

BACKGROUND

With career options for pharmacists expanding, the number of pharmacists seeking careers in the pharmaceutical industry has steadily grown over the past few decades. For most pharmacists and student pharmacists, the first step to a career in the pharmaceutical industry begins with successfully obtaining a pharmaceutical industry fellowship. Pharmaceutical Industry Fellowship programs are designed to bridge the experience gap between recent PharmD graduates and the entry level job requirements of the pharmaceutical industry. These programs have multiplied and expanded as interest in the pharmaceutical industry has grown.

The Rutgers Pharmaceutical Industry Fellowship program is the oldest and largest industry fellowship program with a rich history of over 650 alumni and 25 years of experience. As interest has risen, competition for this prestigious program has also grown. From 2008 to 2012, the number of applications to the program has doubled while the number of positions has remained static. This analysis seeks to determine the traits and experiences common to successful applicants against those not admitted, and to compare trends over the past few years.

OBJECTIVES

Primary objective:

- To analyze *curriculum vitae* (CV) metrics from the most recent applicants to the Rutgers Pharmaceutical Industry Fellowship program to determine how industry or specialty-based experiences correlate to success in obtaining an industry fellowship position.

Secondary objectives:

- To analyze the impact of extracurricular leadership, scholarly activity, and organizational leadership involvement on successfully obtaining an industry fellowship position
- To compare current acceptance rates to acceptance rates over the past 5 years of the program

METHODS

An analysis was completed on all CVs (n=302) submitted to the online fellowship application database for 2012 admission to the program to evaluate:

- Pharmaceutical industry internships and rotations
- Specialty experiences (managed care, association management, etc.)
- Pharmacy organization membership and leadership
- Poster presentations and publications
- Additional degrees and educational background

Inclusion criteria: Fellowship applicants starting July 2012 that were submitted to the online fellowship application database

Exclusion criteria: Applicants with incomplete applications or who declined RPIF Program offers

Each CV was screened utilizing a standard survey and entered into a central database. Odds ratios (OR) compared evaluated criteria in the accepted applicant group versus the non-accepted applicant group for experience and scholarly activity (an odds ratio greater than 1 favors the experience in the accepted applicants). Graphical representation of data was used for other measures deemed to have an impact on applicant success.

DISCUSSION

Over the past five years, acceptance rates for the program has greatly decreased from 37% in 2008 to 22% in 2012 (TABLE 1). During this time, the number of positions has remained fairly constant while the number of applications continues to increase. Prior experience with the pharmaceutical industry or a similar environment (government agency, contract research organization, etc.) was more common in accepted applicants than non-accepted applicants (FIGURE 2 and FIGURE 3).

RESULTS

TABLE 1: APPLICANT ACCEPTANCE RATES BY YEAR

YEAR	ACCEPTED APPLICANTS	NON-ACCEPTED APPLICANTS	ACCEPTANCE RATE
2012	56	193	22.4%
2011	42	131	24.2%
2010	55	141	28.1%
2009	55	120	31.4%
2008	58	97	37.4%

Accepted Applicants Non-Accepted Applicants

FIGURE 1: APPLICANT PHARMACY SCHOOL DEMOGRAPHICS

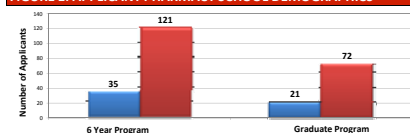


FIGURE 2: APPLICANT WORK EXPERIENCE

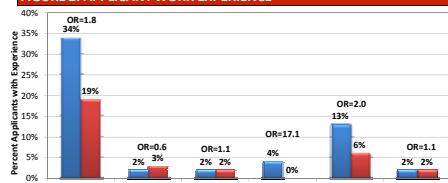


FIGURE 3: APPLICANT ROTATION EXPERIENCE

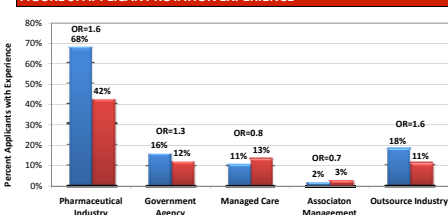


FIGURE 2 and FIGURE 3: Government Agencies include internships and rotations with the FDA, CDC, NIH, or other relative agency. Association Management includes experiences at APHA, ASHP, and other professional or patient societies. Outsource Industry includes medical communications companies, contract research organizations, and advertising agencies.

