to 465, (n= -74, a 14% decrease). It is very likely that this will also impact the total number of Fellows for the 2025-26 cycle, since there will be at most n= 390 1st-year Fellows continuing on to become 2025-26 2nd-year Fellows. As indicated in Figure 1b, the number of 2nd-year Fellows actually increased by 15% versus 2023-2024.

Figure 1a: 1st-Year Fellows of 1-Year & 2-Year Fellowships Figure 1b: Comparison of 1st-Year and 2nd-Year Fellows in Recent Years



1st-Year & 1-Year Fellows by Functional Area

The decrease in the number of 1st-year Fellows during the 2024-2025 Fellowship cycle (n=-74,-14%) was further analyzed to identify the source(s) of the decreases within different Functional Areas. Compared with the 2023-2024 cycle, there were substantially fewer Fellows in several functions, including Clinical Research/Development (n=-20,-23%), Regulatory Affairs (n=-16,-23%), Pharmacovigilance (n=-15,-43%), HEOR (n=-13,-39%), and Commercial (n=-10,-19%). Medical Affairs, with the largest number of participating Fellows, was essentially flat year on year. The remaining Functional Areas experienced either modest growth or modest decreases.

Table I: 1st-Year Fellows and 1-Year Fellows By Functional Area for 2023-2024 & 2024-2025

Functional Area	2023-2024 (N= 539)	2024-2025 (N= 465)	Delta* (N= -74)
Medical Affairs	164	165	+1
Clinical Research/Developm ent	87	67	-20
Regulatory Affairs	71	55	-16
Commercial	53	43	-10
HEOR	33	20	-13
Pharmacovigilance	35	20	-15
Multidisciplinary	18	11	-7
Medical Communications	25	26	+1
Market Access	16	20	+4
Medical Information	16	14	-2
Other	21	24	+3

^{*}Difference in Total 1st-Year Fellowship Positions between 2023-2024 and 2024-2025

Abbreviations: HEOR - Health Economics and Outcomes Research

1st-Year & 1-Year Fellows by Fellowship Affiliation

The decrease in the number of 1st-year Fellows during the 2024-2025 Fellowship cycle (n=-74,-14%) was further analyzed to identify the source(s) of the decrease among Fellowship Affiliates. Compared with the 2023-2024 cycle, there were fewer Fellows within almost every Affiliate. Possible drivers of these decreases may include budget reductions, changes in demand, and other external influences.

Table 2: 1st-Year Fellows & 1-Year Fellows By Fellowship Affiliation for 2023-2024 & 2024-2025

Fellowship Affiliation	2023-2024 (N= 539)	2024-2025 (N= 465)	Delta* (N= -74)
Rutgers	177	158	-19
MCPHS	63	59	-4
Howard	41	36	-5
Northeastern	38	35	-3
UNC	16	13	-3
USC	31	23	-8
IPhO	15	11	-4
РСР	12	13	+1
Purdue	12	9	-3
Washington	5	7	+2
St. John's	7	4	-3
No Affiliation	85	70	-5
Other University	37	27	-10

^{*}Difference of Total 1st-Year Fellowship Positions between 2023-2024 and 2024-2025.

Abbreviations: MCPHS - Massachusetts College of Pharmacy and Health Sciences; UNC - University of North Carolina; USC - University of Southern California; IPhO - Industry Pharmacists Organization; PCP - Philadelphia College of Pharmacy

1st-Year & 1-Year Fellows by Fellowship Sponsor

The decrease in the number of 1st-year Fellows during the 2024-2025 Fellowship cycle was further analyzed to identify the source(s) among Fellowship Sponsors. The largest year on year decrease in 1st-year Fellows was at Genentech (n= -17, -57%). Other Fellowship Sponsors experiencing decreases included Pfizer, DSI, Biogen, and others. Sanofi, Merck, and Eli Lilly experienced modest gains in the number of Fellows versus 2023-2024.

