

# THE IMPACT OF INDUSTRY – BASED TRAINING EXPERIENCES AND ACHIEVEMENTS OF PHARM D GRADUATES ON OBTAINING A POSITION WITH THE RUTGERS PHARMACEUTICAL INDUSTRY FELLOWSHIP (RPIF) PROGRAM

Kristina Dabovic, PharmD, Lisa Patel, PharmD, Michael Nashat, PharmD, James G. Alexander, PharmD and Joseph A. Barone, PharmD, FCCP  
Ernest Mario School of Pharmacy, Rutgers University NJ



## BACKGROUND

Many PharmD students who seek a career in the pharmaceutical industry apply for industry-focused postgraduate training programs. The Rutgers Pharmaceutical Industry Fellowship (RPIF) Program is the largest post graduate training program designed to prepare PharmDs for a career in the pharmaceutical industry. Applicant experiences as predictors of successfully obtaining a position in the RPIF Program have not been studied. Recently an evaluation of RPIF Program applicants was conducted to identify the impact of undergraduate industry-based educational and training experiences and leadership roles of PharmD graduates on the likelihood of successfully obtaining a position in the RPIF Program.

## OBJECTIVES

- Primary objective:** To analyze data from applicants who completed industry-based rotations and/or internships to determine how these experiences relate to successfully obtaining a fellowship position.
- Secondary objective:** To analyze the impact of other experiences such as leadership, research, and organizational involvement on successfully obtaining a fellowship position.

## METHODS

- A randomized blinded analysis of the *curricula vitae* of July 2008 and July 2009 RPIF Program applicants (n=330) was completed to evaluate:
  - industry-based rotations and/or internship experiences
  - other specialty experiences
  - pharmacy organization memberships
  - leadership experiences
  - poster presentations and publications
  - additional degrees as well as other experiences and accomplishments
- Data was collected and entered into Zoomerang for analysis.
  - Zoomerang.com is an online survey tool that allows users to create surveys and analyze results on-demand
- Inclusion Criteria:**
  - Fellowship Applicants starting July 2008 and July 2009 that were on the RPIF Program website portal
- Exclusion Criteria:**
  - Applicants with incomplete applications
  - Applicants who declined RPIF Program offers
- The relative likelihood of successfully obtaining a fellowship was determined for each factor evaluated
- Odds ratios (OR) were used to compare the effect of an evaluated criteria in the accepted applicant group vs. non-accepted applicant group.
  - OR is a way of compare the probability of a certain event for two groups. An OR >1 implies that the event is more likely in the accepted applicant group. An OR <1 implies that the event is less likely in the accepted applicant group.

## RESULTS

**Table 1: Demographics**

	2008	2009
Non-accepted Applicants	97	120
Accepted Applicants	58	55

Includes only complete applications

- Accepted 2008 and 2009 applicants (n=113)
- Non-accepted 2008 and 2009 applicants (n=217)

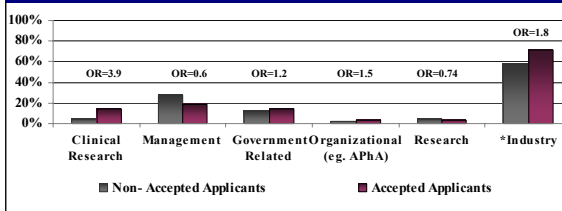
**Table 2: Odds Ratios**

	2008 Applicants	2009 Applicants
<b>Experiential Rotations</b>		
•Clinical Research	3.9	2.4
•Government Related (eg. FDA, NIH)	1.2	2.3
•Industry	1.8	2.3
<b>Internship/Work Experience</b>		
•Industry	2.7	1.1
Leadership as a Student	2.7	2.5
Poster Presentations	2.6	2.5
Publications	1.7	2.1
Did the PharmD candidate have an additional degree?	0.9	0.7

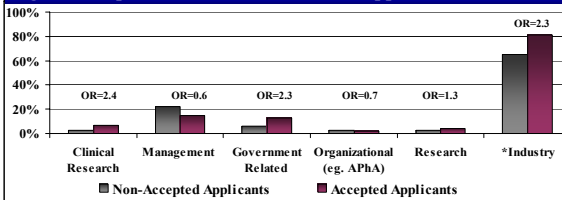
**Table 3: Did the PharmD Candidate have an additional degree?**

