



# The Pfizer Guide to Careers in Pharmacy

A Guide that Profiles the Life  
and Work of Pharmacists

2024 Second Edition

Pfizer  
**Pharmacists**  
Association





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David A. DeMicco, PharmD,  
Vice President, US Medical Affairs Lead – Internal Medicine

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Vice President, Worldwide Medical Operations, Information and Transparency  
Worldwide Medical and Safety  
Pfizer Research and Development

Michael Ku, PharmD, MBA,  
Vice President, Global Clinical Supply  
Pfizer Research and Development

---

## 2024 Edition:

### The Pfizer Guide to Careers in Pharmacy Editors:

**Caroline Bezzubik, PharmD - Lead Editor**  
Senior Manager, Medical Affairs, Pfizer

**Lisa Tarasenko, PharmD, MBA**  
Senior Director, Medical Affairs, Pfizer

**John Spain, MA, PharmD, BCPS**  
Senior Director, Medical Affairs, Pfizer

**Stacey Follman, BS Pharm, PharmD\***  
**Geri Kelsch, BS Pharm, PharmD\***  
\*Former Pfizer Employee

## 2002 Edition:

### The Pfizer Career Guide Series Editor: Salvatore J. Giorgianni, PharmD\*

*Full Preparation: The Pfizer Guide to Careers in Pharmacy*  
**Assistant Editor: Marlene Lipson\***



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## A Letter from Pfizer

# Dear Doctor of Pharmacy Student:

The Pfizer Pharmacists Association (PPA) is proud to share The Pfizer Guide to Careers in Pharmacy with you. PPA is an organization of passionate and resilient Pfizer pharmacists who aim to foster a global, diverse and inclusive community of like-minded colleagues to help advance the profession of pharmacy in industry. Our goal is to leverage unique perspectives and skillsets of pharmacists to help achieve Pfizer's overall mission: Breakthroughs that change patients' lives.

Congratulations on taking the first step in exploring career opportunities toward a life-long journey in the healthcare profession! Over the past 20 years, we at Pfizer have utilized this resource to help advise future pharmacy talent, including pharmacy students from various colleges of pharmacy, student summer interns, residents, and fellows from across the globe. Realizing that much has evolved in the world of pharmacy since the first edition of this guide, we have updated the guide with a sampling of the vast opportunities available to you as a healthcare professional.

This book does not offer advice about the specific career path you should take. Instead, in the spirit of equity and inclusion, we have provided a brief overview of career opportunities ranging from clinical pharmacy to healthcare investing and everything in between. We hope to continue to inspire future pharmacy talent to support patients and caregivers around the world. In accordance with the Oath of Pharmacy, we commit to utilizing our knowledge, skills, experiences, and values to prepare the next generation of pharmacists.

Sincerely,  
*Lisa Tarasenko, PharmD, MBA*  
*Caroline Bezzubik, PharmD*  
*Sveta Ferri, PharmD, CMD*

# The Future of Pharmacy

Henry Cohen, PharmD, MSc, FCCM

Dean and Professor, Touro College of Pharmacy - New York

Niels Bohr, the Nobel laureate physicist, is reported to have observed, "Prediction is very difficult, especially if it's about the future!"

Nevertheless, I'm going to fire up my crystal ball and tell you how the pharmacy profession's present presages the future.



## Technology is Transforming the Profession

Pharmacy is the beneficiary of many modern technologies that increase accuracy and produce superior clinical outcomes. These are as basic as bar code matching of patients and drugs, automatic dispensing machines and chemotherapy compounding technology, and futuristic software that can identify patients who might have memory or compliance problems based on their refill date patterns. Artificial Intelligence (AI) will soon be able to alert pharmacists to check the refill status for patients taking dementia or Alzheimer's medications as an example, for all their drugs. The pandemic-driven use of telehealth is becoming routine and will increase the scope and accessibility of pharmacists' services. Pharmacists are now reimbursed for telehealth services, including mental health. And the rapid development and acceptance of health apps and wearable products to monitor health and medication adherence will further increase pharmacists' involvement and improve patient outcomes.

## Innovation is Moving at Warp Speed

Innovation has been rapid over a wide range of areas. Drug formulations enable once-a-day tablets in place of multiple doses and injections that are effective for once-weekly, monthly, or quarterly dosages. Most prescriptions are sent electronically to pharmacies, reducing transcription medication errors, fraud, and lost paperwork. And forget about big, bulky reference books; they become obsolete almost overnight. Today we get information online that is updated continuously. We see same-day delivery, and drone delivery can't be far off. Chain pharmacy computer systems now allow pharmacists in New York to refill medications in Florida, Massachusetts, or California easily and without delay. Electronic medical records are now available within health systems and will soon be available in community pharmacies.

## Pharmacists' Roles Are Expanding

Just 40 years ago, pharmacy students were taught to tell patients to ask clinical questions to their physician. Today, pharmacists are:

- Integral members of healthcare teams
- Working shoulder-to-shoulder with physicians in ambulatory care and group medical practices
- Ordering laboratory tests
- Taking vital signs and administering physical examinations
- Prescribing medications, and
- Teaching newly diagnosed diabetes patients how to administer insulin injections and counseling patients on how to take their multiple medications

The degree change to Doctor of Pharmacy (PharmD) has helped raise both the professional stature and expectations for the pharmacist. Pharmacists now guide patients leaving the hospital as transitions of care pharmacists, staff poison control centers and drug information centers, participate in clinical trials of new drugs and conduct basic R&D in laboratories and at pharmaceutical manufacturers. Pharmacists lead hospital antibiotic stewardship programs and prescribe and use pharmacokinetics to dose antimicrobials. Some pharmacists teach classes on healthy behaviors, smoking cessation, and drug abuse and consult on the optimal scheduling of their several medications. In hospitals, we find pharmacists making rounds with the medical team, prescribing medications, ordering laboratory tests to monitor for drug efficacy and toxicity, performing medication reconciliation and drug discharge counseling, participating in rapid response and code teams, culminating in contributing with impact to direct patient care. Some pharmacists teach physician's assistants and nurse practitioners about the pharmacologic nuances of the latest drugs.

## Provider Status

Pharmacists are increasingly providing patients essential healthcare services, from COVID-19 testing to vaccinations to patient counseling and administration of certain drugs. Unfortunately, the federal Medicare program has not kept pace with this revolution in pharmacist services. It provides only limited reimbursement for these services, even though they are authorized by state law. As a result, Medicare beneficiaries have less access to needed care that pharmacists are licensed to provide. We expect that the efforts of national professional organizations will ultimately be successful, and appropriate compensation will help expand care to those who most need it. Of note, many states have passed legislation recognizing pharmacists as providers.

## Impacting Social Determinants of Health

Pharmacists are already the most accessible of medical professionals. Hence, pharmacists are in an ideal situation to break down the barriers of social determinants of health. Pharmacies are generally located in the same neighborhood where their patients live. Better than any healthcare professional, pharmacists understand the impediments caused by lower educational attainment, limited health literacy, membership in a minority population, and limited income, among others. For example, in a disadvantaged area, the pharmacist is likely to suggest a less costly generic drug, provide medication therapy management, medication counseling, and promote and administer regularly scheduled and annual immunizations. Indeed, in most states, pharmacists can administer most or all CDC-approved vaccines.

## New Directions in Pharmacy Education

Modern pharmacy education is increasingly emphasizing courses in cultural competency and the social and behavioral sciences. Curriculum now includes leadership training, entrepreneurship, expanded co-curricular activities, intensive physical assessment and basic diagnostics, pharmacogenomics, preventative care and self-care, and a commitment to a lifelong relationship with graduates. Pharmacists routinely pursue residency and fellowship training and other post-graduate degrees, such as a master's in public health and business administration. New pharmacists are going out in the world with new tools and ongoing support, far better prepared to provide effective patient-centered care and make significant contributions to the profession and the community.

## Changes for the Better

With the expanding use of automation and the growth of technician support staff, community pharmacists have additional time for personal, one-to-one patient counseling, education, and answering questions. Many pharmacies can print labels in multiple languages and in Braille for vision-impaired patients. Pharmacists will continue to expand the scope of practice, performing medication therapy management reviews and administering vaccines and other injectable drugs. Pharmacists will continue to expand their roles in the pharmaceutical industry, including medical and drug information, as medical science liaisons, sales and marketing, regulatory affairs, pharmacoeconomics, and research.

## Future Roles

It is easy to foresee the pharmacist in a few years, administering many types of injectable medications, performing lab tests, selling a third class of drugs in between OTC and Rx drugs, working with specialized pharmacies and home care organizations, monitoring, and refilling prescriptions for numerous chronic conditions without physician involvement, and having responsibility for an expanded array of medical devices.

## Conclusion

I could not be more optimistic about the future of the profession. We start from a strong foundation, as surveys continue to show pharmacists are among the most trusted professionals. Now we are riding the tailwinds from the COVID-19 pandemic, where pharmacists have become increasingly accessible and involved as resources for medication and health care and are now poised to leverage technological innovation, patient trust, accessibility, and legal developments expanding the scope of practice to improve patient outcomes, address health care inequities, and enjoy rewarding careers. Or, as the author/philosopher Peter Drucker observed, "The best way to predict the future is to create it."



## Chapter One

# Advanced and Nutrition Support Clinical Pharmacist – Judah E. Brown, PharmD, BCCCP



**Overview:** I am an Advanced Clinical Pharmacist, with a primary focus on critical care medicine, emergency medicine, and adult nutritional support, at Thomas Jefferson University Hospitals in Philadelphia, Pennsylvania. I perform direct patient care via multidisciplinary bedside rounds, code/emergency response, and pharmacy education within the emergency department. Furthermore, I work closely with our nutrition support team, which includes clinical nurses, registered dietitians, case managers, social workers, physicians, and advanced practice providers, to manage and develop electrolyte, macronutrient, and micronutrient care plans for patients requiring parenteral and enteral nutrition. Given the complexity of clinical patient care management, this service requires immense interdisciplinary coordination to optimize nutritional care while managing dynamic medical and surgical disease states across care transitions. Additionally, I work on process improvement initiatives within our intensive care units to promote patient safety and optimal care for our critically ill patients. My training and primary focus are within the intensive care environment. I care for a variety of patients across the spectrum of illness. As a nutrition support pharmacist, I often care for patients with stable to acute gastrointestinal illness or nutritional disturbances that require parental nutrition.

**Day in The Life:** My typical day includes developing and documenting the parenteral nutrition support care plans in the medical record, ordering the parenteral nutrition for sterile preparation, and reviewing disposition plans for as many as 20 patients or more. I collaborate with other medical disciplines to identify and manage patients who are malnourished or at risk of becoming malnourished. I gather insights into patient-specific vascular access and enteral diet intake and tolerance from nutrition support clinical nurse specialists and registered dietitians. This endeavor involves careful coordination with providers to assess plans regarding patient discharge disposition to home health services, skilled nursing facilities, or rehabilitation hospitals. Each patient requires meticulous attention to detail as I review medical records and laboratory results to optimize effective nutrition while ensuring patient safety. I adjust electrolytes to meet clinical goals in accordance with the patient's underlying disease processes while maintaining the compounding stability of the physical parenteral nutrition infusion. The remainder of my day is dedicated to quality improvement, quality assurance, and education. I spend time working collaboratively with other pharmacists and clinicians to aid the development of policies and protocols to promote safe medication practices. I devote time to teaching and precepting pharmacy residents/students, throughout my day, which involves didactic topic discussions, presentations, and case-based simulations.

**Looking to the Future:** Pharmacy is a progressive field; every day, pharmacists are expanding their scope of practice and becoming increasingly more prominent patient care team members. Further, pharmacists are showing that seemingly unconventional roles can be performed, and even optimized with our level of training and education. I surmise that the field of pharmacy will continue to see more practitioners achieving provider status, expanding access to credentialed healthcare practitioners for patients across the country. As one of the most publicly accessible healthcare professions, pharmacists will continue expanding responsibilities through a more integrated team-based approach to healthcare. I envision pharmacists becoming the primary managers of medication therapy, as an active manager in patient care. Nutrition support pharmacists will spearhead this effort, becoming the primary source for managing parenteral nutrition. As more services get off the ground, nutrition support pharmacists may eventually be granted total autonomy from nutrient optimization to electrolyte management. Many nutrition services may be led by a pharmacist in conjunction with other care team members.

# Fast Facts

## What competency or skills are needed?

- Mastery of pharmacokinetic management of electrolyte administration & medical disorders of altered fluid balance and electrolyte homeostasis
- Expert knowledge in nutrient formulations and interactions with enteral/parenterally administered medications
- Understanding of gastrointestinal pathology and surgically managed disease states
- Ability to manage disorders of over/underfeeding, glycemic control, and metabolic derangements
- Working knowledge of compounding stability, medication safety, and technology required to prepare and dispense parenteral nutrition

## What is required?

- Doctor of Pharmacy (PharmD) degree: many pharmacists in this practice also have other advanced degrees ranging from bachelor's, master's, and PhD in nutritional science and dietetics.
- Licensure with the state board of pharmacy
- Most often, PGY1 pharmacy residency is obtained, followed by a PGY2 specialized pharmacy residency (typically in critical care pharmacy, nutrition support pharmacy, or internal medicine pharmacy)
- Experiences with inpatient hospital pharmacy or compounding pharmacy practice can serve as a starting foundation.
- Most practitioners have board certifications in Nutrition Support Pharmacy (BCNSP), Critical Care Pharmacy (BCCCP), Pharmacotherapy (BCPS) through the Board of Pharmacy Specialties (BPS), or the Nutrition Support Certification (CNSC) through American Society of Parenteral and Enteral Nutrition (ASPEN).

## Where can you practice?

- Inpatient/healthcare institutionalized practice
- Long-term care hospitals/pharmacies
- Skilled nursing facilities
- Outpatient compounding and home-infusion pharmacies
- Academia

## How to learn more?

- American Society for Parenteral and Enteral Nutrition (ASPEN): [nutritioncare.org](http://nutritioncare.org)
- American Society of Health-System Pharmacists (ASHP): [ashp.org](http://ashp.org)
- Board of Pharmacy Specialties (BPS): [bpsweb.org](http://bpsweb.org)



## Chapter Two

# Advertising Agency Pharmacist – Aksh Sharma, PharmD



**Overview:** I am a VP Medical Director at Digitas Health, a medical communications and advertising agency. This role is unique in that, while it sits on the agency side, it plays an important role in dialoguing between medical affairs, marketing, and creative agencies as we develop pharmaceutical brands. My role requires me to provide medical direction for the development of promotional pieces, as well as input into promotional and medical strategy, designing and attending client workshops, brainstorming novel tactics for brand teams. I also may lead cross functional teams in analyzing client business challenges, developing recommendations, reviewing the work of medical writers/team members, and coaching and developing medical strategy talent. I often participate in new business as the medical strategy lead, identify business growth opportunities for existing brands, help to formalize agency processes, and recommend appropriate staffing/scoping.

Clients I work with are often marketing brand managers and medical leads at mid to large pharmaceutical companies as well as nonprofits in healthcare.

**Day in The Life:** I attend morning meetings with other leaders as part of a cross-functional team to discuss a new clinical trial readout, and its competitive value and impact on client workstreams. I research and prepare for client presentations and review core claims documents that house messages for a brand. I attend medical, legal, and regulatory meetings with clients to present agency work from a medical and strategic perspective and conduct medical onboarding for new team members, both agency and client.

**Looking to the Future:** The agency portion of pharmacy provides an important place for growth, learning, and opportunities and should be a consideration for anyone interested in a non-traditional pharmacist path. Pharmacists are becoming increasingly valuable at the forefront of healthcare, yet their value still remains to be fully tapped by industry. The increasingly complex clinical, regulatory, and competitive environments into which drugs are launched require strong strategists and writers who are simultaneously grounded in the science. PharmDs are equipped to help clients recognize and leverage this opportunity. Given the increasingly complex nature of clinical data, drug approvals, and regulatory environment, I see a future where agency medical strategy is not just a nice-to-have resource but a highly sought after strategic partner for fellow agency colleagues and pharma marketers alike.

## Fast Facts

### What competencies or skills are needed?

- Clinical data analysis and interpretation
- Appreciation of the role of psychology in marketing
- Translating clinical data and medical jargon into easier-to-understand language
- Rapidly getting up to speed in a therapeutic category

### What is required?

- No required degree, but most have an advanced science degree (PharmD, PhD, or MD)

### Where can you practice?

- Any agency which provides strategic or communication services to pharmaceutical clients (medical advertising, medical communications/promotion, or publication agencies)

### How to learn more?

- Medical, Marketing and Media: [mmm-online.com](http://mmm-online.com)
- Reach out to someone who works at an agency!