Table 3: 1st-Year Fellows and 1-Year Fellows By Top 15 Fellowship Sponsors for 2023-2024 & 2024-2025

Fellowship Sponsor	2023-2024 (N= 539)	2024-2025 (N= 465)	Delta* (N= -74)
Sanofi	50	56	+6
J&J	45	40	-5
Genentech	30	13	-17
AbbVie	21	20	-1
DSI	23	18	-5
Eli Lilly	19	22	+3
GSK	19	15	-4
Takeda	18	14	-4
Pfizer	18	11	-7
Merck	17	21	+4
BMS	17	18	+1
Novartis	17	17	0
Bayer	13	10	-3
AstraZeneca	13	12	-1
Biogen	11	5	-6
All Other	208	173	-35

^{*}Difference of Total Fellowship Positions between 2023-2024 and 2024-2025

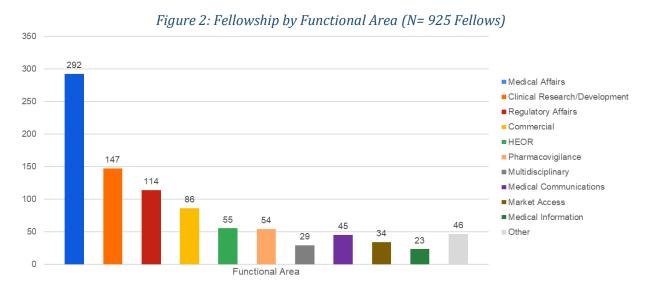
Abbreviations: J&J - Johnson & Johnson; DSI - Daiichi Sankyo Inc; GSK - GlaxoSmithKline; BMS - Bristol Myers Squibb; The following sponsor companies were combined under: "Sanofi" - Sanofi, Sanofi Genzyme, and Sanofi Vaccines; "Johnson & Johnson & Johnson Consumer Inc, Janssen, and Kenvue; "Genentech" - Genentech and Roche; "AbbVie" - AbbVie and Allergan; "AstraZeneca" - AstraZeneca and Alexion

Characterization of All PharmD Fellows Currently Participating in 2024-2025 Industry Fellowship Programs

The previous section evaluated data for 1st-year and 1-year Fellows only, excluding 2nd-year Fellows. Except where otherwise noted, the remainder of this paper evaluates ALL Fellows.

Fellowship Functional Area

The top five individual Functional Areas in 2024-2025 included Medical Affairs (n= 292), Clinical Research/Development (n= 147), Regulatory Affairs (n= 114), Commercial (n= 88), and Health Economics Outcomes Research (n= 55). Twenty-nine of the Fellowships had a multidisciplinary structure, which allows the Fellows to rotate in 2 or more distinct Functional Areas. Functional Areas defined as "Other" (n= 48) included areas that did not fall into the predefined categories, such as patient advocacy/public policy, quality assurance, and product management. According to this data, PharmDs remain well equipped to fulfill Fellowship roles in multiple Functional Areas. Medical Affairs and Clinical Research/Development continue to be the top 2 functions that offer opportunities for Fellowships.



Abbreviations: HEOR - Health Economics and Outcomes Research

Fellowship Sponsors

Of the 106 Fellowship Sponsors in 2024-2025, the top five companies sponsoring the largest number of Fellows were: Sanofi (n= 106), J&J (n= 89), DSI (n= 41), AstraZeneca (n= 39), and Novartis (n= 35). These top five companies sponsored 312 of the 925 total Fellows, accounting for about one third of all Fellows. Notably, Sanofi and J&J have been the top two sponsors for multiple years. AstraZeneca offerings grew by 50% from 26 Fellows in 2023-2024 to 39 in 2024-2025. Novartis remained a top five sponsor, although the number of Fellows decreased from 43 to 35 in 2024-2025.

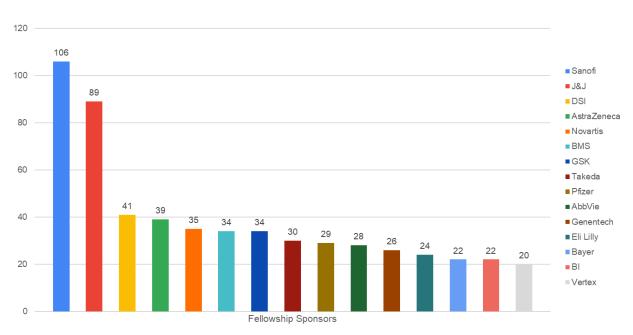


Figure 3: Number of Fellows by Fellowship Sponsor (N= 575 Fellows in Top 15 Companies)

Abbreviations: J&J - Johnson & Johnson; DSI - Daiichi Sankyo Inc; GSK - GlaxoSmithKline; BMS - Bristol Myers Squibb; BI - Boehringer Ingelheim

