Analysis of Direct-To-Industry Jobs Among 2020 PharmD Graduates

James G. Alexander, PharmD[1], Sarah Mathre, PharmDc[2], Gwang-Wen J. Hu, PharmDc[3]

1. Executive Director and Founder, Industry Pharmacists Organization
2. University of Minnesota College of Pharmacy, Class of 2022 PharmD Candidate
3. Temple University School of Pharmacy, Class of 2022 PharmD Candidate

Introduction

Traditionally, pharmacists have been recognized as the professionals in white coats in the community or hospital pharmacy setting. There is a growing appreciation that pharmacists can work in various nontraditional professional settings including the "Pharmaceutical Industry," (defined as companies who make their business in the development and commercialization of medicinal products, as well as the service provider companies that support that process) where they often enjoy a high degree of professional satisfaction and fulfill key roles in the drug development and commercialization process.

For many consecutive years, the number of annual pharmacy graduates has been increasing. According to the Bureau of Labor Statistics, the job outlook for pharmacists from 2019-2029 is projected to decline by 3%,[1] and a recent article in the American Journal of Pharmaceutical Education cites that there is an oversupply of new pharmacists entering the workforce.[2] In part due to this oversupply, more graduating pharmacists are exploring career options in nontraditional settings such as the Pharmaceutical Industry.

Industry Fellowships (defined as Pharmaceutical Industry-based, postgraduate training programs) for PharmDs have become a well known, popular path to the Pharmaceutical Industry. Currently, 628 PharmDs are participating in an Industry Fellowship program.[3] Unfortunately, students and graduating pharmacists are unaware that many "Direct-To-Industry" roles (defined as a job the Pharmaceutical Industry not obtained in through a fellowship program position) are also available. In fact, approximately 80% of pharmacists working in the Pharmaceutical Industry have never participated in a fellowship program.[4]Many of these industry pharmacists entered the Pharmaceutical industry following clinical pharmacy and academic experiences. Others started as sales representatives, medical writers, or specialists in drug information or drug safety. Applicants who do not land an Industry Fellowship may lose hope of a career in industry due to the lack of awareness about the available opportunities, or confusion about where to look for "Direct-to-Industry" roles.

The goal of this IPhO research project is to i) identify Class of 2020 pharmacy graduates who obtained a Direct-To-Industry job, ii) characterize the roles they obtained and the employers they now work for, and iii) share the results to raise awareness of these roles.

Methods

Study inclusion criteria include Class of 2020 PharmD graduates currently employed by:

- Pharmaceutical companies (full time or contractor)
- 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

Study exclusion criteria include pharmacists who are:

- Not graduates of the Class of 2020
- Not graduates with a PharmD degree
- Employed in a direct patient care setting (e.g. retail pharmacists, hospital pharmacists, ambulatory care pharmacists, specialty pharmacies)
- Employed at Long-term Infusion pharmacies, compounding pharmacies, or medical marijuana dispensaries
- Employed by Managed Care Organizations (PBM, Insurance Company)
- Employed by the FDA or the US government
- Currently participating in a clinical residency or postdoctoral fellowship position.

Data collection methods included:

- Google survey was distributed to all pharmacists from the class of 2020 who are registered on the Industry Pharmacists Organization (IPhO) website.
- LinkedIn (Basic) was utilized to search for pharmacists from the class of 2020 who are registered on the IPhO website to identify those who met the inclusion criteria.
- LinkedIn (Recruiter) search was conducted to identify other pharmacists from the class of 2020 who met the inclusion criteria but were not registered on the IPhO website.
- Various data including employer, employer type, position title, and functional area were recorded from publicly available LinkedIn profiles.

Results and Discussion

Over 200 (n=203) pharmacists from the class of 2020 met the inclusion criteria and were identified to have obtained a Direct-To-Industry role via a non-fellowship route.

- Medpace, Inc. (n=22) employed a greater number of 2020 pharmacy school graduates in a Direct-To-Industry role than any other employer as seen in Figure 1.
- About 45% of the 203 pharmacists were employed by Pharmaceutical/Biotechnology companies, while 55% were employed by non-pharma "service industry" companies such as agencies and Clinical Research Organizations, as illustrated in Figure 2.
- The 203 pharmacists in this study cohort work in a variety of functional areas, the most common of which included Medical Affairs (21%), Clinical Development (19%), Medical Writing (17%), and Regulatory Affairs (13%), as depicted in Figure 3. A small number held contractor roles.
- The most common alma maters included Rutgers University (14%, n=28), Northeastern (5%, n=11), and miscellaneous other pharmacy schools as shown in Figure 4.
- Data on "Position Title" was also collected, but due to the high degree of variability of position titles and nomenclature across employers, this data was difficult to summarize in a meaningful way. Overall, these positions could be best described as "entry level" for a pharmacist in these employer organizations.