## Compounding Pharmacist – Christian Stella PharmD, ABAAHP, FAAMM



**Overview:** I am the Supervising Pharmacist at Precision Compounding Pharmacy and Wellness in Bellmore, New York. I own and operate a compounding pharmacy focused on a wide range of compounding areas, including sterile non-hazardous compounding, sterile hazardous compounding, non-sterile non-hazardous compounding, and non-sterile hazardous compounding. I currently oversee over twenty workers, anywhere from technicians to pharmacists. My role as Supervising Pharmacist is to oversee the other staff pharmacists and technicians, make formulas for compounded medications, advise physicians on compounded medications, and fill prescriptions. I spend a great deal of time educating physicians on compounding medications, anywhere from how to prescribe them electronically to what can be compounded and to what the benefits and uses of compounded medications are, being that there are few resources on this topic of pharmacy. Most of my patients are patients in need of hormonal supplementation. I am a certified C4 Professional Compounding Centers of America Hormone Replacement Therapy specialist and certified by the American Board of Anti-Aging Health Practitioners. I consult with patients and their physicians, review the patient's lab work, and work with both patients and physicians on making the best hormonal treatment regimen for the patients' needs and goals.

Another large number of my patients are telemedicine patients. Over at Precision Compounding Pharmacy, we work with various telemedicine companies in many different areas of the medical field, such as depression, nutritional supplementation, immune support, sexual health, hormone replacement therapy, and more! I oversee the onboarding process with these companies to go over what they will be prescribing, how to prescribe the medications, how the medication is to be packaged, etc. I also am a preceptor at St. John's University: College of Pharmacy and Health Sciences, where I accept and teach sixth-year APPE rotation students interested in compounding.

**Day in The Life:** I start my day every morning by getting into the pharmacy early to go through my emails. Once that is done, I look at my calendar and plan for the day ahead. Usually, my calendar has time blocked out for meetings, teaching, and consultations. My meetings are usually with physicians and telehealth companies to go over our protocols, formulas, and the like. Patient consultations are when I go over the patient's labs with them and their physician. From the consultation, the physician and I come up with a plan for the patient, which usually involves me creating a personalized hormonal formulation for the patient based upon their blood work and symptoms as well as recommending appropriate supplementation. I always take note of these consultations and upload them to the patient's profile. Next, I look at my call queue and call back patients and physicians and offer guidance on what they need. When I'm not doing any of this, I fill prescriptions! This can be either processing prescriptions, validating them from the lab, or checking them before they are bagged/shipped. I also take about an hour out of my day to teach. I sit down with my rotation students or my newly hired pharmacist and teach them all about the different formulations we make, from how to make the formula and do the calculations to what they are used for, how they work, and anything else. It is always my favorite part of my day! I always check my call queue and emails throughout the day to stay on top of it when I am processing prescriptions or answering any of my staff members' questions. Since there are so many different variables to my day, every day is different and more interesting than the last!

**Looking to the Future:** With the pandemic, the entire field of pharmacy has evolved! The rise of telehealth revolutionized the pharmaceutical industry. These companies allowed patients to meet with their physicians more easily and get the medical treatment they needed. Over at Precision Compounding Pharmacy, we deal with a wide range of telehealth companies, each focused on different fields. A large portion of our prescriptions are from these new telehealth companies, and the protocols are vastly different from standard prescribing physicians. Much of our communication is focused on giving the highest patient care while accommodating both the patients' needs as well as the company's protocols. Not only has telehealth revolutionized medicine, but the pharmaceutical compounding world has grown! With the pandemic, there was a vast amount of drug shortages seen. This was when many physicians reached out to compounding pharmacies for the first time in their prospective careers! They looked to compounding pharmacies for assistance in getting their patients the medications they needed but couldn't get access to. This opened many physicians' eyes to the compounding field. They saw all the vast different formulations available and the needs for each of them. Their pool of medications to prescribe grew largely. Many physicians used compounded medications for the first time and saw improved patient outcomes making them convert the patient to a specially formulated medication rather than commercially available one. This also entangled with telehealth as many telehealth companies are primarily based in prescribing compounded medications. The field of compounding is on the cusp of a breakthrough in the pharmaceutical world with its importance more significant than ever!

# Fast Facts

## What competencies or skills are needed?

- Customer service
- Management
- Patient counseling, compounding, dosing calculations
- Diligence, hard work, attention to detail, empathy, compassion

## What is required?

- Doctor of Pharmacy (PharmD) degree
- Licensure with the state board of pharmacy
- Board certification in American Board of Anti-Aging Health Practitioners (ABAAHP) and Fellowship in Anti-Aging and Metabolic Medicine (FAAMM) for hormone replacement compounding, specifically

## Where can you practice?

- Compounding pharmacies specializing in sterile compounding, specialized pet medications, hormone replacement therapy, dermatology, colorectal compounding, pain management, women's health, men's health, and more endless possibilities!

## How to learn more?

- American Society of Health-System Pharmacists (ASHP): [ashp.org](http://ashp.org)
- Professional Compounding Centers of America (PCCA): [pccarx.com](http://pccarx.com)
- Medisca: [medisca.com](http://medisca.com)





## Community Oncology Practice Clinical Pharmacist – Eileen Peng, PharmD, MS



**Overview:** I am the Vice President, Chief Administrative and Pharmacy Officer at Astera Cancer Care in New Jersey. Astera Cancer Care is a New Jersey based physician owned multi-specialty community oncology practice. Astera provides patients with access to standard and advanced therapeutics, including chemotherapy, immunotherapy, biological, radiopharmaceutical and cellular therapy. We have a broad clinical trial platform for cancer therapy with one of the nation's only community-based clinical trial programs in CAR-T cell therapies. Astera also offers comprehensive infusion services for biological therapies required for non-oncology conditions.

I manage two teams of pharmacy staff. One for Specialty Infusions Services and another for Specialty Dispensing Services. I collaborate with my teams to create policies and procedures, formularies, and regimen/treatment plans. I also manage inventories and contract performances.

**Day in The Life:** In addition to managing pharmacy teams, I work closely with various departments such as the Nursing Department and Revenue Cycle Management department to ensure our clinical services, patient assistance and reimbursement are in line. My days are filled with meetings with pharma partners, MSLS (medical science liaisons) and our internal managers. I am also responsible for projects such as Quality/Outcome performance and pharmacy accreditation, as well as analyzing and providing several financial reports to management.

**Looking to the Future:** I started my career as a clinical pharmacist in hospital satellites. My field of interest is restricted to clinical knowledge and guidelines. For the past 10-20 years, there have been more pharmacists getting into the administrative roles in healthcare and politics. Healthcare increasingly values and recognizes pharmacist's involvement for managing outcome and healthcare costs.

## Fast Facts

### What competencies or skills are needed?

- Strong clinical knowledge
- Excellent communication skills
- Multi-tasking skills

### What is required?

- Doctor of Pharmacy (PharmD) degree
- Licensure with the state board of pharmacy
- Residency and Board certifications recommended
- MBA not required but recommended

### Where can you practice?

- Physician Networks
- Community Practices
- Academic Hospitals

### How to learn more?

- Join organizations to expand network and learn from others:
  - American Society of Clinical Oncology (ASCO): [asco.org](http://asco.org)
  - Community Oncology Alliance (COA): [communityoncology.org](http://communityoncology.org)
  - Hematology/Oncology Pharmacy Association (HOPA): [hoparx.org](http://hoparx.org)
  - National Community Oncology Dispensing Association (NCODA): [ncoda.org](http://ncoda.org)



## Chapter Five

# Consulting Agency Pharmacist – Sakib Alam, PharmD, MBA, BCPS



**Overview:** I am a Pharmacy Specialist at McKinsey & Company, a global management consulting firm. I am based out of McKinsey's New York office. In my role, I help my clients improve their organization's performance and help them solve their biggest problems. My clients tend to be organizations that interface with pharmacy services. Example client types include large health systems, hospitals, pharmacies (retail, specialty, etc.), payors, pharmaceuticals, and private equity firms looking to do business in the healthcare industry. I also serve other client services teams in McKinsey as an internal expert in pharmacy topics.

**Day in The Life:** Depending on the week, I may be working remotely or at the client site. The day changes based on the types of problems I am solving at the time. Days usually comprise of client meetings, internal problem-solving sessions, and head-down work time, where I work on deliverables. I typically start my day early in the morning for some uninterrupted head-down work time to prepare for the day. Head-down work can comprise building financial models, PowerPoint decks, research, or anything needed to solve a client's problem. My day officially begins with a check-in with my team, where we go over our progress and priorities for the day. I usually have additional client meetings and internal problem-solving sessions throughout the day, which we use to define and progress toward our goals. During the meetings, I will update my to-do list and priorities based on our discussion.

During the time between meetings, I will continue to do head-down work and get as much done as possible. The day ends with a check-out where we update the team on the day's happenings.

**Looking to the Future:** The field of pharmacy has evolved significantly over the last few years. As reimbursement margins shrink and the scope of pharmacy automation rises, pharmacists will need to find new ways to add value. This will require pharmacists to practice at the top of their license and embrace greater responsibility. In the future, I believe pharmacists will need to lean into their clinical knowledge and find ways to generate impact at scale.

## Fast Facts

### What competencies or skills are needed?

- Problem-solving skills
- Communication
- Comfort with ambiguity

### What is required?

- License not required
- Advanced degree, such as PharmD, helps but is not required
- Demonstrated success and leadership are required in post-graduate work experience. Formal post-graduate training, such as residency or fellowship, is helpful but not required.
- Board certification helps but not required.

### Where can you practice?

- Anywhere in the world
- Consulting firm



## Chapter Six

# Director of Pharmacy – Daniel T. Abazia, PharmD, BCPS, CPPS



**Overview:** I am the Director of Pharmacy for Capital Health System in Trenton, New Jersey. I manage a team of 84 people and oversee all pharmacy services and medication use systems within a two-hospital and multiple outpatient practice health system. My responsibilities include planning, leading, implementing, and evaluating the entire Pharmacy enterprise through a clearly defined group of managers, coordinators, clinical pharmacists, operations pharmacists, pharmacy technicians, and support staff. I direct and participate in the department's strategic planning, budgeting, operational/clinical services, education, and human resource activities. I ensure compliance with professional best practices and governing regulatory bodies, as well as initiate medication safety and quality improvement programs to improve organization performance and enhance the provision of patient care services. Our health system provides services to insured/uninsured/underinsured individuals in urban and suburban settings. We also take IPPE and APPE students from regional schools of pharmacy and others from out-of-state distance learning PharmD programs.

## Day in The Life:

**5:30am:** Wake up and make coffee!

**8:00am:** Arrive at the office, check email, and perform a quick survey of current department operations.

**8:30am:** Participate in system-wide daily safety huddle and game plan the day with assigned pharmacy residents and students.

**9:00am – 12:00pm:** Participate and lead a wide variety of pharmacy-specific and multidisciplinary health-system meetings/discussions. Meet with GPO contacts or vendors for product, service, or contract discussions. Review invoices and/or execute purchase orders. Check and respond to emails – time permitting, Policy, procedure, and protocol review.

**12:00pm – 1:00pm:** Lunch

**1:00pm – 3:00pm:** 'Management Rounds' with the pharmacy management team and staff, check-in with assigned pharmacy residents and students, and meet with staff regarding HR issues or plan staff recruitment.

**3:00pm – 5:00pm:** Follow up on emails, tasks, or phone calls from earlier, Policy, procedure, protocol, contract review, Memo/communique writing for department distribution, Pharmacy/medication-specific data review and analysis, Participate and/or lead a wide variety of pharmacy-specific and multidisciplinary health-system meetings/discussions.

**5:30pm:** Prep items, next day follow up, and leave for home.

**Looking to the Future:** In the 21st century, the health-system pharmacy department must focus on both the patient and the product, with a renewed sense of its roots as the owner of the pharmaceutical enterprise whose purpose is to promote medication safety, quality, and stewardship. In the future, I see an increasing emphasis placed on specialty drugs and their management, use of informatics for decision support and automation to facilitate drug distribution, and a continued focus on appropriate sterile product preparation and hazardous drug handling. I think there will be increased virtual/remote work opportunities, the importance of clinical pharmacist "generalists" who are able to pivot and manage multiple types of patients day-to-day, and continued movement of pharmacists into "provider" roles in ambulatory care settings. Health-system pharmacists may transition from "provider" roles to healthcare "engineer" roles- focusing on processes and systems to improve patient and population-based care.

# Fast Facts

## What competencies or skills are needed?

- Budgeting/Finance
- Clinical practice management
- Dispensing/distribution/storage operations
- Emergency preparedness/disaster planning
- Formulary management
- Health-system organizational structure and operations
- Hazardous material handling/preparation
- HR Management
- Informatics/systems integration
- Legal and regulatory requirements - federal, state
- Patient/Medication safety
- Procurement and inventory management
- Professional development and competency assessment
- Quality and performance improvement
- Sterile product handling/preparation
- Strategic planning

## What is required?

- Doctor of Pharmacy (PharmD) degree or master's degree
- Licensure with the state board of pharmacy
- PGY1 pharmacy residency (or equivalent experience: 5+ years of experience), PGY2 in Management/Administration preferred
- Active membership in state/national health-system pharmacy organizations recommended
- Board certification through the Board of Pharmaceutical Specialties (BCPS) is recommended

## Where can you practice?

- Hospitals
- Health Systems

## How to learn more?

- American Society of Health-System Pharmacists (ASHP): [ashp.org](http://ashp.org)
- State health system pharmacy organizations
- IPPE/APPE experiences in hospital/health-system management and administration



## Drug Information Pharmacist – Kristina Ward, PharmD, BCPS



**Overview:** In my current role as Clinical Professor and Vice Chair of Pharmacy Practice, I direct Drug Information Services at the University of Rhode Island, my clinical practice site. As a college-based drug information center, we answer questions from healthcare professionals, including physicians, pharmacists, and nurses from around the region. At any given time, up to four Advanced Pharmacy Practice Experience (APPE) students and postgraduate year 1 (PGY1), residents are present to respond to questions posed to Drug Information Services. I oversee all research and develop work to respond to a drug information question. My responsibilities are several-fold because of the additional roles in which I serve. I am responsible for delivering curriculum content relating to drug information resources and their use; therapeutic policy management, including formularies and pharmacy and therapeutics committees; and study design and methodology. Additionally, I chair the College's curriculum committee, ensuring that our curriculum is designed to meet the ACPE accreditation standards for colleges/schools of pharmacy in the United States. Lastly, I am vice chair of our Pharmacy Practice department, taking on a more administrative role.



**Day in The Life:** A day in my life usually starts by getting to work around 8:00 AM. I devote the initial part of the morning to working through and responding to my email. Depending on the day, I will meet with my APPE students and residents to review and discuss a drug information resource to ensure its use and niche are known. Or it could be that I am spending time with the group for journal club. I try to devote at least two hours per day to meeting with APPE students and residents in a teaching capacity. At any given time when a drug information question is pending, I review each question with the APPE student or resident who is developing a response to ensure that all potential options and resources have been explored and to ensure that any written responses meet my strict criteria for being disseminated. The remainder of my time is spent in meetings (e.g., college leadership, curriculum, departmental) and other administrative responsibilities.

**Looking to the Future:** Since I began as a drug information pharmacist, I have seen available references move from print to limited computer access to online. As more online resources have become available to more healthcare practitioners, the number of questions posed to drug information centers has dropped. However, the questions now posed are exceptionally complex and require more time commitment and skills to research and respond to. In an academic drug information center like mine, this allows for expanded opportunities to teach the intricacies of each resource available. In other drug information settings, fewer questions allow for greater participation in other areas of responsibility, such as therapeutic policy management in a health system. My role will continue to be one where I teach students and residents not only where to find information but how to find and evaluate it. In the era of Google and other search engines, information based on a search is returned almost instantly, but knowing which sources of information are credible and how to weed through the mass of information will be an ever-important skill.

# Fast Facts

## What competencies or skills are needed?

- Must love to learn
- Competence in researching and finding information
- Strong understanding of study design and application of biostatistics
- Clinical experience in a direct patient care environment
- Strong writing skills

## What is required?

- Doctor of Pharmacy (PharmD) degree
- Licensure with the state board of pharmacy
- PGY1, PGY2 pharmacy residencies in Drug Information Practice/Medication Use Safety & Policy or Industry Fellowship in Medical Information/Affairs
- Board Certification may be required

## Where can you practice?

- Health-Systems
- Academia
- Pharmaceutical industry
- Community Pharmacists
- Managed Care

## How to learn more?

- Summary Of Career Paths Within Drug Information: Bernknopf AC, Karpinski JP, McKeever AL et al. Drug Information: From Education to Practice. Pharmacotherapy. 2009;29(3):331-346. <https://doi.org/10.1592/phco.29.3.331>.
- Challenges Faced In The Field Of Drug Information And How The Role Of The Drug Information Pharmacist Is Changing: Gabay MP. The Evolution of Drug Information Centers and Specialists. Hospital Pharmacy. 2017;52(7):452-453. doi:10.1177/0018578717724235.



## Chapter Eight

# Entrepreneur/Informatics Pharmacist – Matthew Johnson, PharmD, RPh



**Overview:** I am the Co-Founder and President of Amplicare in New York, New York. Amplicare is clinical and workflow automation software for pharmacies. I am responsible for managing 7 Department Heads, accountable for company-wide vision, strategy, and execution. I deal with revenue growth and profitability, key external relationships, special projects, and removing obstacles and barriers for the team. I also pose as leadership, management, and accountability to the Executive Team.

**Day in The Life:** During busier times of the year, there is travel for meetings and conferences up to 3 times per week. I schedule same-day trips whenever possible, which is easier in metropolitan areas like NYC (3 major airports in proximity).