Fellowship Affiliation

There is substantial institutional diversity in the distribution of Fellowship-Affiliated programs, encompassing both public and private sectors, including academic institutions and professional organizations such as IPhO, as illustrated in Figure 3. Of 925 Fellows, approximately 87% (n= 802) are participating in programs with a collaboration between two or more entities. A substantial portion of these Fellowship opportunities are provided by academic partners, predominantly Rutgers University (n= 331), MCPHS University (n= 122), Howard University (n=75), and Northeastern University (n= 74). Collectively, these four institutions account for nearly two-thirds (65%) of all current Fellows. While Rutgers experienced a modest decrease in the number of Fellows for this cycle, the MCPHS, Howard, and Northeastern programs showed modest growth when compared to the 2023-24 cycle.

Additionally, 122 Fellowship positions (13%) are offered by Fellowship Sponsors without an affiliation. This percentage has remained relatively stable over the past few recruitment cycles. The lack of affiliation with academic institutions could be attributed to various factors, including the monetary costs of affiliation, the geographical distance from the affiliating institution, the substantial time commitment required at the academic institution away from the Fellowship Sponsor company, or a general desire for independent decision making.

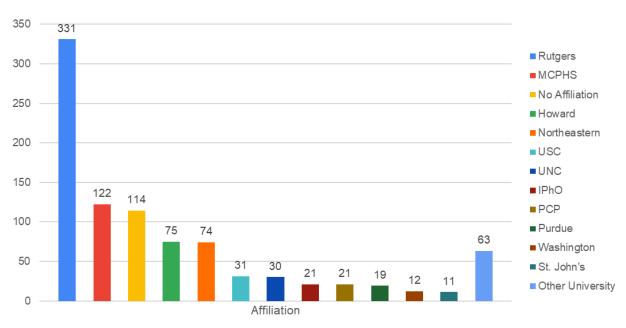


Figure 4: Fellowships with an Academic or Non-Academic Affiliation (N= 925 Fellows)

Abbreviations: MCPHS - Massachusetts College of Pharmacy and Health Sciences; USC - University of Southern California; UNC - University of North Carolina at Chapel Hill; IPhO - Industry Pharmacists Organization; PCP - Philadelphia College of Pharmacy

Fellowship Duration

Most Fellowships are two years in duration, as illustrated in Figure 5. Of the 925 Fellows who began their Fellowship in 2023 or 2024, only 8% participated in a one-year program. When analyzing only the 465 1st-year and 1-year Fellows, 390 (84%) were participating in two-year programs and 75 (16%) were participating in one-year programs. This data indicates a continued preference for two-year Fellowships.

Two-year programs may provide Fellows with extended opportunities to integrate into their roles and develop deeper skill sets, thus enhancing their career prospects post-Fellowship. Recent analyses have shown that two-year Fellowships have prepared Fellowship Alumni for somewhat higher first position titles after completing their Fellowships.⁹

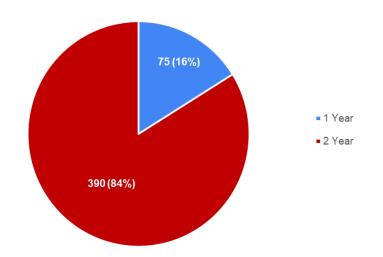


Figure 5: 1st-Year Fellows by Program Duration (N= 465 1st-Year Fellows)

Fellows' Alma Mater

In 2024-2025, 117 unique pharmacy school alma maters were represented among the cohort of 925 Fellows, substantially more unique schools that were represented in the initial 2014-2015 analysis (n=64).

The top 5 most common Fellow alma maters in 2024-2025 were Rutgers (n= 77), followed by Maryland and MCPHS (n= 34), and St. John's and Northeastern (n= 33). By a wide margin, Rutgers is perennially the most common alma mater among current Fellows.

The top 15 most common alma maters among 2024-2025 Fellows are depicted in Figure 6 below.