Characterization of Direct-to-Industry Jobs Obtained by Class of 2020 PharmD Graduates

Breakdown of Employer

The 203 pharmacists represented in this study were able to obtain jobs at approximately 100 different employers. This figure depicts the companies that hired the most 2020 pharmacy school graduates in Direct-To-Industry roles. Medpace, Inc employed a greater number of 2020 pharmacy school graduates (n=22) in a Direct-To-Industry role than any other employer.

Figure 1. Top PharmD Class of 2020 Direct-To-Industry Employers (n=203)
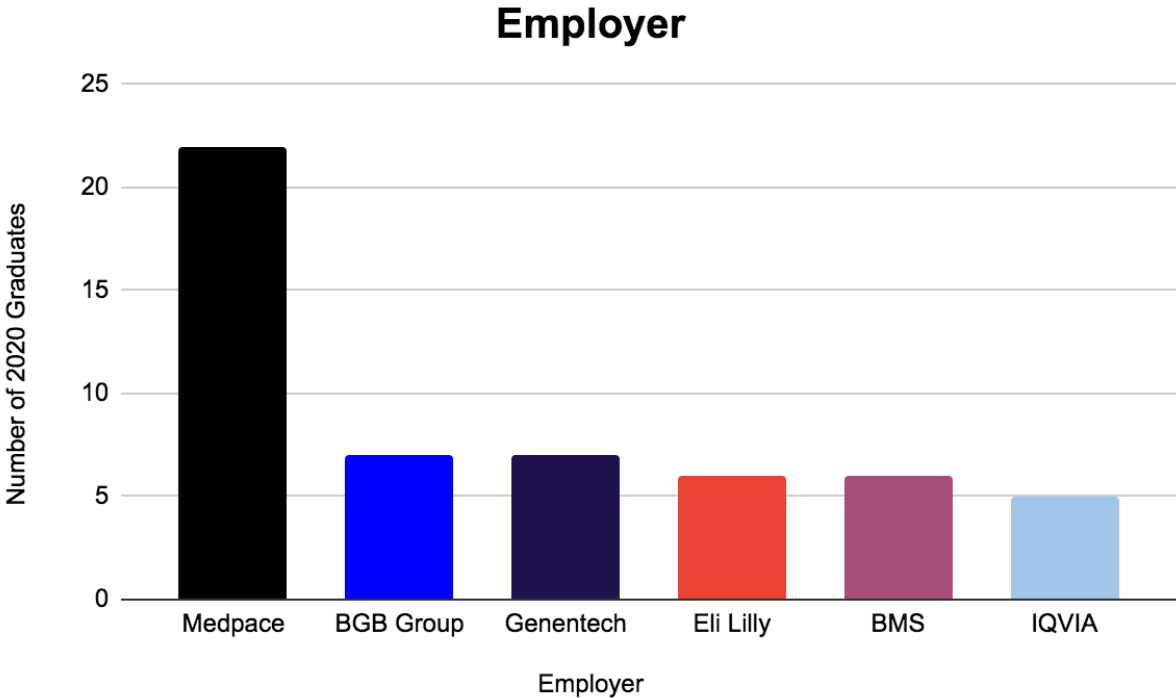
Other = 150 pharmacists employed by miscellaneous Pharmaceutical Industry employers are not graphed in Figure 1
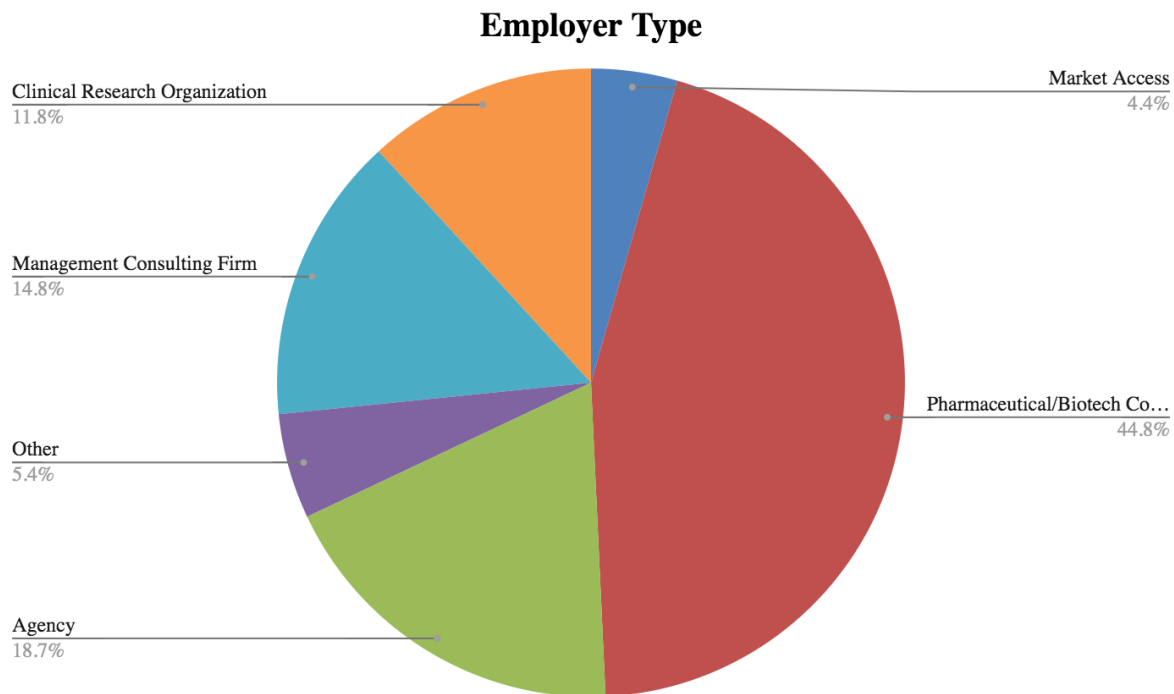
Categorization of Employer Types