My schedule on non-travel days is usually something like:

**6:30am – 8:30am:** Gym / Shower / Breakfast

**8:30am – 9:00am:** Travel to office (subway)

**9:00am – 10:30am:** Strategic planning on highest priority item

**10:30am – 4:00pm:** 45 minutes on emails (quickly prioritize; keep responses as concise as possible), 4 hours on meetings with staff, external stakeholders, customers, or investors, 15 – 20 minutes on lunch that is usually squeezed in between or during meetings

**4:00pm – 6:30pm:** Admin work, emails, set agenda for next day

**6:30pm – 9:00pm:** Attend business dinner or networking event (10% of the time)

**Looking to the Future:** Significant progress has been made in healthcare data interoperability due to technological advancements and, more recently, legislative events. This paves a path to make clinical information more readily accessible for pharmacies to have a greater impact in their communities. With the rising tide of payor opportunities, pharmacies will not only need technology that enables them to apply clinical care, but also changes to the underlying technology that drives their workflow.

## Fast Facts

### What competencies or skills are needed?

- Strong domain knowledge about pharmacy and intersecting industries (software, robotics, informatics, etc.)
- Business acumen, management experience, and people-skills

### What is required?

- While a PharmD is not required, it does enhance one's domain knowledge and credibility
- Maintaining one's pharmacy license also helps

### Where can you practice?

- Anywhere

### How to learn more?

- There is a plethora of written resources on entrepreneurship – both formal and informal. Many business owners find “experience-shares” the most valuable way to learn. A good example would be the inspiring stories from the “How I Built This” podcast with Guy Raz.
- Most cities have incubator programs available that help new entrepreneurs start their businesses. Volunteering and learning about entrepreneurship can also be a great community resource. If you're a hands-on learner, this is one of the fastest ways to learn and build a social network to support those future endeavors.



## Chapter Nine

# Healthcare Investor – Kevin Dai, PharmD, BCOP



**Overview:** I am a Managing Director at Vivo Capital in Palo Alto, California. As a healthcare investor of a \$4.5B biotech firm, I oversee a team of healthcare investors in the public and private sectors. My responsibilities include managing a portfolio of public and private biotech companies, and I am always looking for the next innovative therapy that can change how we treat diseases. To work in my current role, I first obtained clinical experience, which is essential for this field since we go very deep in science and clinical analysis. After pharmacy school, I completed my PGY1 at the University of Chicago Medical Center (UCMC) and then a PGY2 at Memorial Sloan Kettering Cancer Center (MSKCC). I continued working at MSKCC as a clinical pharmacist, focusing on leukemia/lymphoma as a clinical pharmacist. I was then recruited to the investment industry due to my background in clinical pharmacy and focus on investment banking. Once I was working in the investment industry, I could shift to venture capital/ investments.

**Day in The Life:** I'm up early since I must be ready for the opening bell on Wall Street, which is 9:30 a.m. EST. I spend the day holding meetings and diligence on new biotech companies in need of funding and managing the firm's public portfolio.

**Looking to the Future:** I see more and more pharmacists in the biotech industry, but I think it's mainly because more pharmacists are branching out and realizing there are opportunities outside of the traditional role. I have spoken to many students in the past few years; some of them are now my colleagues in other respectable firms! I recommend students focus on clinical experience but also seek out non-traditional pharmacy roles. 90% of my job is analyzing medical papers and clinical data. Therefore, it's essential to have fundamental pharmacology and clinical experience. I wouldn't be here if it weren't for my experiences as a clinical pharmacist.

## Fast Facts

### What competencies or skills are needed?

- Clinical and financial experience

### What is required?

- Advanced degree required (PharmD, MD, PhD)
- Clinical experience is essential
- PGY1, PGY2 pharmacy residencies preferred
- Some have MBA, but not required

### Where can you practice?

- Biotech companies (a few CEOs are PharmDs)
- Investment banking
- Venture capital firms

### How to learn more?

- Little guidance available because pharmacists lack the resources to break into the industry.
- Network



# Health Outcomes, Policy, and Economics Pharmacist – Laura Pizzi, PharmD, MPH



**Overview:** I am a Professor and Director at the Health Outcomes, Policy, and Economics (HOPE) Center, a joint initiative between the Ernest Mario School of Pharmacy and the Rutgers School of Public Health. I oversee 13 people and work to:

1. Ensure an exceptional student learning experience in our HOPE degree programs that facilitates their ability to get a solid entry-level job in the field of health economics and outcomes research
2. Propose and execute applied health economics and outcomes research projects through grants from government and industry sponsors
3. Ensure publication of the findings of our work in credible peer-reviewed journals
4. Give back to the field of health economics and outcomes research through service projects with relevant professional societies such as ISPOR and AMCP.

Our students are graduate students pursuing a Master of Science degree or academic certificate in HOPE, and our clients are biopharma companies or government sponsors of our research.

**Day in The Life:** A day in my life consists of many meetings. It offers great diversity in who I speak to, ranging from individual students to groups of students, HOPE center faculty and staff, university leadership, professional societies/organizations, biopharma partners, or other external entities like state Medicaid decision-makers working on research projects with us. Some days are designated for “thinking tasks” like writing research proposals or manuscripts.

**Looking to the Future:** In the future, I see my practice changing through growth in non-dispensing pharmacist roles related to measuring or communicating the value of pharmaceuticals and assisting healthcare decision-makers to set their policies on which patients should receive certain medications.



# Fast Facts

## What competencies or skills are needed?

- Methodological training in research design and statistics, as well as economic modeling
- Strong understanding of healthcare decision-making and the role of health technology assessment in the adoption of pharmaceuticals and other new treatments
- Strong oral and written communication skills
- Ability to process large volumes of emails, many of which have detailed scientific documents attached that need a quick review and response
- Patience and poise

## What is required?

- Doctor of Pharmacy (PharmD) degree plus a research-focused MS, MPH, or a PhD in pharmacy administration, health economics, health policy, or public health
- License not required
- Graduate training, including a 2-year fellowship, would be valuable to help develop business acumen and communication skills
- Membership in the International Society for Pharmacoeconomics and Outcomes Research (ISPOR) would also be beneficial as it provides a vehicle for continued professional education as well as opportunities to network globally

## Where can you practice?

- Academia
- Consulting Firms specializing in health economics or outcomes research
- Health Technology Appraisal Organizations
- Pharmacy Benefit Managers
- Pharmaceutical Industry
- State or Federal Government entities focused on healthcare evidence generation and decision-making

## How to learn more?

- HOPE Center: [hope.rutgers.edu](http://hope.rutgers.edu)
- International Society for Pharmacoeconomics and Outcomes Research (ISPOR): [ispor.org](http://ispor.org)
- Competencies required for professionals in HEOR: Pizzi LT, Onukwugha E, Corey R, Albarmawi H, Murray J. Competencies for Professionals in Health Economics and Outcomes Research: The ISPOR Health Economics and Outcomes Research Competencies Framework. *Value Health*. 2020 Sep;23(9):1120-1127. doi: 10.1016/j.jval.2020.04.1834. PMID: 32940228
- International Society for Pharmacoeconomics and Outcomes Research (ISPOR). *Value & Outcomes Spotlight: A magazine for the global HEOR community*. [ispor.org/publications/journals/value-outcomes-spotlight](http://ispor.org/publications/journals/value-outcomes-spotlight)



## Chapter Eleven

# Hospital Clinical Pharmacist – Cindy Cruz, PharmD



**Overview:** I am a clinical pharmacist at Select Medical in Orlando, Florida. In my current role, I participate in interdisciplinary rounds, antimicrobial stewardship rounds, ventilator rounds, and interdisciplinary team conferences. I also provide clinical and pharmacokinetic consultation and management (TPN, warfarin, vancomycin, and aminoglycosides). I provide patient/family education as well.

Another thing I do in my role is to maintain inventory at or below corporate requirements. I also monitor renal function changes and intervene/adjust doses as necessary. I take care of daily controlled substance distribution monitoring and monthly audits. Additionally, I am on-call after pharmacy hours every other week to assist nursing with any medication questions or concerns. All the patients we admit have stepped down from an ICU stay and need further long-term acute care.

**Day in The Life:** I work with a stable schedule from Monday to Friday from 9am to 5pm with on-call responsibility after the pharmacy closes at 5:30 pm and on the weekends. Occasionally, I also get called in the middle of the night as well. Pharmacy opening hours vary among Select Specialty Hospitals.

**Looking to the Future:** The field of pharmacy has evolved in the sense that there is now increased collaboration between providers and pharmacists. When I graduated in 2013, I worked in various hospitals pharmacies in New Jersey. Without the proper Licensed Independent Practitioner order I could not adjust or dose any medication order or change IV to PO. When I moved to Florida, the practice was more advanced here (even though I worked for the same company in NJ and FL). Many hospitals here in Florida have P&T-approved protocols allowing pharmacists to automatically change medications from IV to PO or adjust dosing based on renal function without a physician call. We're also consulted for dosing vancomycin, aminoglycosides, warfarin, and TPN. It was an adjustment from what I was "used" to in New Jersey, but the trust placed in pharmacists is empowering and has personally allowed my confidence to grow as a clinician. I hope to see more widespread collaboration with practitioners and pharmacists in the future.

## Fast Facts

### What competencies or skills are needed?

- Hospital experience

### What is required?

- Doctor of Pharmacy (PharmD) degree
- Licensure with the state board of pharmacy
- PGY1 pharmacy residency preferred
- CPR Certification

### Where can you practice?

- Hospitals



# Infectious Diseases Clinical Pharmacist – Karan Raja, PharmD, BCPS, BCIDP, AAHIVP



**Overview:** I am an Infectious Diseases Clinical Pharmacy Specialist practicing in the acute care setting at Clara Maass Medical Center, part of RWJBarnabas Health. I am also an Adjunct Faculty Preceptor at the Ernest Mario School of Pharmacy, part of Rutgers University. I provide oversight on patients' complex infections, evaluate patient-specific pharmacokinetics, and engage in strategic selection of cost effective antimicrobial regimens to increase treatment success while limiting microbial selective pressure. I manage a myriad of patients either directly on infectious diseases (ID) or antimicrobial stewardship (ASP) rounds or through individual consults, including in the ICU, wound care clinic, and other special populations. As I progressed in my career, I've begun co-management of patients presenting with HIV, HIV-associated complications, sexually transmitted infections, and opportunistic infections. Our facility's collaborative practice agreements allow for pharmacy-managed vancomycin, aminoglycosides, warfarin, and heparin. My role also involves collaborating with other Pharmacy Specialists, Infection Preventionists, Microbiologists, Nurses, and Physicians on the hospital and Health System's Antimicrobial Stewardship Committees to guide appropriate antimicrobial use and systematic management of communicable diseases. I serve as a drug information resource and educator for clinicians, patients, and their families.

Additionally, I monitor and intervene on discharge and outpatient antimicrobial prescriptions. My position allows me to conduct research in infectious diseases, antimicrobial stewardship, and pharmacotherapy. Our research has led to practice changes across the Health System and has been presented on local, regional, statewide, and national platforms.

I have the privilege of precepting pharmacy students and residents in Infectious Diseases, Antimicrobial Stewardship, Internal Medicine, and Drug Information. I serve on various committees, including Pharmacy and Therapeutics, Microbiology, Sepsis, Quality, and Hand Hygiene. I develop and execute literature-based best practices programs and initiatives, including leveraging rapid diagnostic technology in elevating patient care and collaboratively implementing a comprehensive allergy management program.

**Day in The Life:** Working in an urban community medical center ensures each day is unique. I strive to abide by the mantra, “Your day starts the night before.” I plan and prepare for patient care rounds, educational initiatives, research, Committee and System projects, and mentorship responsibilities. Ideally, the day starts with reviewing patient charts for rounds and utilizing web-based surveillance tools to identify candidates requiring prospective audits and feedback for antimicrobial therapy. I prioritize patients on treatment with high-risk agents, those with positive rapid diagnostics test results, and HIV-positive patients at risk for medication toxicities or errors, drug interactions, or opportunistic infections. We are responsible for daily therapeutic drug monitoring consults, including vancomycin and aminoglycosides. Rounds consist of collaboration and communication with various specialties to ensure patients receive the best care possible. Patients’ disease state and pharmacotherapy education is a key component of my role. I am fortunate to work on a team that allows for substantial autonomy with significant support. This allows for protected time for clinical research and publication, innovative program development and implementation, and mentoring pharmacy students and residents. I lead many system-level initiatives, such as standardizing extended infusions of beta-lactams, optimizing antibiotic dosing in patients with organ impairment, and vetting stewardship applications to enhance the electronic medical record. With my colleagues, I also respond to medical emergencies, including adult and pediatric cardiac arrest and sepsis response. As with most other settings, documentation of all activities and interventions is vital.

**Looking to the Future:** Pharmacy is among the most dynamic professions in today’s rapidly evolving healthcare field. Pharmacy practice has come a long way from the traditional chemistry, compounding, or retail-based approach to healthcare delivery. We are now integral members of a patient-centered, technology-supported, evidence-based network of practitioners. Our role focuses on optimizing pharmacotherapeutic regimens in a growing number of specialties. In Infectious Diseases specifically, pharmacists are often tasked with evaluating individual and population antimicrobial pharmacokinetics and pharmacodynamics, recommending optimal treatment based on the interpretation of rapid diagnostic test results, supporting public health and outbreak management response, and educating clinicians and patients alike on appropriate use and monitoring of anti-infectives. ID practitioners have had an increasing presence in outpatient and ambulatory settings in recent years. HIV, STI, and TB clinics often include a clinical pharmacist on the team to evaluate drug interactions, counsel patients, or recommend monitoring parameters. Pharmacists are core members of the outpatient parenteral antimicrobial therapy (OPAT) team, where we develop strategies to streamline safe and effective treatment in the outpatient or home setting. I anticipate a robust expansion in the OPAT space in the near future, especially with the advent of long-acting agents. Pharmacists are increasingly being recognized as vital practitioners and credentialing and reimbursement for our services is inevitable. Economic support will allow us to expand our services to patients transcending drug dispensing. Pharmacy specialty areas will continue to increase. ID pharmacists’ involvement in global health, public health sectors, and clinical research will become innate and indispensable.

Knowledge of medication kinetics, outcomes, interactions, adverse events, billing, and formulary management make pharmacists ideal members of various Industry sectors, including Pharmacovigilance, Clinical Development, Medical Information and Communication, Research and Development, Regulatory Affairs, and Managed Markets, among many others. Pharmacists' role as leaders and innovators make us ideal for tackling administrative roles in hospitals, pharmaceutical companies, agencies, advertising, medical writing, and outpatient facilities.

## Fast Facts

### What competencies or skills are needed?

- Computer hardware and software use (Bayesian dosing software, MS Office, etc.)
- Strategic and adaptable communication skills
- Rigorous literature evaluation
- Public speaking
- Passion for healthcare, patient care, and pharmacy
- Personable
- Soft skills

### What's required?

- Doctor of Pharmacy (PharmD) degree
- Licensure with state board of pharmacy required
- PGY1 and PGY2 pharmacy residencies are not always required, but are strongly considered in applicants and prepare individuals for the role
- Generally membership/board certification are not required, but most institutions encourage clinicians to pursue board certification (BCIDP) and membership and participation in professional organizations

### Where can you practice?

- Inpatient (community or teaching hospitals)
- Academia
- Ambulatory Care Clinics, including HIV, hepatitis, or TB-focused
- Outpatient Parenteral Antimicrobial Therapy (OPAT) infusion centers
- Nursing homes and other Long-term Care settings
- Public Health Organizations

### How to learn more?

- Society of Infectious Diseases Pharmacists (SICP): [sidp.org](http://sidp.org)
- American College of Clinical Pharmacy (ACCP): [accp.com](http://accp.com)
- Board of Pharmacy Specialties (BPS): [bpsweb.org](http://bpsweb.org)
- American Society of Health-System Pharmacists (ASHP): [ashp.org](http://ashp.org)
- State organizations
- Network with current or former practitioners



## Inpatient Oncology Clinical Pharmacist – Maribel Pereiras, PharmD, BCPS, BCOP



**Overview:** I am an Oncology Clinical Pharmacist focused on Hematopoietic Stem Cell Transplant and Cellular Therapies at Hackensack University Medical Center in Hackensack, New Jersey. I work with a large cancer center, and our usual volume of yearly stem cell transplants/cellular therapies is 400+. I work with and care for each patient during their inpatient hospital stay. I am responsible for providing care to patients that will receive/have received autologous, allogeneic transplants or cellular therapy. Services provided by the clinical HSCT/CT pharmacist include:

- Patient medication profile review.
- Participation in interdisciplinary rounding.
- Managing the chemotherapy processes, assistance with treatment planning and review, and preparation of order sets and policy documents.

I also provide therapeutic drug monitoring for immunosuppressants, antimicrobials, anti-seizure medications, and anticoagulants. I manage antimicrobial therapies and promote antimicrobial stewardship in both prophylaxis and treatment recommendations, assist in symptom management in supportive and pain/palliative care, and much more.