FIGURE 4: APPLICANT SCHOLARLY ACTIVITY

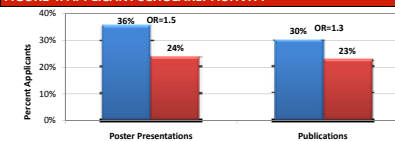


FIGURE 5: APPLICANT PROFESSIONAL AFFILIATIONS

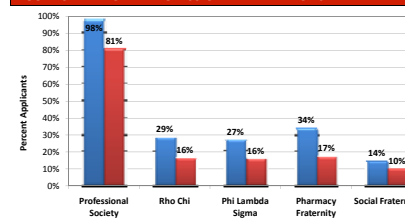


FIGURE 6: APPLICANT LEADERSHIP EXPERIENCE

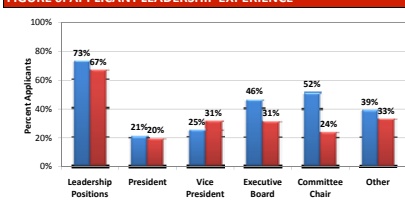


FIGURE 6: Executive Board leadership includes roles as secretary, treasurer, and historian but does not include president or vice-president. Other leadership experiences include leadership roles held on athletic teams, community service based leadership, and titles that demonstrated leadership from applicant CV but could not be classified in traditional roles.

TABLE 2: DEGREES HELD BY APPLICANTS IN ADDITION TO PHARM.D.

DEGREE	ACCEPTED APPLICANTS (n=56)	NON-ACCEPTED APPLICANTS (n=193)
Bachelors	19	34%
Masters	5	9%
M.B.A	4	7%
PhD	1	~1%

DISCUSSION (CONTINUED)

When correlating internship experience and rotation experience, 54 candidates (of 56 accepted applicants) had either an internship or rotation in either a corporate or similar setting that gave valuable industry experience.

- 68% of accepted applicants had a rotation in the pharmaceutical industry versus 42% of non-accepted applicants (odds ratio=1.6).
- 34% of accepted applicants had an internship or prior work in the pharmaceutical industry versus 19% of non-accepted applicants (odds ratio=1.8)

Other factors that may contribute to applicants successfully receiving an offer include:

- 36% of accepted applicants had made a poster presentation versus 24% of non-accepted (odds ratio=1.5, FIGURE 4)
- 30% of accepted applicants were involved in a publication versus 23% of non-accepted applicants (odds ratio=1.3, FIGURE 4)
- 98% of accepted applicants were involved in at least one professional organization versus 81% of non-accepted applicants. Involvement rates were higher in accepted applicants in the Rho Chi Honor Society, Phi Lambda Sigma Leadership Society, pharmacy fraternity involvement, and social fraternity involvement (FIGURE 5)
- There was little difference between whether accepted applicants were involved in leadership positions than non-accepted applicants (73% versus 67%), however, the quality of the leadership experiences were not assessed overall besides for a breakdown of positions (FIGURE 6).

Of accepted applicants, 40 of the 56 (71%) applicants attended the Fellowship Information and Networking Day at the Rutgers Ernest Mario School of Pharmacy prior to interviewing at the ASHP Midyear Clinical Meeting.

LIMITATIONS

- Data collection process was not blinded.
- Applicants who received offers and chose not to matriculate into the program were not included in the analysis.
- Some CVs had incomplete or missing information for evaluable criteria
- Additional factors that influenced successful candidacy for the RPIF Program were not evaluated, such as level of performance in the interviewing process, the strength of letters of recommendation, and presentation/writing abilities
- A retrospective study design is not interventional; therefore, cause-effect relationships cannot be determined
- The online applicant portal did not capture all candidates that interviewed for the program during ASHP Midyear since applications did not have to be submitted until after the meeting. Many applicants who performed poorly in early interviews without progressing did not submit applications.

CONCLUSIONS

On average, applicants that were accepted into the Rutgers Pharmaceutical Industry Fellowship program had a greater number of pharmaceutical industry experiences, more student leadership experience, and were engaged in more scholarly activities.

DISCLOSURE

All authors are affiliated with the Rutgers Institute for Pharmaceutical Industry Fellowship Program and are paid employees of Rutgers, the State University of New Jersey.

REFERENCES

- Dabovic K, Patel L, Nashat M, Alexander J.G., Barone J.A. The Impact of Industry-Based Training Experiences and Achievements of PharmD Graduates on Obtaining a Position with the Rutgers Pharmaceutical Industry Fellowship (RPIF) Program. Poster session presented at: 2009 APHA Annual Meeting and Exposition; 2009 Apr 3-6; San Antonio, TX
 - Okamoto T, Dabovic K, Patel L, Nashat M, Alexander J.G., Barone J.A. The Impact of Industry-Based Training and Student Leadership Experiences of PharmD Graduates on Obtaining a Position with the Rutgers Pharmaceutical Industry Fellowship (RPIF) Program. Poster session presented at: 2010 CSHP Seminar; 2010 Oct 21-24; San Francisco, CA
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