The most common employer type for the cohort of pharmacists represented in this study was a Pharmaceutical/Biotechnology Company.

Employer categories: The authors used their best judgment to define, categorize and group the employer types for the cohort of pharmacists represented in this study. For the purposes of this study:

- "Pharmaceutical/Biotech Company" included employers that have a medicinal product on the market or are currently developing a medicinal product for the market.
- "Agency" included the following: Medical Training Agency, Medical Communications Agency, Medical Writing Agency, Advertising Agency or Medical Education Agency.
- "Management Consulting Firm" included consulting organizations that provide more than one major area of service to Pharmaceutical/Biotech/Healthcare companies.
- "Clinical Research Organization" included companies that focus their services primarily in Clinical Research.
- "Market Access" included agencies that focus their services primarily in Market Access.
- "Other" included the following: Diagnostics companies, Investment Firms, Imaging Companies, Contracting Manufacturers or Medical Device Companies.
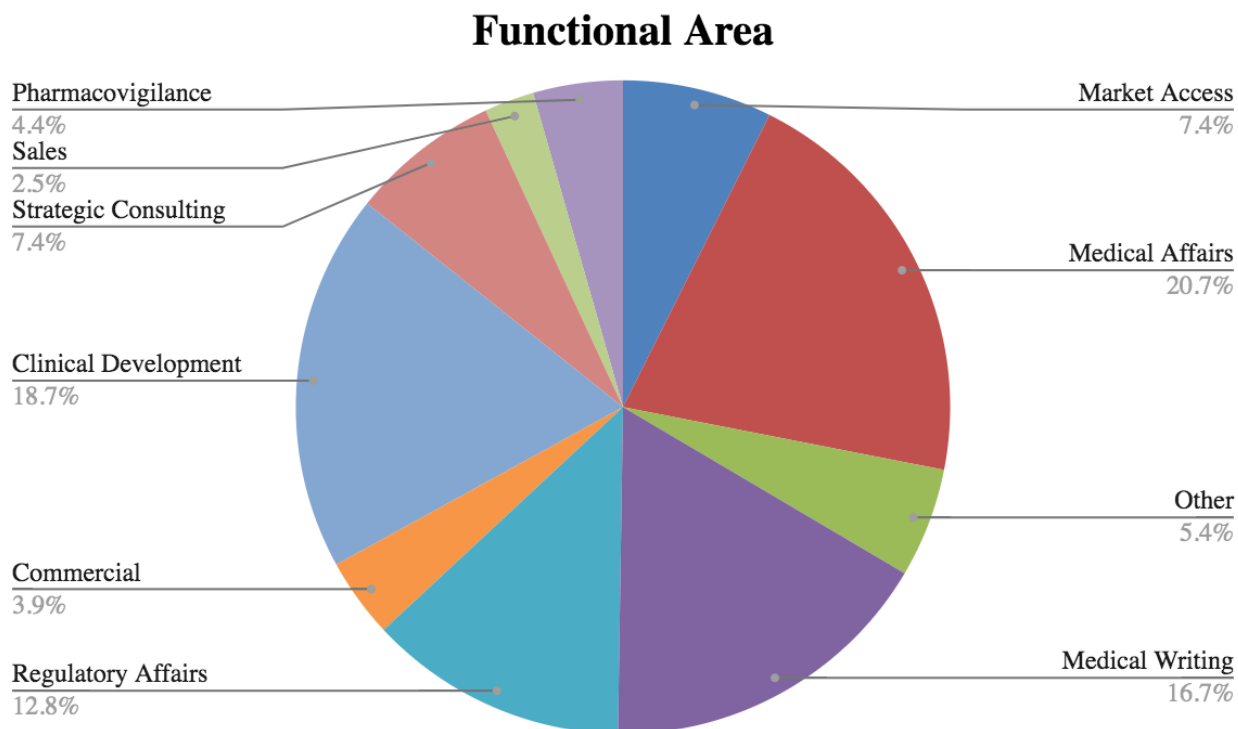
Figure 2. Breakdown of Employer Type, Class of 2020 PharmD Graduates (n= 203)