	Non-Accepted Applicants		Accepted Applicants	
	2008	2009	2008	2009
YES	32%	37%	29%	30%
BS	24%	28%	28%	24%
MBA	4%	9%	7%	7%
MS	1%	2%	5%	9%
PhD	0%	1%	0%	0%
Associates	1%	0%	5%	2%
Other	9%	2%	3%	0%

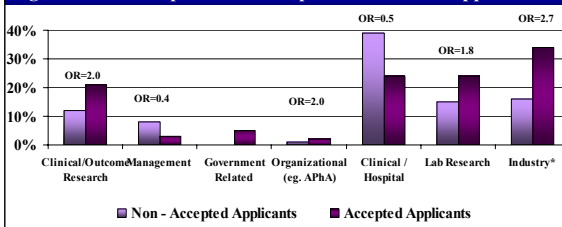
**Figure 1: Experiential Rotations for 2008 Applicants**



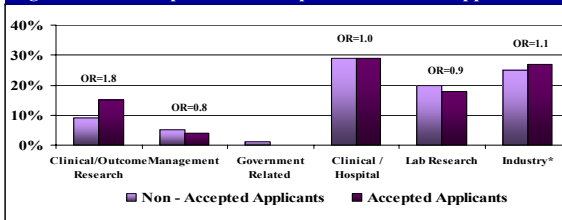
**Figure 2: Experiential Rotations for 2009 Applicants**



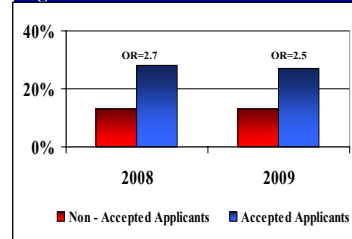
**Figure 3: Internship and Work Experience for 2008 Applicants**



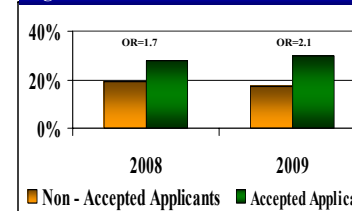
**Figure 4: Internship and Work Experience for 2009 Applicants**



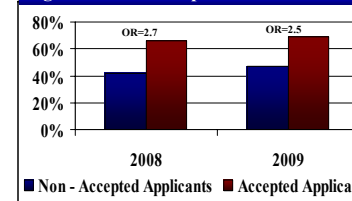
**Figure 5: Poster Presentations**



**Figure 6: Publications**



**Figure 7: Leadership Positions**



## DISCUSSION

Prior pharmaceutical industry experience was more common among RPIF Program accepted applicants who successfully obtained a fellowship position than non-accepted applicants. In 2008 and 2009, respectively, 71% and 81% of accepted applicants had an industry rotation compared with 58% and 65% of non-accepted applicants.

- In 2008, 34% of accepted applicants had other industry experience in addition to their experiential rotations compared to 16% of non-accepted applicants (OR 2.7). In 2009, the results were similar among both groups, 27% of accepted applicants vs. 25% non-accepted applicants.
- Pharmacy-related (and other) student organizational involvement was higher among accepted applicants, most commonly with APHA and ASHP.
- On average in 2008 and 2009, 68% of accepted applicants had held leadership positions compared to 45% of non-accepted applicants. Accepted applicants also held more officer positions in student organizations, when compared with non-accepted applicants (Figure 7).
- On average in 2008 and 2009, accepted applicants were more involved in poster presentations and publications compared to non-accepted applicants (27% and 29% vs. 13% and 18%) (Figure 5).
- Overall, there was little difference in the accepted (30%) and non-accepted (35%) applicant groups with respect to whether they had a degree in addition to their PharmD (Table 3).

## LIMITATIONS

- This study has several limitations.
- Blinding during data collection was incomplete in some cases since some elements included in a CV can identify the applicant's name, e.g. authorship of manuscripts and posters.
  - Other factors that influenced successful candidacy for the RPIF Program were not evaluated. These factors include but are not limited to level of performance in the interviewing process and the strength of letters of recommendation.
  - A retrospective study design is not interventional therefore cause and effect cannot be determined.
  - Applicants who declined offers were not included in the analysis.
  - This analysis examined experiences and achievements of applicants regardless of discipline. Specific experiences and achievements may have a varying degrees of importance as it relates to specific disciplines in the fellowship.

## CONCLUSIONS

Overall, accepted RPIF Program applicants had more industry-based experiences and leadership experience than non-accepted applicants.

## DISCLOSURE

All authors of this study are paid employees of Rutgers, the State University of New Jersey.