Doctor of pharmacy (Pharm.D) candidates have a multitude of post-graduate training options available, with one of those being a post-doctoral pharmaceutical industry fellowship. A post-doctoral pharmaceutical industry fellowship is a one or two-year program to gain experience in a pharmacist’s role in the pharmaceutical and/or pharmaceutical industry. Throughout these programs, Pharm.D. may gain experience in a wide variety of areas including medical affairs, regulatory affairs, marketing, research and development, and other areas at a company. Thus, many of these fellowship programs are facilitated by academic institutions and/or independent pharmacy. There are also programs that are considered independent fellowships, which are typically offered by the sponsor pharmaceutical/biopharmaceutical companies.

To characterize and assess the landscape of pharmaceutical industry post-doctoral fellowships, a survey distribution was conducted via email and phone interviews. The survey was conducted from October 2014 to January 2015, recruiting for fellows to begin their fellowships in 2015. For purposes of this research, only fellowships at pharmaceutical companies, contract research organizations (CROs), or consulting companies that are offered towards Pharm.D. were analyzed. All fellowships were designated “Academic,” while unaffiliated programs were designated “Independent.”

Classifying the functional areas of fellowships:
- Broad functional areas were pre-determined (see Figures 2 and 3)
- The medical affairs classification was partitioned into four components: medical affairs, medical affairs, medical information, medical science liaison (MSL), and health economics and outcomes research (HEOR)

Some programs (n=16) set rotations in different functional areas (i.e. year 1 medical affairs, year 2 commercial). These programs were allocated partially to each area (e.g. 0.5 medical affairs, 0.5 commercial) to provide a versatile clinical opportunity that would better prepare candidates for industry roles.

The information was gathered on 26 fellowship programs, which collectively partner with 49 companies.

The programs were designated by their main sponsor (Pharmaceutical Company/University). We have also included all Affiliates and Independent Programs to gain a comprehensive understanding of the full spectrum of post-doctoral pharmaceutical industry fellowships.

Results

Demographics
Information was gathered on 26 fellowship programs, which collectively partner with 49 companies.

- 16 programs (61.5%) affiliate with a university (Academic Programs)
- The 26 programs recruited for 164 fellowship positions for the 2015 fellowship year.
- One-year fellowships: 36 (22%)
- Two-year fellowships: 128 (78%)
- In 2014, 233 Pharm.D. fellows in the 26 programs
- Academic Programs: median size = 4 fellows (interval: 1-101)
- Independent Programs: median size = 1.5 fellows (interval: 1-12)
- For Academic Programs, the median distance from partner company to university is 32 miles (n=65)
- The average salary for a fellow in his or her first year was $44,958

Objectives
- To characterize and assess the landscape of pharmaceutical industry post-doctoral fellowships
- To describe the differentiating variables of current fellowship programs in hopes of aiding potential fellowship candidates and those interested in starting a fellowship program at their company or university

Methods
- A retrospective analysis of publicly-available fellowship information, including websites, brochures, and newsletters, was conducted
- Additional information was obtained from publicly-listed fellowship stakeholders via email questionnaires and phone interviews
- Printed fellowship information was also collected from 2014, recruiting for fellows to begin their fellowships in 2015
- For purposes of this research, only fellowships at pharmaceutical companies, contract research organizations (CROs), or consulting companies that are offered towards Pharm.D. were analyzed

Development Opportunities
- Teaching Opportunities
  - The majority of Academic Programs (88%) offer teaching opportunities to their fellows in the form of didactic lecturing, course coordination, precepting students, or a teaching certification program
  - A smaller number of Independent Programs (30%) offer teaching opportunities
- Research Opportunities
  - The majority of all programs encourage or require fellows to pursue research to calculate the demand for each functional area
  - Professional Development
    - Various programs offer or require fellows to take classes towards a degree and provide financial support
    - Multiple Academic Programs offer structured developmental days with the goal of developing leadership skills and gaining industry knowledge

Conclusions
- Academic fellowships are generally larger (i.e. more fellows, positions), offer more postgraduate education and professional development opportunities, and may have a greater number of academic programs, in addition to more opportunities in research and regulatory functions.
- The majority of Academic Programs offered greater research and regulatory opportunities than Independent Programs. Thus, Academic Programs may be better suited to fellows who are interested in pursuing roles that require a multitude of diverse developmental experiences over a longer period of time.
- In addition, Academic Programs offered a greater number of clinical development-oriented fellowships, while Independent programs offered more opportunities in regulatory and commercial functions. Both types of programs offered a substantial number of fellowships, with Academic programs offering more opportunities in clinical and regulatory functions, while Independent programs were more likely to offer positions in commercial and medical affairs. The rationale for this may be due to the greater number of Academic Programs, as well as the larger size of the fellowship programs.
- The average salary for a fellow in his or her first year was $44,958, with the median distance from partner company to university being 32 miles (n=65). This amount excludes benefits such as health insurance. Fellowships are generally larger (i.e., more fellows, positions), offer more postgraduate education and professional development opportunities, and may have a greater number of academic programs, in addition to more opportunities in research and regulatory functions.