Employer Type

Clinical Research Organization 11.8%

Market Access 4.4%

Management Consulting Firm 14.8%

Other 5.4%

Agency 18.7%

Pharmaceutical/Biotech Co... 44.8%

Categorization of Functional Areas

The cohort of pharmacists represented in this study were employed in a variety of functional areas, the most common of which was Medical Affairs. Notably, only one of the 203 pharmacists in this study cohort secured a Medical Science Liaison role, which highlights the difficulty of landing this coveted role without first gaining other post-graduate experiences.

Figure 3. Breakdown of Functional Areas of Direct-To-Industry roles, PharmD Class of 2020 (n=203)

Functional Area

- Pharmacovigilance 4.4%
- Sales 2.5%
- Strategic Consulting 7.4%
- Clinical Development 18.7%
- Commercial 3.9%
- Regulatory Affairs 12.8%
- Market Access 7.4%
- Medical Affairs 20.7%
- Other 5.4%
- Medical Writing 16.7%

Note: the "Other" category includes device, diagnostics, and imaging companies, and other other employers that did not align with one of the main functional areas

Breakdown by Alma Mater

The cohort of pharmacists represented in this study graduated from a wide variety of pharmacy schools, the most common of which was Rutgers University. In all, more than 60 different pharmacy schools were represented.