**Day in The Life:** My typical day starts with morning rounds where the nurse will present the last 12 to 24 hours of the patient's care. We then perform our walking rounds, where we physically see and assess each patient. I provide recommendations on treatment options, review for correct dosing of each medication, and assist with monitoring the therapies and expected outcomes. In the afternoon, I write notes on my patients and work on hospital initiatives. These may include helping to develop order sets for new chemotherapy regimens, working with research on novel agents, or putting together guidelines for various therapeutic modalities.

**Looking to the Future:** The pharmacy degree is extremely versatile. This is also an area where you will experience life-long learning. It has already started to change with pharmacists becoming providers by leading care and making the changes to patients' therapies. This provided patients to have more options for healthcare providers. Pharmacists have become more involved upfront with treatment decisions as well as with patient education.

## Fast Facts

### What competencies or skills are needed?

- Problem-solving/critical thinking skills
- Decision-making abilities
- Understanding regulations (FDA, State, Local)
- Attention to detail
- Tech Savvy
- Good communication skills
- Empathy
- Willingness to learn

### What's required?

- Doctor of Pharmacy (PharmD) degree
- Licensure with the state board of pharmacy required
- Postgraduate training (after obtaining a pharmacy degree) can vary from 1–3 years. Depending on your area of training, you may go for additional certifications. I hold two – Board Certified in Oncology Pharmacy (BCOP) and Pharmacotherapy (BCPS).

### Where can you practice?

- Hospitals – inpatient or outpatient

### How to learn more?

- American College of Clinical Pharmacists (ACCP): [accp.com](http://accp.com)






## Chapter Fourteen

# Independent Retail Pharmacist/Business Owner – Leon Tarasenko, RPh



**Overview:** I am the co-owner of two retail pharmacies in mid-town Manhattan, along with Steve Schimmel, who is also a retail pharmacist. Across the two stores, we manage over 25 employees. As the Chief Pharmacist on-site at one of the stores, I am responsible for reviewing, monitoring, and providing pharmacotherapy recommendations for all the prescriptions in the pharmacy. As the business owner, I am also responsible for managing the day-to-day functions of the store, including inventory, managing employees, payroll, issues, deliveries, and typical daily responsibilities that come with owning a business. Our pharmacies specialize in compounding prescriptions. In addition to the two stores in Manhattan, we also have an online website that focuses on niche shaving paraphernalia. Pasteur Shaving has taken on a life of its own and has many followers on social media sites. This product caters to a group of unique clientele passionate about shaving. We are one of the few independent “mom and pop” pharmacies left in Manhattan, and we are proud to still be standing.



My lifelong journey working in pharmacies began at the age of ten as a pharmacy delivery boy. When I graduated from Brooklyn Tech High School, I was not sure what I wanted to do with my life. My brother reminded me how I loved working in the pharmacy and encouraged me to go to pharmacy school. When I graduated LIU Pharmacy School in Brooklyn, I worked as a retail pharmacist for a year. I then purchased Pasteur Pharmacy with my partner Steve Schimmel in 1987 and the second store in 1993. Our two pharmacies are unique because we have been in business since the 80s, and we know many of the patients who come into the store every day.

**Day in The Life:** Every day brings its own unique set of challenges. For example, during the COVID pandemic, I did not miss a day of work, as my patients and customers needed me. I was licensed to administer the COVID vaccines, and we provided it to those in need. Each day, I am available when my patients need advice and counseling. When I come into the store, I typically manage multiple responsibilities simultaneously while also ensuring that I focus on the task at hand and expertly complete it. Mornings are spent filling prescriptions, dispensing medication, and counseling patients. I greatly enjoy the process of compounding, so if there is a prescription that requires compounding, it usually comes to me. I also check inventory and manage the daily issues that arise in the store. Every day is different and exciting for me!

**Looking to the Future:** Over the past 25 years, retail pharmacy has changed significantly. There has been vertical and horizontal consolidation. Many of the typical independent “mom and pop” pharmacies have not been able to survive. Competition is fierce as new forms of pharmacies have emerged to compete with the brick-and-mortar pharmacies, such as mail-order and online pharmacies. In addition to independent pharmacies, retail chains, supermarket pharmacies, or mass retailers like Walmart and Target are now available throughout Manhattan.

Independent pharmacies have traditionally relied on profits from the sale of generic drugs as their main source of revenue. However, PBM consolidation over the past decade has resulted in lower reimbursements to pharmacies. Furthermore, the chain and supermarket pharmacies have undercut the market by selling generic drugs at prices lower than what they paid to acquire them, sometimes accepting losses on generic drugs in exchange for drawing more business to their stores.

The future of pharmacy is going through an exponential transformation. COVID-19 has already changed how the patient views the pharmacy. The patient will continue to expect to receive pharmacy care when and where they need, including home delivery, same day delivery, and on demand pharmacist support. Clinical and technological breakthroughs are occurring rapidly, building on the power of artificial intelligence (AI) and robotics. We are entering a world of precision treatments, and I foresee the pharmacist's role and the delivery channels we know today continuing to evolve to keep up with this change. We also witness a move from the fee-for-service reimbursement model to a value-based model, aligning pharmacies with the broader payer shifts that are currently underway.

# Fast Facts

## What competencies or skills are needed?

- Attention to detail
- Excellent communication and interpersonal skills
- Strong skills in science and mathematics
- Management skills
- Ability to multitask

## Required credentials?

- Doctor of Pharmacy (PharmD) degree
- Licensure with the state board of pharmacy required

## Where can you practice?

- Retail/community pharmacies

## How to learn more?

- National Community Pharmacists Association (NCPA): [nca.org](http://nca.org)
- Independent Retail Pharmacy Association: [localretailpharmacy.com](http://localretailpharmacy.com)



## Investigational Drug Pharmacist – Christina Zelasko, PharmD, BCPS



**Overview:** I am an Investigational Drug Pharmacist at the MD Anderson Center at Cooper University Health Care in Camden, NJ. I manage investigational drug services at the Cancer Center and serve as the pharmacy designee/contact for studies. I am responsible for reviewing protocols, putting together policies and procedures, providing instructions for dispensation and administration of drugs, submitting investigational treatment plans and validating them for electronic use, educating pharmacy and nursing staff, managing inventory and accountability logs, and obtaining reimbursement for services provided. I also serve as an institutional representative for our biosafety committee and am a member of our local institutional review board.

**Day in The Life:** Every day is different. Some days, I may review new protocol submissions for feasibility and compare them to the available standard of care regimens. I present any pharmacy-related concerns to a research review committee and follow up directly with sponsors as needed. I submit requests for electronic treatment plans or prescriptions which contain any necessary labs, communications, and medication orders. I may be called to be a part of a site qualification visit in which I provide information about pharmacy facilities, policies, and procedures. I may participate in a site initiation visit, during which the sponsor discusses the protocol in detail and provides an opportunity to ask specific protocol-related questions. A monitoring visit may require providing regulatory and accountability information to the sponsor. I may be called upon by research coordinators/nurses/providers for medication reviews, ordering information, or EMR questions. I facilitate dispensing of investigational drugs and ensure blinding procedures are maintained if the pharmacy is the only unblinded party. If the investigational drug uses recombinant and synthetic nucleic acid molecules, I help implement policies and procedures for preparation and handling in accordance with our institutional biosafety committee. I also review protocols or studies submitted to our local IRB that are not oncology related. I am the pharmacy representative and provide a unique viewpoint.

## Fast Facts

### What competencies or skills are needed?

- Attention to detail
- Communication skills
- Adaptability
- Compassion
- Organization
- Understanding of IT applications
- Clinical trials experience
- Knowledge in oncology, pharmacy, and regulatory

### What is required?

- Doctor of Pharmacy (PharmD) degree
- Licensure with the state board of pharmacy required
- PGY1, PGY2 pharmacy residencies may be required
- Board certification may be required

### Where can you practice?

- Hospitals
- Institutions with clinical trials requiring pharmacy
- Specialty Pharmacies
- The Pharmaceutical Management Branch (PMB) which supports the National Cancer Institute (NCI)
- Research Organizations (e.g. The ECOG-ACRIN Cancer Research Group)

### How to learn more?

- Hematology/Oncology Pharmacy Association (HOPA): [hoparx.org](http://hoparx.org)
- ASHP Guidelines for the Management of Investigational Drug Products: American Society of Health-System Pharmacists. ASHP Guidelines for the Management of Investigational Drug Products. Am J Health-Syst Pharm. 2018;75:561-73. <https://www.ashp.org/-/media/assets/policy-guidelines/docs/guidelines/management-investigational-drug-products.ashx>



## Managed Care Clinical Pharmacist – Timothy O’Shea, MS, PharmD



**Overview:** I am the Clinical Pharmacy Manager at Horizon Blue Cross Blue Shield of New Jersey (Newark, New Jersey). I lead Horizon’s Pharmacy Population Health Team and have 7 Clinical Pharmacists reporting to me. Within Population Health, there are three main initiatives we are leading:

1. Health system interface: We work with 15 value-based health systems on gap closure and quality measure support to improve outcomes and manage the total cost of care.
2. Case management: Three Pharmacists are embedded in case management models to outreach on high-risk/high-cost members to identify and resolve barriers, working in a multi-disciplinary team.
3. Specialty drug management: The goal is to address rising specialty trends through a site-of-care program, out-of-network management, high-cost member reviews, rapid analytics, dose rounding, split fill program, etc.

**Day in The Life:** Aside from supporting and managing my team, I have several other projects I'm working on with various areas of the organization outside of Pharmacy. I typically have several meetings throughout the day to organize, strategize, and gain insights into different ongoing projects/initiatives. I'm also frequently running data to identify gaps and opportunities for my team to work on.

**Looking to the Future:** In the past 10 years, we've seen some new pharmacy trends that must be addressed to manage healthcare costs. For example, a handful of gene therapy products are on the market, and many more are in the pipeline whose costs are in the million-dollar range but offer the potential for a clinical cure. Many questions remain in terms of how to pay for these treatments, to ensure the appropriate contracts are established between payers and facilities, and to track outcomes longitudinally. Organizations are starting to see the value of embedding Pharmacists in Case Management/Population Health Models (which historically have been nursed-based). At Horizon, we started with just two Pharmacists and have been able to demonstrate the value of Pharmacist-led interventions, which has allowed us to grow the team to seven Pharmacists. Reach out to people within managed care to ask questions if you think it might be the right fit for you (I can't emphasize the importance of networking enough). Get involved in your school's AMCP organization and take advantage of any rotations focused on managed care.

## Fast Facts

### What competencies or skills are needed?

- Communication is the most critical skill to ensure success within managed care
- Clinical knowledge is assumed by default and can be more easily learned

### What is required?

- Doctor of Pharmacy (PharmD) degree
- Any additional training or degree would be helpful but is not a requirement

### Where can you practice?

- Health Insurance Companies
- Pharmacy Benefit Managers
- Specialty Pharmacies
- Consultant Firms
- Pharmaceutical Industry

### How to learn more?

- Managed Care Pharmacy Resident Q&A: Pharmacy Times. Managed Care Pharmacy Resident Q&A. Dec 21, 2015. <https://www.pharmacytimes.com/view/managed-care-pharmacy-resident-qa>



# Managed Care Organization-Population Health Clinical Pharmacist – Fanny A. Musto CMTM, BS Pharm



**Overview:** I am a Clinical Pharmacy Advisor focusing on managing Medicaid Plans for several states. The main focus is integrating Physical Health and Mental Health for our Medicaid plan members. In addition, I am a preceptor for PGY1 Residency Program. As a Clinical Pharmacist, I serve as the medication expert during regularly scheduled clinical meetings (e.g., interdisciplinary team rounds, committee meetings, and drug utilization meetings) to promote optimal medication utilization. I collaborate with health plan associates in administering medication reviews for our programs, including Hospital Readmission Reduction Program and Pharmacy Supported Case Management Referral Program. I perform targeted member outreach and education in collaboration with care management to improve medication outcomes for members. I stay current on policy and formulary changes within the states supported by Aetna Better Health plans. I research and address clinical pharmacy questions from contracted providers. I assist in development and distribution of pharmacy newsletters to educate provider partners on preferred drug list updates, new prior authorization requirements, and timely clinical pharmacy pearls. I perform medical provider and prescriber educational outreach to review topics pertinent to medication management centered on evidence-based practices. I prepare provider reports, analyze contracted providers' prescribing patterns, and provide education, where necessary, to improve medication utilization.



**Day in The Life:** I start my week by reviewing appointments on my calendar, always double-checking the night before so I can be prepared. A shift in workflow can occur, so always being on my feet helps with last-minute changes. What I love about what I do is no two days are the same. A majority of my day is spent reviewing member hospital discharge utilization notes to prepare for medication reconciliation and assessing appropriate medication management utilization. I respond to clinic providers' requests to assist in medication management. I research questions providers have. Before COVID, I would be present at clinics, but post-COVID attendance is virtual. Having access to Health Information Exchange systems, I can give recommendations integrating our members' physical and mental health wellbeing. Having the confidence and knowledge in my area of expertise and developing relationships at clinic assists with getting results for members. I use QuickBase, the system used to collaborate and document cases reviewed during rounds. When acting as a preceptor, I allow the residents to take the lead in clinic, enabling them to cultivate their clinical skills and facilitate autonomy.

**Looking to the Future:** Pharmacy has definitely evolved from when I started. There are many opportunities within the Managed Care Organization. There is greater professionalism through the changes that have occurred through education and practice. The focus has shifted from product to patient. Pharmacists are able to provide patient care services not directly associated with medication dispensing. Pharmacists practice at the top of their license. Aside from patient care, some areas included in Managed Care include drug formulary management, prior authorization, drug utilization reviews, and creating clinical quality programs.

# Fast Facts

## What competencies or skills are needed?

- Required computer skills, as care is measured; therefore, analytical skills are important also.
- Attention to detail to exhibit high levels of accuracy in daily tasks
- Communication and interpersonal skills
- Math and science skills to be able to assess medication doses and interactions
- Ability to multitask
- Confidentiality and ability to abide by laws, i.e., HIPAA
- Motivational interviewing
- Knowledgeable in the field of pharmacy, caring, attentive, accurate, and friendly.

## What is required?

- Doctor of Pharmacy (PharmD) degree
- Licensure with the state board of pharmacy required
- PGY1 or PGY2 pharmacy residency may be required
- Memberships/Board Certifications encouraged:
  - American Pharmacists Association (APhA)
  - Certification Medication Therapy Management (CMTM)
  - APhA Pharmacy-Based Immunization Delivery Certificate
  - Mental Health Ally Certificate through PsychHub

## Where can you practice?

- Community Pharmacies
- Managed Care
- Behavioral Health Facilities
- Addiction Treatment Centers

## How to learn more?

- Resources from an ACPE-accredited school
- Certificate programs for Specialty Care
- State pharmacy organizations
- Academy of Managed Care Pharmacy (AMCP): [amcp.org](http://amcp.org)
- Practice of Interest Associations:
  - National Institute of Mental Health (NIMH): [nimh.nih.gov](http://nimh.nih.gov)
  - Substance Abuse and Mental Health Service Administration (SAMHSA): [samhsa.gov](http://samhsa.gov)
  - National Association of Mental Illness (NAMI): [nami.org](http://nami.org)



## Chapter Eighteen

# Medical Information Pharmacist – Alicia Alexander Cadogan, PharmD



**Overview:** I am the Category Lead for Oncology Medical Information in the United States. What that means is I have the honor of leading a team of 6 incredibly knowledgeable Medical Information professionals dedicated to Pfizer's oncology portfolio in the US. When questions arise about Pfizer's oncology products, Health Care Professionals can contact Pfizer Medical Information for information. For questions we receive frequently, we have created a database of scientific response documents, which includes clinically supported, unbiased data that is summarized for HCPs to use to inform themselves and make decisions for the care of their patients. We also have information for patients or caregivers geared toward their level of understanding. While we do not make clinical recommendations, we gather all the relevant information on a topic in one place, making it easier for the requestor to be informed.

My team is responsible for ensuring the scientific response documents regarding Pfizer's oncology products reflect the most recently available data and for researching and creating responses for questions that arise that we may not have anticipated. As a team leader in Medical Information, I am responsible for ensuring that regional and global strategies are successfully implemented and actioned by my team, and that the team achieves its goals and objectives. I am also responsible for a variety of management tasks, including leading team resource allocation, ensuring duties are performed in a compliant manner, supporting the overall budget and expense management, developing and maintaining business relationships, and driving data analysis for the team so that insights and recommendations are identified, communicated, and acted upon.

I am a member of the Pfizer campus in Collegeville, PA, and I have been in the pharmaceutical industry (Wyeth, then Pfizer) for 20 years. I received my BS in Pharmacy from St. John's University and my PharmD from Albany College of Pharmacy. I completed a Fellowship in Clinical Nephrology at the University of Pittsburgh School of Pharmacy and was an Assistant Professor there for several years with clinical practice in end-stage renal disease. I also worked as a staff pharmacist at the VA Hospital in Pittsburgh. I then worked as a Medical Director at CoMed Communications in Philadelphia, where I guided content creation for product launches, continuing medical education, and clinical symposia in a variety of therapeutic areas. This experience exposed me to the pharmaceutical industry, and I realized that industry would be the next step in my career journey.

