

# EMERGING TRENDS WITHIN INDUSTRY-BASED POST-GRADUATE TRAINING PROGRAMS FOR PHARMACISTS

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## Background

Industry-based post-graduate training programs for pharmacists, including fellowships and residencies, have experienced substantial growth over the past 20 years. The growth of these programs may have been accelerated by the transition in pharmacy education to the Doctor of Pharmacy degree. Pharmacists have a unique combination of clinical expertise and extensive drug knowledge that can be utilized in many areas of the pharmaceutical industry. Pharmaceutical companies have recognized the value of incorporating pharmacists in the complex drug development process. This has led to an increase in the number of employment opportunities for clinical pharmacists in the industry practice setting.

Many companies have established training programs for pharmacists within key disciplines, including clinical research, medical information, medical operations, marketing and regulatory affairs. Some of these programs are structured as University/ Industry collaborations and may include an academic component. These training programs prepare pharmacy graduates for a career within the industry practice setting. Pharmacists today are as prepared to utilize their clinical knowledge in the forefront of drug development as they are in the front lines of patient care. Industry-based training programs that supplement pharmacists' clinical education have promoted industry as one of the practice settings of choice within pharmacy.

## Objectives

- Evaluate emerging growth trends within post-graduate industry-based training programs over the past 20 years
- Provide current as well as potential program sponsors and post-doctoral candidates with a comprehensive overview of the state of industry-based training programs

## Methodology

### Design

- A retrospective analysis of emerging trends in recruitment over a 20-year period amongst the three largest post-graduate industry-based training programs for pharmacists based on existing alumni information.

### Inclusion Criteria

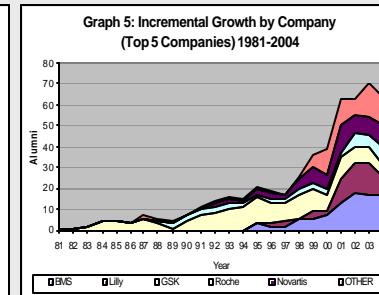
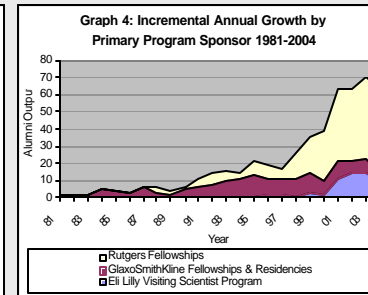
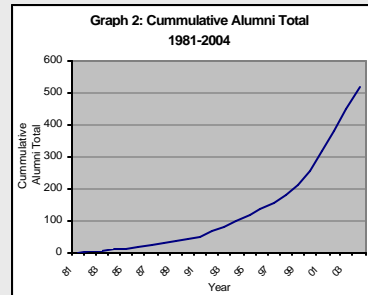
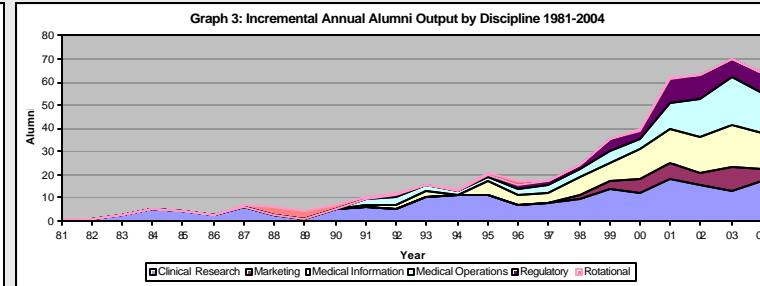
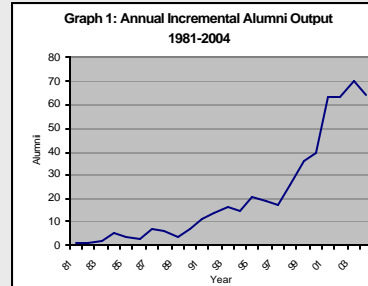
- Individuals who have completed or are projected to complete a post-graduate industry-based training program for Pharm.D. graduates between 1981-2004. The program should be sponsored by one of the following companies:
  - Eli Lilly
  - GlaxoSmithKline
  - The affiliated companies of the Rutgers Fellowships

### Data Collection

- Data collection sheets were developed to record historical data from the three largest sponsors of post-graduate industry-based training programs:



## Results



### Discipline Components

- Clinical Research**
  - Clinical Pharmacology
  - Drug Development
  - Pharmacokinetics
  - Epidemiology
  - Translational Medicine
- Medical Information**
  - Medical Communications
  - Customer Contact Center
  - Medical Education
- Medical Operations**
  - Outcomes Research/Pharmacoeconomics
  - Pharmacovigilance
  - Medical Affairs/ Strategy
  - Scientific Affairs
- Marketing**
  - Marketing Research
  - Marketing
- Regulatory Affairs**
  - Promotional Regulations & Compliance
  - Drug Regulatory Affairs
  - Global Operations Labeling Department

## Discussion

- There was a steady increase in the rate of growth of post-graduate industry-based training programs between 1981-2004, as seen in Graph 1 and Graph 2. The rate was particularly sharp after 1999.
- Medical Operations and Medical Information appear to be the two fastest growing disciplines, particularly in the last five years, as described by the Incremental Annual Alumni Output and by the Discipline analysis (Graph 3).
- Each of the three largest program sponsors has demonstrated substantial overall growth during the 20-year evaluation, as described by Graph 4.
- While a combined overall growth of these three programs can be observed, the rate of change for each sponsor is variable.

### Limitations

- Findings may have been influenced by the differences in data collectors and data collection sites.
- Data was only obtained from the three largest programs. Lilly and the companies under the Rutgers fellowship program sponsor other industry-based training programs that were not included within the study.

## Conclusions

- There has been substantial growth in post-graduate industry-based training programs for pharmacists between 1981-2004.
- There has been greater growth among select disciplines, such as Medical Information and Medical Operations.
- The growth of opportunities for pharmacists within industry parallels that of post-graduate industry-based training programs.
- Our findings suggest that additional research into the growth of post-graduate industry-based training programs is warranted.
  - The growth of post-graduate industry-based training programs will likely continue.
  - The number of company sponsors will likely continue to grow as the success of these programs demonstrate the value of investing in advanced industry-based training for pharmacists.

\* GlaxoSmithKline/ University of North Carolina Fellowship Program