Figure 4. Alma Mater, Direct-To-Industry PharmD Class of 2020 (n=203)
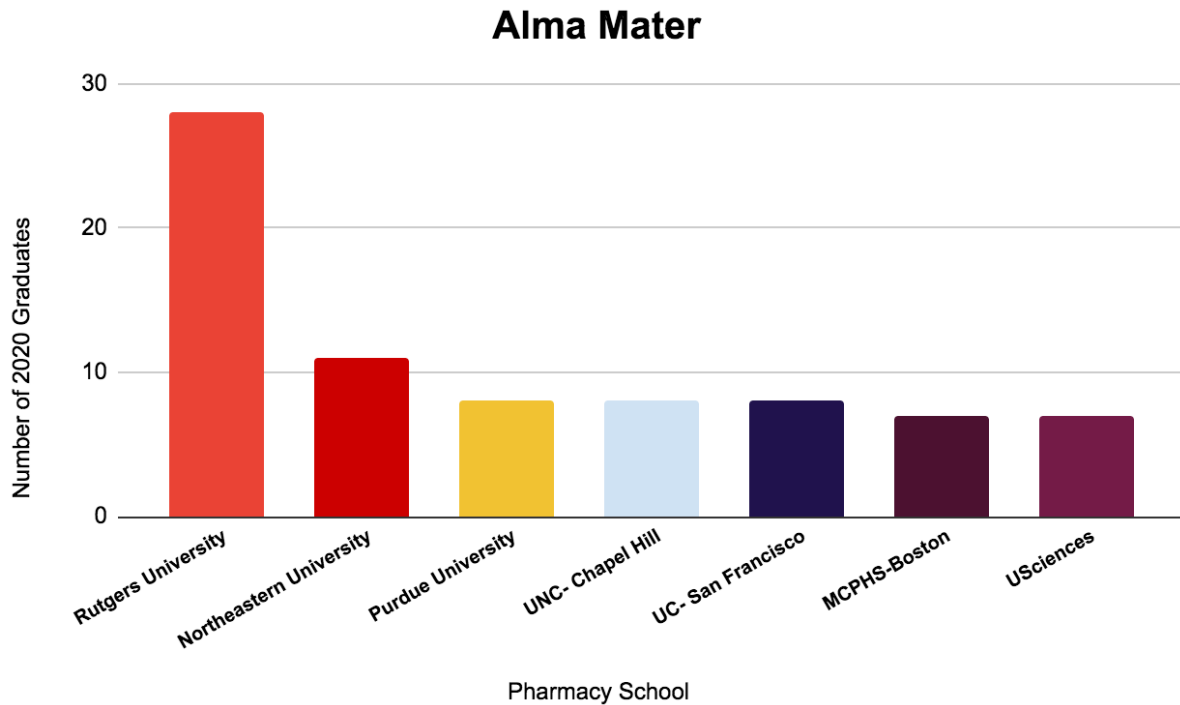
Abbreviations: UNC-Chapel Hill: University of North Carolina- Chapel Hill; UC San Francisco: University of California-San Francisco; MCPHS-Boston: Massachusetts College of Pharmacy and Health Sciences - Boston; USciences: University of the Sciences in Philadelphia

**Other = 126 pharmacists from >60 miscellaneous schools are not graphed in Figure 4*

Limitations

Functional areas were categorized at the discretion of the authors. Due to variability in titles across companies, positions were manually stratified into distinct functional area categories to allow for comparative analysis, but this categorization may have led to differences in distribution based on the stratification methodology. Another limitation was the difficulty in accurately categorizing service provider companies according to whether they make their business by providing i) multiple categories of services (a "Management Consulting Firm") or ii) by providing only one primary service category.

The accuracy of self-reported data collected from a LinkedIn profile cannot be fully verified. Also, some individuals simply described themselves as "contractors" or "pharmacists" without description of their responsibilities. Individuals might have changed their LinkedIn profile at any time after the data was collected. Despite these limitations, IPhO will endeavor to maintain the most complete and accurate database of Direct-To-Industry jobs in the future.

Conclusion

Over 200 pharmacy graduates from the class of 2020 secured a Direct-To-Industry position in pharmaceutical and related service companies. Although a greater number of 2020 graduates secured an Industry Fellowship (n=375), the findings of this study still highlight a substantial number of industry employment options for graduating pharmacists. Until now, these Direct-To-Industry opportunities were not widely known or understood, and students who wanted to enter the Pharmaceutical Industry have generally focused on fellowships as the only available path to industry employment. Many unsuccessful fellowship applicants ask the question "what now?" and do not realize that they could be pursuing these types of employment opportunities.

About 45% of these Direct-to-Industry roles were in pharmaceutical/biotech companies, while about 55% of the positions were in the service industry, agencies and other pharma-related companies. This data is substantially different from fellowship programs. More than 95% of current fellows are gaining experience in pharma/biotech while just 5% are training with service companies. However, it should also be noted that it is common for pharmacists working in service companies to transition over to pharma/biotech roles at some point in their career.

Relatively few employers seem to realize that there is a strong talent pool of graduating pharmacists who are industry-ready and do not need a fellowship to obtain an entry level role in their organization. Medpace, Inc may be an exception as they hired 22 pharmacists following their graduation in 2020. The results of this study will be shared with employers to help shine a bright light on Direct-To-Industry roles for graduating pharmacists who are industry-ready.

This study will be repeated annually to track changes and trends related to industry employment for graduating pharmacists.

References

1. Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, Pharmacists, at https://www.bls.gov/ooh/healthcare/pharmacists.htm (visited November 10, 2020).
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3. IPhO Analysis of 2020-21 PharmD Industry Fellowships; 2020-2021. www.industrypharmacist.org/publications.php
4. Data on file, Industry Pharmacists Organization.