**Day in The Life:** My day doesn't typically go as planned, but that's ok because, as a leader, it is my responsibility to prioritize and focus on the most critical tasks, and I may not know what those are when I am planning my day. Each day I need to understand the most urgent issues – ranging from new data released on one of our products, organizational announcements that may impact how we function, or personal issues with the team that may require adjustments to product support. Once I know my team is situated and ready to perform, I can address any pertinent leadership responsibilities. This includes sharing information, contributing to decision-making, or working on projects that support process improvement. I work with members of the Oncology medical team to ensure that information is readily accessible to my team so that we are prepared for anything and everything. Since we are part of a global organization, my day may start with emails that colleagues sent the night before from the Asia-Pacific region or earlier in the morning from Europe. I work with our global team members to ensure consistency in the data we share in response to the questions we receive and that we have a global strategy that keeps our oncology team members and processes aligned.

At the same time, as a people manager, I must be tuned in to the professional development needs of my team. I am always seeking opportunities that will align with their interests and strengths so that they can grow in different ways. It gives me a great sense of pride when someone on my team has professional experience that allows them to explore new aspects of the business or utilize different skills allowing them to envision new opportunities for themselves. I believe this is one of the most important responsibilities of a leader and one of the most rewarding aspects of my job.

**Looking to the Future:** One of the biggest changes I have seen in my professional career is the infusion of technology in everything we do. When I started in Medical Information response, documents were faxed or put in envelopes with a stamp and sent via ground mail to the requester. Today self-service using digital platforms and tools has improved the speed with which healthcare professionals can receive information without sacrificing quality. At Pfizer MI, we are committed to providing more technological solutions that will ease access to trusted information. We are also focused on ensuring that the information provided is formatted and appropriately detailed to meet the needs of each user.

The other big change is the amount of collaboration within the Medical Information community. We have learned that we can do more if we work together, and we are doing that. We are not sharing proprietary information with each other. Still, we are working together as Medical Information professionals in the pharmaceutical industry to solve common problems and improve how we function so that the needs of healthcare professionals and patients are supported. Often healthcare professionals do not recognize one pharmaceutical company from the other. Because it is common for the public to take their experience with one pharmaceutical company and apply that to all pharmaceutical companies, we are sharing the responsibility to help make a positive impression while supporting their needs.

An example is the Pharma Collaboration for Transparent Medical Information (phactMI). phactMI is a not-for-profit organization where leaders in the Medical Information profession come together to help advance the profession. You can view their website ([phactmi.org](http://phactmi.org)) to get a sense of what collaboration looks like, access scientific information on the member companies' products, and see job opportunities posted.

What remains the same? My career has taken me from a fellowship to academia to a Medical Director at a medical communication agency, and finally to the pharmaceutical industry. What has not changed across all these practice environments? The need for transparent, evidence-based information to support decision-making. The knowledge that we possess as pharmacists and our ability to communicate complex data in a straightforward format is still as important as it was when I began. In addition, respect for the profession of pharmacy and what we bring to the table continues to make us key members of medical teams in any setting because we are laser-focused on bringing value to the decisions made for patients.

I expect that Medical Information will continue to find ways to engage with those who need scientific data on pharmaceutical products to make decisions for patient care. There is space to expand how we engage with patients, and I foresee this area growing in the coming years.

## Fast Facts

### What competencies or skills are needed?

- Secure level of comfort in drug therapy
- Essential skills include medical writing, summarizing clinical and scientific data, and critically evaluating medical literature
- Strong oral and written communication skills, adaptability, flexibility, innovative, strong collaborative skills, and the ability to work independently

### What is required?

- Most Medical Information professionals are PharmDs; however, degrees from other medical and health science disciplines are also considered
- Postgraduate fellowships in Medical Information help provide hands-on experience, valuable experiences, competitive advantage
- An active license or board certification is not required; however, the knowledge and experience accompanying these accomplishments help build a more solid foundation of knowledge and capabilities

### Where can you practice?

- With remote work capabilities and especially since the pandemic, companies can take advantage of talent regardless of geographic location
- Connect (both technologically and personally) and thrive in a virtual environment

### How to learn more?

- A fellowship in Medical Information is the best way to immerse oneself in this professional path
- Career counselor at a pharmacy school can support you in learning more
- Connect with Medical Information professionals at industry meetings or via social media to start a conversation and make connections
- Drug Information Association (DIA): [diaglobal.org](http://diaglobal.org)
- Pharma Collaboration for Transparent Medical Information (phactMI): [phactmi.org](http://phactmi.org)




## Chapter Nineteen

# Medical Science Liaison – Vatche Demirjian, PharmD, RPh



**Overview:** I am a Medical Science Liaison (MSL) for a rare disease biotech that specializes in rare blood and kidney disorders. This is a field-based, scientific role that strategically supports the objectives of the US Medical Affairs Team. I manage peer-to-peer relationships with approximately 30 Key Opinion Leaders (KOLs) across five states. Through scientific exchange, my job is to learn from the KOLs and communicate their perspectives to the company. For example, what gaps do they see in practice, or what challenges do they see with a particular treatment? The medical affairs team can then use these insights to impact the current or future strategy. MSLs can gather insights by having face-to-face meetings and/or virtual appointments. We can also lead advice seeking programs, like a focus group or an advisory board, where the goal is to receive feedback from a group of KOLs on a particular high priority topic. Also, these KOLs are usually interested in research, evidence generation, or publications so my role is to provide them with opportunities that are aligned with their interests. MSLs are seen as the regional medical experts, and we can reactively respond to medical information inquiries that come from the field. Oftentimes the inquiries are directly related to a patient case, so I feel that our responses can have a positive impact for the patient. We can do this by discussing available literature, presenting slide decks, or working with medical information to send a standard response document to the HCP.



**Day in The Life:** Every day is different! As this is a field based role, the average MSL will find themselves traveling frequently for KOL meetings, advisory boards and regional conferences. It is near impossible to describe a typical day, so I will try and describe a typical week. Mondays typically begin with team meetings, which help set the priorities for the few days ahead.

I have KOL meetings scheduled for the rest of the week and maybe an educational presentation for a group of specialists. Prior to KOL meetings, I spend a significant amount of time preparing for the call, and make sure I am ready to discuss clinical trial updates (if they are an investigator) or other topics that I know will be of interest to them. Depending on the purpose of the call, I always try to have a few questions (“insight questions”) ready that will be relevant to our current strategy. Developing a rapport with KOLs is very important because you want these questions to come up naturally throughout the conversation. There are also multi-disciplinary projects that are continuously ongoing (like working with the medical communications team to update a slide deck), so when I am not preparing for a KOL meeting, I am working on those. Time management is key.

**Looking to the Future:** As technology advances, the role of the MSL will also evolve. We are always looking for ways to adapt and utilize novel insight gathering techniques. By leveraging social media platforms, you can now see full conversations between KOLs. Maybe there is a scientific debate over a new treatment guideline update. Or you see comments discussing the diagnostic criteria for a particular rare disease. Either way, these could be relevant to your medical strategy and be seen as a potential insight. As part of my meeting preparation, I now spend a fair amount of time reviewing the KOLs social media profile as this helps structure my discussion. I can find out what conference they just attended, what hobby they recently picked up, or who is their favorite sports team. Our goal as MSLs is to build relationships with HCPs and social media is a novel way to develop and grow that relationship. This is just one example of how technology is having an impact. Especially in this new age of artificial intelligence (AI), I am excited to see how MSLs will adapt and create new ways of leveraging technology to engage the next generation of HCPs/KOLs.

# Fast Facts

## What competencies or skills are needed?

- Time management
- Communication
- People skills
- Independence
- Being a team player
- Adaptability

## What is required?

- Most MSL positions require a doctorate degree (PharmD, MD, PhD)
- Licensure is typically not mandatory, but clinical experience or other credentials (BCPS, BCOP) can give you a competitive advantage when applying
- Post-graduate training programs are usually not required but can help you stand out in the application process

## Where can you practice?

- Pharmaceutical Industry

## How to learn more?

- Leverage your network!
- Utilize social media to meet and connect with current MSLs
- If you are a student, consider applying to industry internships or fellowship programs
- Participate in professional groups:
  - Industry Pharmacists Organization (IPhO): [industrypharmacist.org](http://industrypharmacist.org)
  - Medical Science Liaison Society (MSLS): [themsls.org](http://themsls.org)





## Military Pharmacist – James Masterson, PharmD, MPH. Colonel, Medical Service Corps, US Army



**Overview:** Military Pharmacists serve in many different capacities depending on their training, experience, and needs of the service. I am currently in charge of the Department of Pharmacy at Walter Reed National Military Medical Center. As the Director of Pharmacy, I am ultimately responsible for the safety of the medication systems and processes used by our physicians, nurses, pharmacists, and technicians to care for our patients. To accomplish this task, I am fortunate to support nearly 200 pharmacists and pharmacy technicians within our ambulatory care, emergency room, inpatient, intensive care, and oncology pharmacies who ensure the best care possible is provided to our patients.

Prior to starting my career as a military pharmacist in 2003, I worked as a pharmacist for a managed care organization from 1999 until 2003, with my last position as a pharmacy supervisor. Since joining the Army, I have had the privilege to serve our Soldiers, Sailors, Airmen, and Marines in many interesting places throughout the world, including Hawaii, the Republic of Korea, Japan, Iraq, and Palau. Throughout my career in the military, I have served in a variety of roles as a pharmacist including an ambulatory pharmacy supervisor, an inpatient pharmacy supervisor, an assistant director of pharmacy, a director of pharmacy, a deputy commander (i.e., vice president) of ancillary services, and a director of a pharmacovigilance center. I have thoroughly enjoyed all my positions as a military pharmacist, and I am extremely proud of the opportunities that being a military pharmacist has afforded me.

**Day in The Life:** A typical day for a military pharmacist includes many standard clinical and administrative functions depending upon the position. In most cases military pharmacists have leadership responsibilities, and daily activities typically include management tasks that ensure the delivery of a wide range of quality pharmacy services. Direct care responsibilities may include clinical notes completion, peer review, quality improvement, and student/resident oversight. Administrative responsibilities may include staff communication activities, job performance functions, process improvement planning, and staffing oversight. Unique to military service is an expected emphasis on maintaining physical fitness and readiness to deploy. Bi-annual physical fitness tests emphasize regular exercise, which tends to become a routine habit for most. Readiness to deploy includes a host of activities, including yearly physical checkups, designated training, and a responsibility to learn and then maintain the skills needed to perform pharmacist and leader responsibilities in an austere environment. Understanding what this entails and how to attain this level of readiness comes with time through scheduled training and mentorship.

**Looking to the Future:** While military pharmacists have been involved in direct patient care as clinical pharmacists for most of my career, our lessons learned from experiences in Iraq and Afghanistan have taught the military pharmacy community that we need more pharmacists trained to support trauma and critical care. Recognizing that pharmacists can serve instrumental roles in supporting the medical team during trauma, the military is now sending pharmacists to PGY-2 Critical Care Pharmacy residencies. The military is also developing training programs to ensure all pharmacists have the skills necessary to support trauma before fulfilling assignments requiring critical care and trauma skills.

Health data and informatics are also changing the medical field and how pharmacists support the healthcare system. Because medications play such an instrumental role in patient outcomes, the ease of access to patient data is helping pharmacists to develop clinical decision support tools that can improve health outcomes in many different areas, such as infectious disease, anticoagulation, diabetes management, and pain management. Pharmacists who understand how to access this data and organize it in a way clinicians can quickly access it will have important impacts on how we continue to improve patient care.

When I started working in pharmacy in 1999, we rarely had drug shortage problems. Now, pharmacies are constantly at risk of insufficient supplies of life-saving medications necessary to support our patients. Drug shortage management has become a critical competency for pharmacists throughout our profession. Drug shortages will continue to impact pharmacies as pharmaceutical companies increasingly rely on foreign manufacturers to produce medications. Recognizing this reality, we must have pharmacy professionals who understand the international nature of pharmaceuticals and how to navigate these systems to procure the medications we need for our patients.

As technology advances, the role of the pharmacist will too. Pharmacists will continue to innovate and find new ways to leverage technology that will ultimately have a positive impact on the patient.

# Fast Facts

## What competencies or skills are needed?

- Leadership/Management
- Physical fitness and readiness to deploy
- Continued learning and training

## What is required?

- Doctor of Pharmacy (PharmD) degree
- Licensure with the state board of pharmacy required
- Postgraduate training opportunities, including advanced degrees (Master's and PhD level) and residency programs (Postgraduate residency programs including general and advanced programs), are available competitively
- Obligation upon completion of training
- Board certification encouraged and financially incentivized
- Participation in a National professional organization is encouraged

## Where can you practice?

- Many different settings and locations:
  - Ambulatory pharmacy
  - Inpatient pharmacy
  - Emergency room pharmacy
  - Oncology pharmacy
  - Medication safety & quality
  - Formulary management
- Non-traditional roles, including: enterprise-level patient safety initiatives, health informatics, clinical pharmacy practice advancement, drug procurement, distribution, and contracting
- Senior leadership positions in the C-suite of many of our military hospitals and institutions
- Job assignments are worldwide, with most located within the United States

## How to learn more?

- Contact a Navy, Army, or Air Force healthcare program recruiter
- Before committing to a career as a military pharmacist, seek out military pharmacists from the Air Force, Army, and Navy on social media or contact the pharmacy department of a military treatment facility to learn more about job opportunities and incentives
- Connect with military pharmacists through professional pharmacy organizations like APhA and ASHP at various networking opportunities and conferences.
  - American Pharmacist Association (APhA): [pharmacist.com](http://pharmacist.com)
  - American Society of Health-System Pharmacists (ASHP): [ashp.org](http://ashp.org)



## Pediatric Clinical Pharmacist – Elizabeth Autry, PharmD, BCPPS



**Overview:** I am a Pediatric Clinical Pharmacist focusing on Pediatric Pulmonary Allergy and Immunology and Residency Program Director for PGY2 Pediatric Pharmacy Residency at the University of Kentucky HealthCare in Lexington, KY. I am also an Adjunct Associate Professor at the University of Kentucky College of Pharmacy. My role as a Pediatric Clinical Pharmacist calls me to be responsible for reviewing, monitoring, and providing pharmacotherapy recommendations for pediatric cystic fibrosis patients as well as pediatric allergy/immunology patients in inpatient and ambulatory care settings. I complete therapeutic drug monitoring for drugs such as tobramycin, amikacin, vancomycin, and immunosuppressants and answer drug information questions posed by providers, medical residents, nurses, etc. I create clinical practice guidelines as it relates to my practice site, pursue scholarly activities (research, writing, attending meetings), and create a culture of learning for pharmacy students and residents (PGY1, PGY2).

**Day in The Life:** No day is ever the same! Before my patient care responsibilities start, I take a moment in the morning to plan and structure my day, referencing my To-Do list. Scholarly activities are balanced with patient care needs, prioritizing daily patient care. My mornings are spent reviewing any pediatric cystic fibrosis patient admitted to the children's hospital for intravenous antibiotics.

As the day progresses, I balance the need to be in the clinic to see patients presenting for routine follow-up or sick visits with inpatient rounding. I am a resource for the pediatric allergy and immunology team. I am making drug therapy recommendations, answering drug information questions, and following up on any therapeutic drug monitoring needs throughout the day. I document my interactions in the electronic medical record. When I have a student or resident, I foster their autonomy in the clinic or inpatient rounds and we have topic discussions throughout the day.

**Looking to the Future:** The pharmacy field continues to evolve, and new and exciting opportunities are endless. Practice areas are changing, and the pharmacy landscape allows pharmacists to practice at the top of their licenses. Additionally, the number of pharmacy specialties that are recognized continues to expand. This is evident by the number of specialties with designated board certification. The pharmacy profession has and will always adapt to the changing times, continuing to push the status quo to provide exceptional patient care.

Given that a part of my practice area includes an ambulatory care practice site, I have seen the movement made to have pharmacists recognized as providers. I welcome the opportunity to be credentialed and privileged at my institution, independently seeing patients and billing for the services I provide. This feels like a reality that is just around the corner, and I am excited to be a part of this positive change for the profession.

## Fast Facts

### What competencies or skills are needed?

- Pediatric pharmacy knowledge
- Pulmonary, allergy/immunology knowledge

### What is required?

- Doctor of Pharmacy (PharmD) degree
- Licensure with the state board of pharmacy required
- PGY1 (General or Pediatric) at a minimum; PGY2 (Pediatrics) often required for specialized positions in pediatrics
- Board Certification in Pediatric Pharmacotherapy (BCPPS) highly encouraged
- Continuing Education
- Organizational Membership is important (ex. Pediatric Pharmacy Association (PPA), American College of Clinical Pharmacy (ACCP), American Society of Health-System Pharmacists (ASHP))

### Where can you practice?

- Hospitals
- Academia

### How to learn more?


- Seek opportunities to shadow or work with a pediatric pharmacist. You will learn that every career in pediatric pharmacy is different, and practice areas are vast.
- Professional Organizations
  - Pediatric Pharmacy Association (PPA): [ppag.org](http://ppag.org)
  - American College of Clinical Pharmacy (ACCP): [accp.com](http://accp.com)
  - American Society of Health-System Pharmacists (ASHP): [ashp.org](http://ashp.org)



## Pharmacist Attorney – Danielle Gordon, PharmD, JD



**Overview:** I am the Assistant General Counsel, Institutional Compliance Manager of Controlled Substances, Compliance & Internal Audit at Memorial Sloan Kettering Cancer Center in New York, New York. I oversee the controlled substance compliance and drug diversion prevention program at MSKCC in NY and NJ. My role is non-patient facing, but clients and partners include various clinical and research departments within the organization who are involved in controlled substance handling and safety (pharmacy, nursing, patient reps., etc.). Some responsibilities I have include chairing the quarterly meeting of the Controlled Substance Committee, leading the investigation process of suspected drug diversion incidents, and serving as a controlled substance and diversion prevention resource for all staff, working with relevant departments across MSKCC.