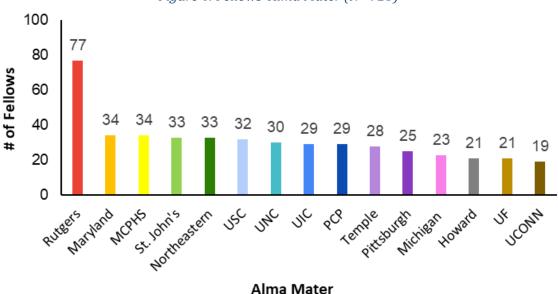


Figure 6: Fellows' Alma Mater (N= 925)

Abbreviations: MCPHS - Massachusetts College of Pharmacy and Health Sciences; USC - University of Southern California; UNC - University of North Carolina at Chapel Hill; UIC - University of Illinois, Chicago; PCP - Philadelphia College of Pharmacy; UF - University of Florida; UCONN - University of Connecticut

Ten-Year Fellowship Trends

10-Year Trend in Fellowship Program Size

The ten-year trend in Fellowship program size illustrated in Figure 7 highlights a substantial increase in Fellowship programs across various Universities and institutions.

Overall, the number of Fellows has more than tripled over the last 10 years, increasing from 288 Fellows in 2015-2016 to 925 Fellows in 2024-2025. Fellowships offered through Rutgers University have grown from 101 to 332 (+229%) positions during that time, MCPHS Fellowships have grown from 38 to 121 (+218%) positions, while Northeastern and Howard Fellowships have expanded from 0 to about 75 positions in recent years.

It is worth noting that 2024-2025 represents the first year on year decrease in the total number of Fellows. Refer to section "Analysis of 1st-Year and 1-Year Fellows (excluding 2nd-Year Fellows) participating in 2024-2025 Industry Fellowship Programs" above for additional narrative.

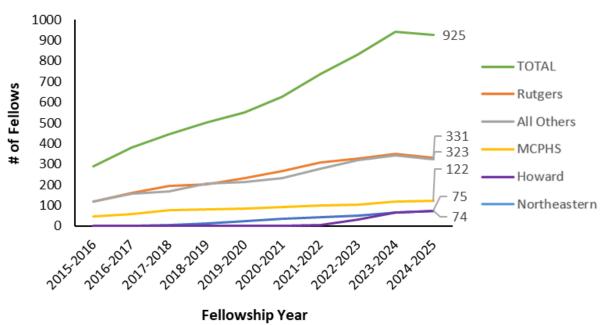


Figure 7: 10-Year Trend in Fellowship Program Size

10-Year Trend in Fellowships by Functional Area

Figure 8 highlights the 10-year growth in Fellowships across five key Functional Areas: Medical Affairs, Clinical Research/Development, Regulatory Affairs, Commercial, and Health Economics and Outcomes Research (HEOR). This growth reflects the expanding opportunities and growing demand for PharmDs in these areas within the pharmaceutical industry.

Medical Affairs has experienced the most pronounced growth over this period, from 60 Fellows in 2015-2016 to 292 Fellows in 2024-2025. Similarly, Clinical Research/Development Fellowships also experienced substantial growth, reaching 147 Fellows in 2024-2025. Regulatory Affairs, Commercial, and HEOR Fellowships have all shown positive growth as well over the past 10 years, with numbers rising to 114, 86, and 55 Fellows, respectively.

2024-2025 is the first year that there has been a decrease in nearly all types of Fellowship opportunities, including Medical Affairs, Regulatory Affairs, Commercial, and HEOR. Meanwhile Clinical Research/Development opportunities were about the same as in 2023-2024.

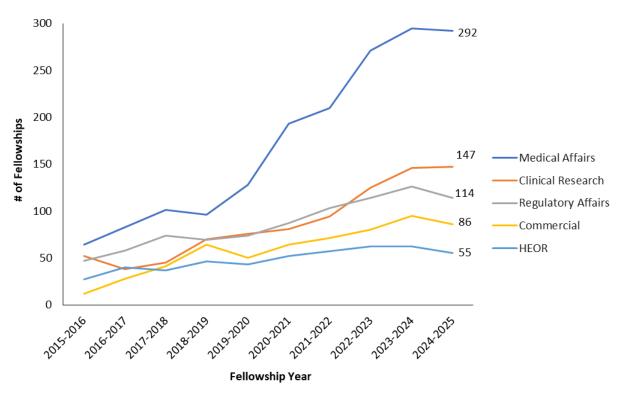


Figure 8: 10-Year Trend in Fellowships by Functional Area

Abbreviations: HEOR - Health Economics and Outcomes Research

10-Year Trend in Fellowships Offered Through Various Fellowship Sponsors

According to Figure 3, Sanofi, Johnson & Johnson, Daiichi Sankyo, AstraZeneca, and Novartis are the top five companies offering the most fellowships for 2024-2025. They have significantly increased their number of fellowship positions since 2015-2016.