Limitations
- The information was collected primarily from the public domain
- Fellowships were classified into pre-determined functional areas, which may not accurately describe select unique fellowships (e.g. epidemiology, public policy, patient advocacy)
- Specific aspects of professional development, teaching, and research opportunities were difficult to obtain and often varied widely from company to company

References

Figure 1: Fellowship Length by Program Type

Table 1: Distances of Partner Companies to Their Associated Universities

<table>
<thead>
<tr>
<th>Distance (Miles)</th>
<th>Number of Companies within Range</th>
<th>Percentage of Companies within Max Distance</th>
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<td>201-500</td>
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<td>1%</td>
</tr>
</tbody>
</table>

Figure 2: 2015 Functional Area Distribution – Academic Programs

- Regulatory Affairs
- Clinical Development
- Commercial
- Medical Affairs
- Affairs/Strategic
- Med Info
- HEOR
- MIS

Figure 3: 2015 Functional Area Distribution – Independent Programs

- Regulatory Affairs
- Clinical Development
- Commercial
- Drug Safety
- Medical Affairs
- Affairs/Strategic
- Med Info
- HEOR
- MIS

Figure 2: 2015 Functional Area Distribution – Academic Programs

- Regulatory Affairs
- Clinical Development
- Commercial
- Medical Affairs
- Affairs/Strategic
- Med Info
- HEOR
- MIS

Discussion

- Academic fellowships are generally larger (i.e. more fellows, positions), offer more postgraduate education and professional development opportunities, and may have a greater number of academic programs, in addition to more opportunities in research and regulatory functions. Both types of programs offered a greater number of clinical development-oriented fellowships, while Independent programs offered more opportunities in regulatory and commercial functions. Both types of programs offered a substantial number of fellowships, with Academic programs offering more opportunities in clinical and regulatory functions, while Independent programs were more likely to offer positions in commercial and medical affairs. The rationale for this may be due to the greater number of Academic Programs, as well as the larger size of the fellowship programs. The average salary for a fellow in his or her first year was $44,958, with the median distance from partner company to university being 32 miles (n=65). This amount excludes benefits such as health insurance. Fellowships are generally larger (i.e., more fellows, positions), offer more postgraduate education and professional development opportunities, and may have a greater number of academic programs, in addition to more opportunities in research and regulatory functions.

- The information was collected primarily from the public domain
- Fellowships were classified into pre-determined functional areas, which may not accurately describe select unique fellowships (e.g. epidemiology, public policy, patient advocacy)
- Specific aspects of professional development, teaching, and research opportunities were difficult to obtain and often varied widely from company to company

Conclusions

- The number of pharmaceutical industry Pharm.D. fellowship programs has grown substantially over the past 5 years
- University-affiliated fellowships are more likely to offer opportunities for teaching, networking, and academic development
- Academic affiliation is an important factor in obtaining a fellowship
- Functional areas are not represented equally across available fellowships. It would be valuable to conduct research to calculate the demand for each functional area (i.e. number of applicants per functional area) so that additional fellowships could be created for the functional areas with highest ratio of candidates to fellowships

References

Assessing the Current Landscape of Pharmaceutical Industry Post-Doctoral Pharm.D. Fellowships
Brittny Rule, Pharm.D., MBA, Joe Fiore, Pharm.D., Bryan Murray, Pharm.D., MBA
Rutgers Institute for Pharmaceutical Industry Fellowships, Piscataway, NJ

Presented at the Drug Information Association (DIA) 51st Annual Meeting – June 2015

*Images credit was obtained from fellowships websites when available. This omission may result in missing vacation fellowships (i.e. year 1 medical affairs, year 2 commercial). These fellowships were allocated partially to each area (e.g. 0.5 medical affairs, 0.5 commercial) to provide a versatile clinical opportunity that would better prepare candidates for industry roles.

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