**Day in The Life:** I attend meetings throughout the day. I also complete investigations or audits required following a potential drug diversion incident or breach of policy or practice. On occasion, we have law school students rotate during their legal internships within the Office of General Counsel. We also have summer interns who have an interest in careers in Healthcare Compliance.

**Looking to the Future:** The field of pharmacy has evolved so that you now see more pharmacists with dual degrees (PharmD/JD, PharmD/MD, PharmD/MBA) entering non-traditional pharmacy careers and using their pharmacy education and experience to bring added value to the role they are in. In the current work environment, I see the role of the clinical and community pharmacist changing to provide more services remotely, including remote consultations, chart review, order verification, and the increased use of automated dispensing cabinets and home medication delivery.



# Fast Facts

## What competencies or skills are needed?

- Familiarity with applicable state laws/related healthcare regulatory requirements
- Demonstrated ability to establish and implement a comprehensive regulatory oversight and outreach program in a complex organizational structure
- Project management experience
- Analytical/critical thinking skills
- Understanding of pharmacy/nursing workflow and clinical operations within a healthcare system
- Advanced interpersonal and presentation skills, demonstrated ability to communicate effectively
- Ability to work independently, prioritize, organize work
- Leadership, management, and team-building skills
- Ability to conduct a thorough workplace investigation
- Understand and apply the seven elements of a successful compliance program to drug diversion prevention:
  - Implementing written policies, procedures, and standards of conduct
  - Designating a compliance officer and compliance committee
  - Conducting effective training and education
  - Developing effective lines of communication
  - Conducting internal monitoring and auditing
  - Enforcing standards through well-publicized disciplinary guidelines
  - Responding promptly to detected offenses and undertaking corrective action

## What is required?

- Current licensure in one of the following professions: Nursing, Pharmacy, or Medicine
- Clinical background and experience with prescribing, dispensing, or administering
- Ten years of clinical experience, including experience in one of the following areas: audit, compliance, quality assurance, or investigations
- Advanced knowledge and understanding of one or more controlled substance diversion prevention content areas
- An equivalent combination of education and experience may substitute for the stated requirements

## Where can you practice?

- Law Firms
- Pharmaceutical Industry
- Government (FDA, DEA, CMS)
- Hospital Departments (Pharmacy, Nursing, Patient Safety, Quality and Safety, Legal, Compliance)
- As an Independent Consultant

## How to learn more?

- Look for job descriptions for a Diversion Prevention Manager or Drug Diversion Specialist
- Clark J, Fera T, Fortier C et al. ASHP Guidelines on Preventing Diversion of Controlled Substances. Am J Health-Syst Pharm. 2022;79: 2279-2306. <https://www.ashp.org/-/media/assets/policy-guidelines/docs/guidelines/preventing-diversion-of-controlled-substances.ashx>





## Chapter Twenty-Three

# Pharmacy Faculty Member and Internal Medicine Pharmacist – Mary Barna Bridgeman, PharmD, BCPS, BCGP, FNAP



**Overview:** I am a Clinical Professor at the Ernest Mario School of Pharmacy at Rutgers University in Piscataway, New Jersey, and an Internal Medicine Pharmacist at the Robert Wood Johnson University Hospital-New Brunswick in New Jersey. At my practice site, I oversee student pharmacists and pharmacy residents completing their clinical Advanced Practice Experiences or rotations in Adult Internal Medicine. My rotation takes place in the acute care hospital setting, where my students and I provide oversight of the medication therapies for adult inpatients on the Internal Medicine service teams.

**Day in The Life:** A day in my life is very busy! I spend most of the time at my hospital practice site, attending committee meetings and participating in interdisciplinary patient care. In addition to my clinical responsibilities, I have teaching responsibilities at the School of Pharmacy and am actively involved in shaping pharmacy educational experiences in the classroom for students in their first, second, and third professional years of training.

**Looking to the Future:** I envision, through fuller recognition of the pharmacist's knowledge and expertise, a healthcare system that can provide high-quality, affordable care to advance public health and promote wellness in our society.

## Fast Facts

### What competencies or skills are needed?

- Critical thinking
- Ability to apply drug information to patient-specific scenarios and situations
- Time management, ability to multi-task
- Curiosity, creativity
- Desire to improve drug therapy knowledge on a large scale and evaluate processes for identifying best practices
- Public speaking and written communication skills
- Ability to work collaboratively with diverse teams

### What is required?

- Doctor of Pharmacy (PharmD) degree
- Licensure with the state board of pharmacy required
- PGY1, PGY2 pharmacy residencies
- Board certification may be required (Pharmacotherapy Specialist, Geriatric Pharmacist)

### Where can you practice?

- Academic Medical Centers
- Hospitals
- Universities, colleges or schools of pharmacy or the health sciences

### How to learn more?

- American Society of Health-System Pharmacists (ASHP): [ashp.org](http://ashp.org)
- American Association of Colleges of Pharmacy (AACP): [aacp.org](http://aacp.org)



## Pharmacist in Medical Affairs – Lisa Tarasenko, RPh, PharmD, MBA



**Overview:** At Pfizer, I am currently the Global Medical Affairs Early Asset Pipeline Lead for Diabetes and Obesity. My journey began with extensive clinical experience as a hospital pharmacist and intermittent work as a retail pharmacist. This background fueled my passion for learning and led me to Pfizer. Initially, I joined as a Medical Information Specialist, providing drug information to healthcare professionals and patients, which laid the groundwork for my transition into Medical Affairs.

My roles as a pharmacist in the clinical hospital and retail setting directly impacted individual patients, whereas my current position in Medical Affairs allows me to influence healthcare on a much larger scale. Over the years, through my various roles in Medical Affairs, I have been fortunate to be a part of numerous drug launches and have helped support the transition of products from preclinical trials through Phase 4.

As a healthcare professional in Medical Affairs, key areas of focus include:

- Informing the creation, acquisition, evaluation, and integration of clinical data and medical content about Pfizer compounds along with relevant clinical landscape data for the diseases being studied
- Communicating the benefits, risks, appropriate use, and clinical value of our medicines in an accurate, fair, and balanced manner
- Understanding customers' perspectives
- Identifying and driving actionable insights from our customers and markets

I am also the Director of the Pfizer/Rutgers Pharmaceutical Industry Program. As a Pfizer leader for the program, I provide oversight of the program's 25 fellows, their preceptors, and the Leadership Team.

**Day in The Life:** Each day, I face unique challenges and opportunities as the Global Medical Affairs Early Asset Pipeline Lead. I am involved from the initial stages of drug development, including preclinical phases through Phases 1, 2, and 3. On a daily basis, I work closely with various teams, including clinical development, regulatory affairs, safety, and marketing colleagues, to ensure our products address unmet medical needs.

My key responsibilities include serving as a medical advocate for early Pfizer assets in diabetes and obesity, leading the development of Global Medical Plans, enhancing medical affairs input throughout the clinical development process, maintaining knowledge of pipeline assets, and bringing patient and physician perspectives into development discussions. I consistently partner with external medical societies and scientific leaders in the field to gather their perspectives and share these learnings with the team.

**Looking to the Future:** I am personally excited for the future of Medical Affairs as it is promising and dynamic and will be characterized by several key trends and developments including:

- **Digital Transformation:** There's an increasing shift towards digital technology in healthcare. Medical Affairs professionals will look to adapt to digital platforms for disseminating scientific information, engaging with healthcare professionals, and collecting real-world evidence
- **Data Analytics and AI:** The use of data analytics and artificial intelligence in drug development and patient care is growing. Medical Affairs is starting to become more proficient in interpreting and leveraging big data to inform strategy and decision-making
- **Patient-Centricity:** The patient continues to be at the center of all that we do. There will be an even stronger focus on patient-centric approaches. Medical Affairs will continue to be key in integrating patient insights and experiences into the drug development process and post-market activities
- **Continued Learning and Adaptability:** As the healthcare industry evolves, continuous learning and adaptability will be key for all Medical Affairs colleagues. Professionals will need to stay informed about the latest developments in medicine, technology, and regulatory policies

# Fast Facts

## What competencies or skills are needed?

- Expertise in the disease area and product data
- Strong business acumen and analytical skills
- Excellent communication skills
- Relationship-building skills with internal and external stakeholders
- Knowledge of departments and functions within Medical Affairs and how they collaborate
- Confidence interacting with external stakeholders

## What is required?

- Doctor of Pharmacy (PharmD) degree
- Advanced medical degree (PhD or MD) encouraged

## Where can you practice?

- Pharmaceutical Industry
- Biotech Company

## How to learn more?

- Accreditation Council for Medical Affairs (ACMA): [medicalaffairsspecialist.org](http://medicalaffairsspecialist.org)
- Medical Affairs Professional Society (MAPS): [medicalaffairs.org](http://medicalaffairs.org)
- Industry Pharmacists Organization (IPhO): [industrypharmacist.org](http://industrypharmacist.org)



# Pharmacy Quality and Safety Manager – Joseph E. Cruz, PharmD, BCPS



**Overview:** I am a Pharmacy Quality & Safety Manager at Holy Name Medical Center in Teaneck, NJ. My current role is exclusively management focused. I have very few direct patient-facing interactions, and I am able to directly precept pharmacy learners for elective administrative rotations. I have a team of four direct reports in my department. However, we utilize a matrix-style organizational chart, so there are many cross-functional teams, and collaboration with other managers is extremely common. My role was created to provide oversight of pharmacy procurement and drug spending, maintain relationships with vendors and industry partners, ensure regulatory compliance and departmental adherence to the board of pharmacy administrative code, track and improve pharmacy quality/safety reporting and metrics, develop policies and procedures, and advance practice in the pharmacy department.

**Day in The Life:** Currently, 50% of my time is spent overseeing COVID-19 vaccine roll-out (implementing processes that ensure regulatory/quality standards): logging temperatures, monitoring inventory levels, and managing COVID vaccine supply.

Other responsibilities include:

- Writing SOPs, and policies & procedures, as well as updating existing documents to incorporate new recommendations and guidance from state and federal regulatory bodies.
- Oversight of the procurement team, making sure we are staying ahead of drug shortages and strategically planning around our anticipated drug spend and budgeted spend in certain therapeutic areas.
- Planning new initiatives within the Medical Center and providing pharmacy insight to multidisciplinary committees and workgroups.
- Increasing patient safety by evaluating and re-working existing processes within the pharmacy.
- Collaborating with informatics team members to incorporate design thinking into builds within our electronic health record.
- Improving user experience and reducing potential for error at the point of clinical decision-making.

**Looking to the Future:** It will definitely be interesting to see how far technology will take us and what new roles may become apparent for pharmacists as healthcare evolves with technology. Tasks that can be automated will likely become automated. My prediction is that the concept of order verification within a hospital, essentially screening medication orders for appropriateness, safety concerns, drug-drug interactions, and operational considerations, will go away within the next 10 years as machine learning improves. This will scale accordingly with improved data sources from integrated electronic health records. An advancement like this won't cut pharmacists out of the equation entirely since someone will still need to act on any "red flags," interface with other healthcare providers to determine the best course of action, and to tend to the operational needs of the pharmacy like physically managing drug supply, preparing medications, storing/tracking, dispensing, etc.

## Fast Facts

### What competencies or skills are needed?

- Clinical knowledge and clinical decision-making have become more and more necessary in pharmacy management
- Resiliency
- A "disruptor" mindset: innovate as leaders within the new paradigm being developed

### What is required?

- Doctor of Pharmacy (PharmD) degree
- Licensure with the state board of pharmacy required
- Post-graduate training and board certification are preferred

### Where can you practice?

- Hospitals
- Health Systems

### How to learn more?

- Amerine LB, Granko RP, Brummond PW et al. ASHP Statement on the Role and Responsibilities of the Pharmacy Executive. Am J Health-Syst Pharm. 2022;79:497-499. <https://www.ashp.org/-/media/assets/policy-guidelines/docs/statements/roles-and-responsibilities-pharmacy-executive>



## Psychiatric Clinical Pharmacist – Mei T. Liu, PharmD, BCPP



**Overview:** I have a dual role as a Clinical Assistant Professor at the Ernest Mario School of Pharmacy and as the Psychiatric Clinical Pharmacist at the Penn Medicine Princeton House Behavioral Health (PMPHBH). PMPHBH inpatient units provide psychiatric services for adult patients with psychiatric or substance use disorder diagnoses. I provide medication consults for the psychiatrists at the hospital and educational training to our nurses, social workers, and allied therapists at both inpatient hospitals and outpatient clinics. I also conduct weekly pharmacist-led medication education groups to promote medication compliance and enhance patients' medication knowledge for the inpatient units at PMPHBH. I'm a preceptor for two PGY-1 pharmacy practice residents, one PGY-2 neuropsychiatry pharmacy resident, and approximately 15 pharmacy students per year for their Advanced Pharmacy Practice Experiences (APPE) at PMPHBH. I'm also a course co-coordinator and lecturer for psychiatry-related topics at the Ernest Mario School of Pharmacy, Rutgers, The State University of New Jersey, and the Rutgers Physician Assistant Program.



**Day in The Life:** My typical day starts with reviewing patient charts to identify any medication-related issues. Since PMPHBH is a 100-bed psychiatric hospital and I'm the only clinical pharmacist, I rotate my service between various units in the hospital to participate in each multidisciplinary team meeting. After rounds, I respond to consult requests by interviewing patients for their detailed medication history, then provide medication recommendations to the psychiatrists, followed by individual medication counseling. Student pharmacists integrate into my clinical practice, and they assist with responding to the pharmacy consult requests previously mentioned. Part of my time is also dedicated to research, publications, hospital or school administrative responsibilities, and volunteering for patient/professional organizations such as the Chinese American Mental Health Outreach Program in New Jersey (CAMHOP-NJ) and American Association of Psychiatric Pharmacists (AAPP).

**Looking to the Future:** The pharmacy field is advancing on multiple fronts in clinical practice, the pharmaceutical industry, and research. Ernest Mario School of Pharmacy now offers dual degree programs such as PharmD/MD, PharmD/MPH, PharmD/MBA, PharmD/PhD, and PharmD/MS-HOPE, which helps prepare students in additional areas of practice. Psychiatric pharmacists are taking on more clinical roles and establishing collaborative practices to provide patient care since there is a shortage of psychiatric providers. I hope this trend will continue nationwide so patients can benefit from pharmacists' expertise.

## Fast Facts

### What competencies or skills are needed?

- Compassion
- Strong clinical knowledge and literature evaluation skills
- Critical Thinking

### What is required?

- Doctor of Pharmacy (PharmD) degree
- Licensure with the state board of pharmacy required
- PGY1, PGY2 in Psychiatry may be required
- Board Certification in Psychiatry may be required

### Where can you practice?

- Hospitals
- Academia
- Outpatient Clinics

### How to learn more?

- American Association of Psychiatric Pharmacists (AAPP): [aapp.org](http://aapp.org)



## Regulatory Advertising and Promotion Policy Pharmacist – Shanice Taylor, PharmD



**Overview:** I am a regulatory advertising and promotion policy reviewer at GSK. My responsibilities include ensuring all promotional materials created by GSK for the product I support are truthful, balanced in their benefit-to-risk information presentation, and not misleading. Prescription drug promotion is highly regulated, and I am responsible for understanding the laws, regulations, and guidelines enforced by the FDA and applying them to various promotional materials. This includes but is not limited to websites, television commercials, conference booths, social media ads, speaker decks, and materials used by the sales force. I work cross-functionally with representatives from commercial (marketing), medical information or medical affairs, and legal in creating and reviewing these assets.

Additionally, I provide feedback to the regulatory therapeutic group on study protocols to ensure pivotal studies are designed in ways that allow for the collection of data necessary to substantiate future claims. I also sit on the Digital Activation Committee, which is responsible for creating the standards followed by the enterprise for promotion in new digital spaces. This involves providing guidance on what is required for promotion through novel digital platforms, such as a new social media site where the brand would like to place promotional content.

**Day in The Life:** Some days, I independently review promotional materials, commenting on elements that need to be changed, discussed, included, or deleted. On subsequent days, I attend meetings with my cross-functional partners to discuss the comments we've made, and the required changes based on our interpretation of the regulations. Between these duties, I am having conversations with marketers who may have questions on what is required to create a specific tactic or with my medical and legal counterparts to inform my review or theirs. There are also days when I attend meetings to provide feedback on study protocols for pipeline products. I also attend meetings with regulatory advertising and promotion reviewers that support other products to ensure we are all approaching our reviews with a common foundation. Hence guidance is consistent across the enterprise.