The Sanofi program has expanded from 27 fellows in 2015-2016 to 106 by 2024-2025, and Johnson & Johnson has expanded from 18 to 85. This growth highlights the ongoing commitment of major pharmaceutical companies to train PharmD graduates for Industry careers. Many Fellowship Sponsors other than Sanofi, Daiichi Sankyo, and AstraZeneca experienced a decrease in 2024-2025. Notably, Novartis and Johnson & Johnson had fewer Fellowships than in the previous year.

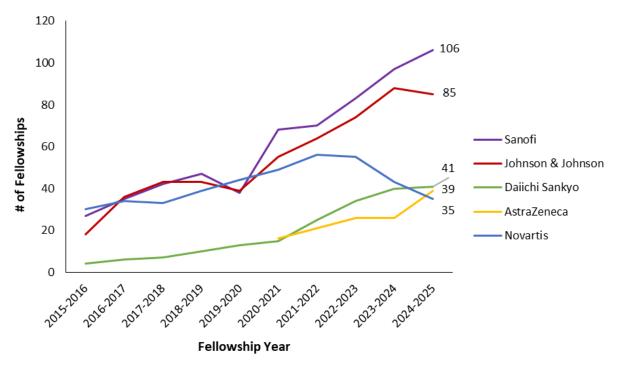


Figure 9: 10-Year Trend in Fellowships Offered by Various Sponsors*

*Number of Fellowships for AstraZeneca was not measured before 2020-2021

Limitations

Some of the data presented above were collected from current Fellows' LinkedIn profiles. However the accuracy of this data cannot be fully verified as there may be inaccuracies or updates made after the collection of this information. Functional Areas were categorized at the discretion of the authors. This categorization allows the authors to create analyzable classifications that account for the variability in nomenclature across companies. This variability may not be reflected with full accuracy as there are challenges in accurately and consistently classifying Functional Areas.

Conclusions

The key findings in the 2024-2025 Fellowship Analysis include:

- The total number of Fellows decreased year on year, primarily due to a substantial decrease in new 1st-year/1-year Fellows.
- Primary sources of the decrease included:
 - Most Functional Areas other than Medical Affairs and Clinical Research/Development experienced substantial decreases.
 - Most Fellowship Sponsors sponsored fewer Fellows; notable exceptions included Sanofi, Daiichi Sankyo, and AstraZeneca.
 - o Most Academic Fellowship Affiliates offered fewer Fellowship opportunities.
- The number of 2nd-year Fellows actually increased by 15% versus 2023-2024.
- Medical Affairs continues to be the Functional Area with the most Fellows by a large margin.
- There were 106 unique Fellowship Sponsors, six fewer than in 2023-2024.
- 84% of Fellowships are two years in duration.
- Rutgers, MCPHS, Northeastern, and Howard offer the most Fellowships.

2024-2025 represents the first Fellowship cycle ever to experience a year on year decrease; Even during the COVID-19 pandemic, the number of Fellowships continued to increase. It is very likely that the decrease will carry over into the 2025-26 cycle, with fewer 2024-2025 1st-year Fellows continuing on to become 2025-2026 2nd-year Fellows.

The decrease in Fellowships was consistent across many Fellowship Sponsors, Fellowship Affiliations, and Functional Areas. It is difficult to identify a single source for the sudden

downturn. The overall US economy performance and Fellowship Sponsor budget reductions are possible contributors.

Despite the decrease described above, Fellowships continue to remain very popular and provide proven value for both Fellowship Sponsors and Fellows. PharmD Fellowships have grown substantially over the past decade, thus expanding employment opportunities for PharmDs in the pharmaceutical industry. PharmD Fellowships provide Industry employers with an excellent talent pipeline to meet the complex challenges of drug development and commercialization.

The results presented here are of interest not only to prospective Fellowship candidates, but to Fellowship program stakeholders as well. This annual analysis continues to support the IPhO position that pharmaceutical industry employers recognize the significant value and contribution of PharmDs within Industry.

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