**Looking to the Future:** Pharmacy is evolving in that I see many associated with the field (students, new grads, and those who have been practicing) searching for avenues beyond retail and clinical pharmacy to utilize their PharmD or BsPharm. A pharmacy degree is extremely versatile, and I am seeing people with strong desires to explore where they can put their degree to use in ways that allow them to benefit people, not experience burnout, and challenge them in ways that still allow for adequate work-life integration. Some are finding this experience in the retail and clinical setting, but I am seeing many people looking outside of more traditional pharmacist roles to fulfill those needs. I certainly see the practice of pharmacy changing as more people begin to travel non-traditional routes in pharmacy.

## Fast Facts

### What competencies or skills are needed?

- Communication skills
- Reading comprehension
- Data analysis/interpretation
- Time management
- Asking the right questions
- Self-starter
- Team player
- Attention to detail
- Comfortable asking for help/advice

### What is required?

- Most prefer a higher-level degree such as a PharmD, PhD, or MD
- Licensure not required
- Post Graduate training not required but a great segue into the industry for PharmDs in the form of fellowships

### Where can you practice?

- FDA
- Pharmaceutical Industry
- Consulting/Contracting Firms
- Medical Device Industry

### How to learn more?

- Connect with those in the role on social media



## Regulatory Affairs and Labeling Pharmacist – Yaroslav Ivanov, PharmD



**Overview:** I am the Director of Global Regulatory Affairs Labeling for Sanofi in Bridgewater, New Jersey. We develop a global labeling strategy and incorporate the “Label as Driver” operating principle into the project team’s way of working and decision-making. I support marketed and in-development products in multiple therapeutic areas, and I currently manage two people in the rare blood disorders portfolio. My team provides global labeling support for our portfolio’s development and marketing products. We prepare corporate, US, and EU labeling (prescribing information and patient information) documents to obtain company or agency approval for Sanofi products. Development of labeling for these products is based on study results, coordination of labeling review and approval throughout the company, preparation of labeling components for submission to regulatory agencies, and participation in labeling negotiations with agencies resulting in product approvals or labeling updates. We also review other countries’ labeling to ensure compliance with corporate labeling. My responsibilities also include coaching and mentoring members of my team and cross-functional teams responsible for developing labeling documents. We also established a two-year Global Regulatory Affairs Labeling Fellowship.

**Day in The Life:** Although we establish labeling timelines for planned submissions for a given product and work on deliverables to achieve those timelines, we also can receive unexpected queries from various Health Authorities around the world. For any labeling topics, I organize and chair multi-disciplinary labeling working groups, which consist of key subject matter experts, presenting labeling proposals and developing/reaching consensus on proposals resulting in the presentation of labeling proposals to senior management of the Labeling Governance Committee for internal approval of proposed labeling. I must be available to my direct reports for consultation on labeling questions for their respective products. I also contribute to transversal initiatives to improve processes and systems within the department, as needed.

**Looking to the Future:** There is a great emphasis on clinical pharmacy. There are fewer retail/chain pharmacy jobs available. E-labeling for prescription products, QR coding in packaging for patients. Telepharmacy for MTM services. Expansion of vaccination services.

## Fast Facts

### What competencies or skills are needed?

- Knowledge of regulatory and regulatory labeling requirements pertaining to marketing authorization filings for new products or updating existing products
- Organizational skills
- Strong networking ability
- Decision-making

### What is required?

- PharmD/Nursing degrees fit well in the global regulatory labeling role
- The fellowship program provides an excellent opportunity for a recent grad to learn about global regulatory affairs and develop the skills necessary to become an independent labeling lead with a strategic mindset
- Suggested membership includes involvement in Drug Information Association (DIA) and Regulatory Affairs Professionals Society (RAPS)

### Where can you practice?

- Pharmaceutical Industry

### How to learn more?

- Fellowship brochure
- Drug Information Association (DIA): [diaglobal.org](http://diaglobal.org)
- Regulatory Affairs Professionals Society (RAPS): [raps.org](http://raps.org)



## Renal Transplant Clinical Pharmacist – Alison Eisenhart, PharmD, BCPS



**Overview:** I am a Clinical Pharmacist Specialist for Renal Transplants at the Saint Barnabas Medical Center in Livingston, NJ. In my current role, I oversee medication management for renal and pancreas transplant recipients. My responsibilities involve inpatient rounds, outpatient transplant clinic, immunosuppression monitoring and dose adjustments for renal function, electrolyte management, diabetes management, blood pressure management, infection prophylaxis and treatment, policy update and development, support for investigational drug trials, medication adherence support, patient, and caregiver education, as well as staff, resident, and student education. Typically, I see kidney and pancreas transplant recipients and kidney donors and precept pharmacy students.

**Day in The Life:** The transplant pharmacist functions as part of a large multidisciplinary team that supports patients before and after transplant. Medication management is a crucial component to transplant success, meaning that patients typically take immunosuppressive medications long-term. These medications can have many side effects and drug interactions. With immunosuppression, too little medication can lead to organ rejection, and too much may increase the risk of side effects, infections, and malignancies. A typical day for a pharmacist covering an inpatient transplant service will vary based on the size of the transplant center, the organs transplanted, the ratio of pharmacists to patients, and the role of pharmacy students and residents on the team. Some transplant pharmacists may also be responsible for order verification and distribution. At my institution, transplant pharmacists see patients in the hospital and the outpatient clinic. An inpatient pharmacist will round with a surgical team on fresh kidney and pancreas transplant recipients and living kidney donors. Another inpatient pharmacist will round with a medical team on patients who are readmitted for things like infections, organ rejection, surgical procedures, and cardiac events. They are responsible for reviewing patient labs, vitals, cultures, and notes. Many transplant pharmacists have collaborative practice agreements that permit them to adjust medication doses and add or delete therapy based on patient-specific parameters like renal function, culture results, and labs. The pharmacist in the transplant clinic meets with patients who have recently been transplanted. They will also see patients struggling with medication adherence and those who need support with diabetes management. We often use our afternoons for patient and caregiver education and meeting with students and residents.

**Looking to the Future:** I graduated in 2005 – since then, the demand for specialty-trained pharmacists has increased. Medicines have become more specialized, patients are more complicated, and the pharmacist is recognized as an essential partner in keeping patients healthy and safe.

I hope to see the younger generation of pharmacists continue to advocate for the profession. There is presently a physical surplus of pharmacists, but the roles that we can take on are endless. If we become more active in professional organizations, we can promote job growth, create more positions, and incorporate pharmacists in healthcare legislation.

# Fast Facts

## What competencies or skills are needed?

- Patience, compassion
- Creativity, “thinking outside the box” when considering risk vs. benefit of using non-traditional treatment options to maximize outcomes
- Remaining up to date with research and guidance in areas of transplant, organ-specific disease state management, cardiology, diabetes management, and infectious disease

## What is required?

- Doctor of Pharmacy (PharmD) degree
- Licensure with the state board of pharmacy required
- PGY1, PGY2 (Transplant) pharmacy residencies may be required
- Board Certification is not required, but encouraged (BCTXP)

## Where can you practice?

- Hospitals
- Outpatient Clinics
- Academia
- Institutions with Clinical Trials

## How to learn more?

- American Society of Health-System Pharmacists (ASHP): [ashp.org](http://ashp.org)
- American College of Clinical Pharmacy (ACCP): [accp.com](http://accp.com)
- American Society for Transplantation (AST): [myast.org](http://myast.org)
  - The AST has a pharmacy workgroup that regularly updates a recommended reading list with primary literature for the transplant clinician and trainees
- The Centers for Medicare and Medicaid Services (CMS) work with the United Network for Organ Sharing (UNOS) to develop criteria that transplant centers should adhere to. The role of the pharmacist or pharmacotherapy expert in transplant is usually one of their criteria





## Chapter Thirty

# Retail Pharmacist – Katherine VanWhy, BSP Pharm, RPh, CIP



**Overview:** I am a Pharmacist at Walgreens Pharmacy in Mount Laurel, NJ a suburban area with a significant middle-aged and senior population. I oversee day-to-day operations in the pharmacy and implement company policies and initiatives designated to provide exceptional patient care. My responsibilities include working with the Store Manager to communicate relevant, corporate, health and wellness services to patients as well as business strategy information to all of the pharmacy staff, analyzing performance data (financials, customer service, inventory), managing pharmacy asset protection/inventory, and assuring compliance with company policy as well as state/federal regulations. I am also responsible for employing coaching behavior and managing staff performance to provide high-quality patient care.

**Day in The Life:** My day begins by ensuring the pharmacy staff are prepared for the day (checking the phone system for messages, reviewing e-mails, checking the corporate messaging system “COMPASS” for information that needs to be passed on to the team). I spend the day reviewing prescriptions for accuracy upon data entry and screening for drug interactions or disease state contraindications. I also oversee the COVID-19 specimen collection tests conducted through the drive-thru and address any questions patients may have, administer immunizations to patients according to the State protocols, and am available to answer patient questions/concerns in-person and over the phone. Daily, I reach out to patients through a “Patient Care Portal” to discuss new therapies and address adherence issues resulting in late refills on maintenance medications.

**Looking to the Future:** Make your relationships with your patients your passion; it will not disappoint you! Patient care has always been the focal point of the pharmacy profession; it has had to adapt to the changing times. Challenges to patient care arise (such as PBM) that lead to the emergence of services such as medication therapy management. Pharmacists have obtained the right to provide immunizations, helping to protect their patients from avoidable diseases like pneumonia and shingles. The profession has always desired to be part of a partnership between disciplines. When I graduated, there was a disdain for pharmacy involvement from other professions (such as MDs). I am pleased that this is no longer the case; collaborative arrangement exists, and interdisciplinary practice is now being taught as the norm. Patient care will continue to be the driving force in my work environment. I am seeing efforts to facilitate this in my work environment better; some of the more mundane business-based tasks are being reassigned to free up time to spend with patients. Medication therapy management will continue to be vital to the success of my practice as a business; more and more PBMs are reimbursing pay-for-performance models that hinge on patient outcomes. The emerging importance of telehealth will also provide exciting new opportunities for pharmacy as another way to reach patients.

## Fast Facts

### What competencies or skills are needed?

- Communication – a MUST
- Organization skills to ensure quality care and compliance
- Self-motivation

### What is required?

- Doctor of Pharmacy (PharmD) degree
- Licensure with the state board of pharmacy required
- Immunization Certification

### Where can you practice?

- Retail Pharmacies
- Specialty Hospital-Based Pharmacies



## Veterinary Clinical Pharmacist – Donna Watson PharmD, RPh, DICVP, FSVHP



**Overview:** I am a Veterinary Clinical Pharmacist at the University of Pennsylvania- Matthew J. Ryan Small Animal Veterinary Hospital in Philadelphia, Pennsylvania. I manage the Pharmacy Department which includes all hospital Inventory in addition to traditional pharmacy services. Our team has seven full-time technicians, a staff pharmacist, an Inventory Manager, and anywhere between 7-10 part-time employees, some of whom are pharmacy and veterinary students. I oversee all pharmacy operations for the hospital which include in-patient dispensing, chemotherapy, out-patient, mail order, compounding, supporting research requests for help dispensing medications for clinical trials and occasionally interacting with our friends in human medicine who need access to veterinary specific medications. We are a closed door pharmacy, so we only interact with clients via the phone. Our patients consist of small animals, with over 99% being dogs or cats. Most of our interaction is with the veterinary interns and residents who do most of the prescription writing. They often look to the pharmacy for recommendations on dosing, advice on side effects, and stability and sterility information along with IV compatibility.

**Day in The Life:** I usually start with administrative tasks, such as reconciling the previous days controlled substances, reviewing reports, answering emails, and completing HR tasks. Once the workflow picks up, I devote most of my time to checking prescriptions until the 2nd pharmacist arrives around 10:30. I use the overlap time for scheduled meetings and project work. Some examples include partnering with our charge capture nurse to optimize the usage of our Omnicell, partnering with IT to implement new technology to improve workflow efficiencies, participating in the Adverse Events Committee, running the Pharmacy Committee (aka P&T Committee) researching clinician and client questions, and analyzing pharmacy dispensing data to improve operations.

Projects include:

- Assisting nursing with standardized drug concentrations and developing a drug handbook
- Creating an extravasation chart adding pertinent drug information flags to our electronic treatment sheets
- Implementing in-house unit dosing of oral medication
- Increasing pharmacy compliance with USP 795 and USP 800 guidelines

If there are complex drug information questions, I may switch with the second pharmacist, who completed a residency in veterinary pharmacy, to allow her time to research and resolve. Many times a commercially available product has inactive ingredients that may be toxic to our patients, or is not available in a suitable strength making compounding an important pharmacy service. We do weekly batch compounding for commonly used medications.

**Looking to the Future:** When I started, pharmacy was data entry and filling. Major hospitals had few clinical pharmacists. There were no USP 795, 797, or 800 guidelines. Disease state guidelines were just being written. Retail pharmacies didn't focus on patient adherence or outcomes, and pharmacists did not have the authority to vaccinate, provide MTM, or any other type of clinical service. The implementation of technology, such as automated dispensing cabinets, electronic prescribing, etc., allowed for this on the hospital side. Streamlining workflow with automated refills and prior authorization requests to prescribers, e-prescribing, semi-automated inventory management systems, etc., allowed the same to happen on the retail side. Combining increased use of technology with expanding the roles of pharmacy technicians has allowed pharmacists to focus less on dispensing and more on patient care.

# Fast Facts

## What competencies or skills are needed?

- Innovative problem-solving and critical thinking are very important because veterinary medicine relies heavily on anecdotal evidence. There are some guidelines, but nothing as you see in human medicine
- Good communication skills are a must
- Flexibility, willingness to do whatever needs to be done as opposed to sticking to a defined job description

## What is required?

- Doctor of Pharmacy (PharmD) degree
- Licensure with the state board of pharmacy required
- Completion of a veterinary residency program and membership in the Society of Veterinary Hospital Pharmacists (SVHP) or the American College of Veterinary Internal Medicine (ACVIM) is desirable
- After completion of a residency or working 5 years in a university teaching hospital, opportunity to become board certified by the International College of Veterinary Pharmacy (DICVP)

## Where can you practice?

- University Veterinary Teaching Hospitals
- Large Clinic Practices
- Compounding Pharmacies

## How to learn more?

- Veterinary electives if offered
- Society of Veterinary Hospital Pharmacists (SVHP): [svhp.org](http://svhp.org)
- Professional Compounding Centers of America (PCCA): [pccarx.com](http://pccarx.com)



# Words of Wisdom

## From the Pharmacist Contributors:

**Judah E. Brown, PharmD, BCCCP – Advanced and Nutrition Support Clinical Pharmacist:** As many others would say, my advice to rising and graduating pharmacy students is to approach their future careers without blinders. It's important to take every opportunity as a learning experience despite any preconceived notions. Every rotation, conference, mentor, or even acquaintance can offer a unique perspective that can open doors to potential opportunities that may not have existed or been known otherwise. Furthermore, the fear of trying something new and the comfort within familiarity can be stifling to young practitioners. Thus, pushing forward to find ways to overcome that fear will ultimately expand their potential.

**Aksh Sharma, PharmD – Advertising Agency Pharmacist:** The agency side provides significant growth and learning opportunities and should be a serious consideration for anyone interested in a non-traditional pharmacist path.

**Christian Stella PharmD, ABAHP, FAAMM – Compounding Pharmacist:** Learn as much as you can about as much as you can! Learning does not stop after you get your degree and license. No matter what field of pharmacy you decide to pursue a career in, you will always need to continue to learn. The medical world changes and grows every day, and with that so does our knowledge. Take courses, get certifications, listen to lectures, and learn as much as you can because it only betters you and will better your patients.

**Eileen Peng, PharmD, MS – Community Oncology Practice Clinical Pharmacist:** Review your options before jumping into a traditional pharmacist role. Many students complete fellowships and may choose other avenues within the industry. I was trained in drug safety and made the transition into regulatory labeling.

**Sakib Alam, PharmD, MBA, BCPS – Consulting Agency Pharmacist:** No matter which role you are working in, there is always some way you can make an impact. Everyone has a unique combination of experiences that gives them insight that is unique to them—so share your ideas! That's how amazing things happen.

**Daniel T. Abazia, PharmD, BCPS, CPPS – Director of Pharmacy:** Know what you dispense...don't take your role as medication expert for granted. Other healthcare professions are always nipping at our heels to take over. Take every experience (good and bad) as a learning opportunity and build upon it. Don't become a commodity. Be flexible during your career and make every effort to adapt to an ever-changing environment.

**Kristina Ward, PharmD, BCPS – Drug Information Pharmacist:** The need for pharmacists to be able to research and respond to drug information questions will always be present. Drug information skills will serve every pharmacist well in their career. Although not as apparent while in school, the information you will learn in your classes about how to research, find information, and critique primary literature is a tool you will use every day as a pharmacist, no matter which field of pharmacy you enter.

**Matthew Johnson, PharmD, RPh – Entrepreneur/Informatics Pharmacist:** Don't underestimate your capacity to build something greater than yourself. You can change the world in 10 years, especially when your impact is not confined to a job defined by someone else.

**Keven Dai, PharmD, BCOP – Healthcare Investor:** I would recommend that students focus on clinical experience and seek out non-traditional pharmacy roles. 90% of my job is based on my analysis of medical papers and clinical data – therefore, it's essential to have fundamental pharmacology and clinical experience. I wouldn't be here if it weren't for my experiences as a clinical pharmacist.

**Laura Pizzi, PharmD, MPH – Health Outcomes, Policy, and Economics Pharmacist:** A word of advice I give my students is that failure happens every day, even for seasoned professionals like me. Learn to accept it and move on. It is a great teacher. Success comes by persevering through failures with professionalism and hard work. It is important to remember that life is a marathon, not a sprint. Put your running shoes on, set your pace, and make every stride count!

**Cindy Cruz, PharmD – Hospital Clinical Pharmacist:** As challenging as pharmacy school is, remember to enjoy college and meet as many people as you can. Do a residency if you can (most hospitals prefer PGY1 residency). After your clinical rotations, keep in touch with your preceptors and Directors of Pharmacy.

**Karan Raja, PharmD, BCPS, BCIDP, AAHIVP – Infectious Diseases Clinical Pharmacist:**

- Keep an open mind when evaluating your potential roles within Pharmacy. There are so many diverse opportunities for pharmacists today, even within a specialty.
- Network with Pharmacy and non-Pharmacy professionals alike. You may have a newfound appreciation for a particular role or maybe even encounter employment opportunities.
- Find your passion. Work takes up at least a third of your day and most of your life. Settle in a field, organization, or role you enjoy and feel fulfilled.
- Balance work and life. As I grow, I find that having outlets outside of work, whether family, friends, or hobbies, allows you to be the best, sustainable version of yourself in your career.
- Be empathetic. Remember, there is a patient that could be our family or us at the end of every decision we make, no matter how direct or high-level.

**Maribel Pereiras, PharmD, BCPS, BCOP – Inpatient Oncology Clinical Pharmacist:** The pharmacy degree is extremely versatile. This is also an area where you will experience life-long learning.

**Leon Tarasenko, RPh – Independent Retail Pharmacist/Business Owner:** Today, independent retail pharmacies are being challenged on multiple fronts (i.e., chain, supermarket, mail order, and digital pharmacies, etc.) that offer contactless delivery direct to a patient's home, 24-hour concierge pharmacists available by phone and text, mobile apps, and platforms providing real-time pricing and coupons. What these pharmacies can't offer is the personalized touch of a local independent pharmacist. Reach out and ensure you are making that difference. While you may struggle to find the time to offer the personalized touch, this is where I encourage you to find your niche, be creative, and tap into the unmet needs in your community so you can and will succeed.

**Christina Zelasko, PharmD, BCPS – Investigational Drug Pharmacist:** Residencies give you access to a crash course of clinical knowledge and experience, but as pharmacists we are always learning. Skills and knowledge can be gained in any practice setting, and if you are willing to learn you can position yourself for new and unique opportunities. Along your journey through school and life, remember to be kind to yourself and others.

**Timothy O’Shea, MS, PharmD – Managed Care Clinical Pharmacist:** Reach out to people within managed care to ask questions if you think it might be the right fit for you (I can’t emphasize the importance of networking enough). Get involved in your school’s AMCP organization and take advantage of any rotations focused on managed care.

**Fanny A. Musto CMTM, BS Pharm – Managed Care Organization-Population Health Clinical Pharmacist:**

- Stay current by reading about new medications, how they work, and how they are different than market competitors
- Stay current regarding diseases, annually updated guidelines, and attending CEs
- Join federal and state associations in your field of practice
- Join professional networks, be a part of the profession
- Explore certifications for unique opportunities in specialized care
- Keep your resume updated
- Give back, i.e., volunteering, financial support through alumni programs
- Always stay true to yourself and the profession

**Alicia Alexander Cadogan, PharmD – Medical Information Pharmacist:** Don’t be afraid to explore different paths in your pharmacy career. You can take advantage of opportunities during your clinical rotations to get a sense of what excites you. But even after you graduate, you should continue to explore different options until you find your niche. It may take some time, and the path may not be linear, but if you focus on the reason why you pursued a career in pharmacy and find what makes you happy, you will do great work and have a fulfilling professional life.

**Vatche Demirjian, PharmD, RPh – Medical Science Liaison:** Always be thinking about the next step. You should always be asking, “Where do I see myself next year, in 3 years or in 5?” Sometimes you might not know, and that’s fine! That is why I encourage you to use your network and learn how other PharmDs got to where they are and what opportunities exist. The sooner you identify where you want to be next year, the better you can strategize and map out what you need to accomplish to reach your goal. Ask yourself questions like 1) Do I know anyone in a similar position that can help me learn more about that role? 2) What skill sets would I need to be a competitive candidate? 3) Can I leverage my past experiences to show that I would be successful in this role? 4) if not, what do I still need to experience or learn to be a candidate?

**James Masterson, PharmD, MPH. Colonel, Medical Service Corps, US Army – Military Pharmacist:** The military provides pharmacists with a host of unique and rewarding career opportunities. Despite these opportunities, the military is not a good fit for all pharmacists. Before joining the military as a pharmacist, you need to completely understand the obligations associated with being in the military. Speaking to several military pharmacists in each branch of service (Army, Air Force, and Navy) will help you make an informed decision.



While there is certainly excitement associated with careers in the military between interesting assignments and career growth, the military lifestyle can be difficult for many. Unlike pharmacists outside of the military, you often have minimal input on where you will work which means the chances of living near your hometown are often limited. You will also be expected to move every three to five years while you remain in the military. I have moved 11 times during my 20 years in the military. Even more important, as a military officer, you will be required to deploy overseas for up to a year without family periodically. I have twice had assignments where I was not permitted to bring my family. Also, keep in mind that military pharmacists are typically expected to serve in leadership roles, so if being “in charge” is unappealing, one should consider other pharmacy opportunities.

Despite what some may consider challenges, I have thoroughly enjoyed my 20 years as a pharmacist in the military. I have colleagues that I have had the honor to serve with in the military throughout the country that I can truly call friends. While I have enjoyed every job over the last 20 years, the jobs I was least interested in became the most rewarding of my career. There is an extreme sense of pride that goes along with serving in the military. In fact, only about 6% of Americans have served in the military. You will share a bond forged through shared service, experiences, conditions, and circumstances among these veterans. A career in the military is deeply rewarding and brings tremendous fulfillment and satisfaction to those who commit to serving our great nation.

**Elizabeth Autry, PharmD, BCPPS – Pediatric Clinical Pharmacist:** My advice to students is to be open-minded to the opportunities that exist within pharmacy practice. The field is continuing to evolve, and you may stumble upon your niche of pharmacy practice when you least expect it. Seek a mentor that will challenge and support you in your career pursuits. They will be your biggest cheerleader but will give you honest feedback and assessment when needed. Put yourself out there! Your career path is what you make it. Join an organization and be an active member, seek out research opportunities, and embrace feedback, both good and constructive.

**Danielle Gordon, PharmD, JD – Pharmacist Attorney:** Don't be afraid to use your pharmacy degree as a steppingstone. A degree in pharmacy can open doors to career paths beyond pharmacy in law, compliance, technology, and finance.

**Mary Barna Bridgeman, PharmD, BCPS, BCGP, FNAP – Pharmacy Faculty Member and Internal Medicine Pharmacist:** Paraphrased from Teddy Roosevelt and John Maxwell's original quotes, I live by the mantra, “Patients don't care how much you KNOW until they know how much you CARE.” This keeps me grounded and reminds me that my outstanding knowledgebase might be lost if I can't connect with a patient and demonstrate empathy for their situation.

**Lisa Tarasenko, RPh, PharmD, MBA – Pharmacist in Medical Affairs:**

The expanding field of Medical Affairs presents more opportunities for pharmacists than ever, but it's also highly competitive. Distinguishing yourself is crucial for a successful transition. This might mean pursuing a fellowship or obtaining board certification, increasingly recognized as standards in the field. Developing soft skills and business acumen is also essential due to the collaborative nature of Medical Affairs roles.

For pharmacists exploring career options, diverse experiences like industry pharmacy rotations, summer internships in industry, and/or fellowships in Medical Affairs are invaluable in finding the right path that makes you tick and works for you. Steve Jobs' saying, 'The only way to do great work is to love what you do,' is particularly pertinent here. Ensuring you have passion and dedication to your career in medical affairs will lead to true success and fulfillment.

Finally, throughout your career journey, always remember Albert Einstein's words: 'In the middle of difficulty lies opportunity.' Challenges in Medical Affairs should be seen as chances for growth and development, making your journey in this dynamic field both rewarding and enriching.

**Joseph E. Cruz, PharmD, BCPS – Pharmacy Quality and Safety Manager:** Don't say no (yet!). There will be time to pare back commitments and responsibilities as your career advances. But your first 3–5 years should focus on building a solid foundation and investigating potential opportunities. Sometimes that means adjusting to focus on growth in a new area within pharmacy. Sometimes that means learning about fields beyond what our profession is traditionally involved in entirely. Learn and grow and see where you can make a positive impact on the world. Career paths are very rarely linear.

**Mei T. Liu, PharmD, BCPP – Psychiatric Clinical Pharmacist:** Find an area of practice that they are genuinely interested in. Although it may be difficult to obtain postgraduate training in a residency or fellowship, there's long-term professional satisfaction if a person can practice in an area that they are passionate about.

**Shanice Taylor, PharmD – Regulatory Advertising and Promotion Policy Pharmacist:** Have faith that you will eventually end up where you are meant to be, if not now. Be kind, work hard, rest, and build your network.

**Yaroslav Ivanov, PharmD – Regulatory Affairs and Labeling Pharmacist:** Explore pharmaceutical industry fellowship opportunities. PharmD is a very versatile degree that is a good fit for ample positions in the industry. Skills learned in one area are transferable to another.

**Alison Eisenhart, PharmD, BCPS – Renal Transplant Clinical Pharmacist:** Use school and post-graduate training to experience as many areas of pharmacy as possible. Whether it's a lecture, job shadowing, a formal rotation, or a paid position, this is the time to figure out what your interests are. Watching the practice of pharmacy in action is very different from what we learn in the classroom.

**Katherine VanWhy, BSP Pharm, RPh, CIP – Retail Pharmacist:** I was drawn to community pharmacy practice because it provided an opportunity to connect with patients in a personal way. Throughout my career, I have seen the difference I have made in my patients' lives. My involvement with my patients constantly reminds me why I do this for a living; it brings me back to the center of my practice when the "business" gets stressful. Make your relationships with your patients your passion! It will not disappoint you.

**Donna Watson, PharmD, RPh, DICVP, FSVHP – Veterinary Clinical Pharmacist:** Use your APPE rotations to experience a broad array of pharmacy practices instead of focusing on one area. Do a residency after graduating from pharmacy school, even if you don't think you will use it. The first thing you should do at the beginning of any rotation or residency/job is to familiarize yourself with the available resources. Keep your experiences broad until you have a solid grasp of a specific area of pharmacy you are interested in. Having a broad range of experiences to draw from later is tremendously helpful. Focus on understanding the concepts of what you are learning and less on memorizing specifics. You can always look things up quickly, but it takes much more time if you must read and learn a new concept. Being flexible, cooperative, and a team player will get you much further than the smartest student who doesn't possess those traits. And last, do what makes you happy!



## Words of Wisdom

# Featuring Contributors from the First Edition of the Full Preparation: Pfizer Guide to Careers in Pharmacy

### **Alice Wen, PharmD (Originally Hospice Pharmacist)**

**Current Position:** Ambulatory Care Pharmacist, Stanford Healthcare

I am currently an ambulatory care pharmacist at Stanford Healthcare. My experiences at Stanford have been very enriched in that I have been exposed to multiple areas of disease management, including multi-organ transplant, cardiology, and hematology. I have also served as a conference lecturer and expert witness in legal litigation in the anticoagulation arena. I am currently the lead pharmacist in the anticoagulation clinic and pharmacogenomics. I am also one of the primary preceptors for all the PGY1 residents in our acute care and ambulatory care program. I would advise our future pharmacists or students to always keep an open mind and explore any opportunity that may look even remotely interesting. I did not like the anticoagulation clinic while I was a resident, but I'm now the primary pharmacist/manager at an anticoagulation clinic and became an expert in the field.

### **Michael Manolakis, PharmD, PhD (Originally Pharmacy Benefit Manager)**

**Current Position:** Senior Vice President, Aon, Pharmacy Practice

I have learned many things about myself and what it means to be a pharmacist since the Pfizer Guide to Careers in Pharmacy was first published. My career journey includes more PBM work and 11 years in pharmacy education, where I served as an Assistant Dean and a faculty member. I now work for Aon Consulting in their National Pharmacy Practice, where I help our customers make the best decisions on how to spend their health care dollars specific to pharmacy. As you shape your career, I encourage you to seek that place where your professional interests intersect with those things that personally bring you joy. Perhaps you love gaming, so how can you intersect this interest with your professional training? Know that it is not an easy place to find. I've been blessed to combine my passion for teaching with multiple pharmacist roles, and I have learned that the greatest career satisfaction comes when you reach this place. Best wishes for your career!



**Susan C. Winckler, RPh, Esq. (Originally Regulatory Pharmacist)**

**Current Position:** Chief Executive Officer, Reagan-Udall Foundation for the FDA (the Foundation is a non-profit, non-government organization established by Congress to advance the mission of the FDA)

Since being featured in the Pfizer Guide to Careers in Pharmacy, I have had the opportunity to work in the federal government (as Chief of Staff at the US Food and Drug Administration), in the for-profit world (as a Partner and business president within the health care consultancy Leavitt Partners, LLC), and non-profits (as President and CEO of the Food and Drug Law Institute and now with the Reagan-Udall Foundation for the FDA). Each of these was rewarding in many ways, including the opportunity to work with and learn from a wide variety of healthcare professionals—and too often be the only pharmacist in the room. The latter role could be daunting, but frequently interesting to see how often training as a pharmacist was important—whether helping think through gathering real-world data regarding COVID-19 treatments and how dispensing documentation might take place or the dynamics of pharmacist administration of vaccines for the FDA regulatory process. Lean in, take risks, and learn. And celebrate your pharmacist training!

**Andrew J. Donnelly, PharmD, MBA, FASHP (Originally Operating Room Pharmacist)**

**Current Position:** Executive Director of Pharmacy, UI Health Clinical Professor and Associate Dean for Clinical Affairs, University of Illinois Chicago College of Pharmacy

As a student and then as a young pharmacist, here are three pieces of advice that I believe will help you be successful in your career. The first is to take advantage of opportunities that arise. This may require you to go outside your comfort zone and probably result in using some of your time outside of work to succeed in whatever the opportunity entails. Still, it has the potential to be a career-changer. I speak from personal experience on this. The second is that I can't stress enough how important it is to become active in pharmacy organizations as a student and continue to do so once a pharmacist. The networking opportunities are plentiful and can result in long-lasting professional relationships; this is also an excellent way to develop your leadership skills by volunteering and running for various positions within the organization. Most importantly, it is an opportunity to give back to the profession. And finally, be sure to identify one or two mentors early in your career. These individuals can be invaluable in providing advice and direction that will hopefully allow you to reach your goals without too many "do-overs" in your career progression.

**Edward D. Rickert, BS Pharm, JD (Originally Pharmacist Attorney)**

**Current Position:** Partner, Quarles & Brady LLP

As the profession continues to evolve, there is an opportunity for pharmacists to leverage their education and training to assume leadership positions in a variety of roles outside of traditional pharmacy. On a daily basis, I meet and interact with pharmacists who are leaders in pharmacy automation and technology, law, compliance, private equity, trade associations, and government, to name a few areas. Students should start looking at these types of opportunities early on in pharmacy school.

**Denise H. Rhoney, PharmD, FCCP, FCCM, FNCS (Originally Critical Care Pharmacist)**

**Current Position:** Ron and Nancy McFarlane Distinguished Professor, Associate Dean for Curricular Innovation, Division of Practice Advancement and Clinical Education

If I were to speak any words of wisdom to students, new graduates, and potential pharmacy students, then I would say health care is such a rapidly changing environment that creates an ongoing knowledge and skill gap between what people know and what they will need to know the next moment to succeed. This type environment requires clinicians to develop expertise to function efficiently on everyday tasks but also requires them to create innovative solutions for workplace/healthcare challenges. This has created the need for adaptive expertise which requires the graduate to fuel the development of this expertise with curiosity, motivation, a growth mindset, and resilience to meet the ever-changing challenge and demands of healthcare. One of my favorite quotes is from Michael Jordan, who embraces the concept of academic risk-taking and learning from perceived failure.

"I've missed more than 9,000 shots in my career. I've lost almost 300 games. Twenty-six times I've been trusted to take the game-winning shot and missed. I've failed over and over and over again in my life. And that is why I succeed." – Michael Jordan

I believe this is relevant to our careers as we need to be self-regulated learners who are reflective and constantly learning and adapting so we can develop the innovative solutions to challenges that face us every day.

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