Introduction to Pharmacy Pt. 2

www.pharmacy.umaryland.edu
Agenda

2 p.m. Role of a Pharmacist; Careers in Pharmacy
   - Dr. Cherokee Layson-Wolf, Assoc. Dean
2:20 p.m. Panelists
   - Dr. Emily Heil, Infectious Diseases
   - Dr. Nicole Brandt, Geriatrics
   - Dr. Charmaine Rochester, Ambulatory Care Pharmacy
   - Dr. Odera Ekwunife, Consumer Safety Officer, FDA
   - Dr. Elisabet Tassis, Sr. Medical Science Liaison, Amgen
3 p.m. Overview of Planning a Professional Degree
   - Ms. JuliAna Brammer, Dir., PharmD Admissions
Q&A
Medication Experts

Serve as a **drug scientist**, medication expert, patient counselor and critical healthcare resource

- **Educate** patients
- **Counsel** patient and healthcare providers on **optimal therapy options**
- Ensuring the **best patient outcomes**
- **Trusted and highly accessible**
Why does a career in pharmacy interest you?
Did you know?

• More than 258 million doses of COVID-19 vaccine have been administered by US Pharmacists. (https://www.cdc.gov/vaccines/covid-19/retail-pharmacy-program/index.html)

• Messenger RNA (mRNA) vaccines use new technology pioneered at US pharmaceutical companies which employ PharmDs in numerous positions.

• Pharmacist provide medication therapy management (MTM). MTM optimizes drug therapy and improves patient outcomes, especially for people with multiple chronic diseases & on several medications.

• Pharmacists are the most accessible and frequently visited members of the healthcare team. (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3058447/)

Why Choose Pharmacy?

• An exciting career choice
  • Pharmacy combines science, healthcare, computer technology, business and math, offering a rare blend of teamwork and direct interaction with patients.

• A trusted profession
  • Pharmacists are consistently ranked as one of the most highly trusted professionals because of the important care and health-related services they provide to patients.

• Room to grow
  • Pharmacists can often move easily between different practice areas and explore many interesting opportunities over the course of their career.

• Excellent earning potential and job satisfaction
  • Pharmacy is a professionally and financially rewarding career with strong salaries and work-life balance.
Career Paths

- Community
- Hospital
- Hospice
- Oncology
- Pediatric

- Psychiatry
- Geriatric
- Research
- Industry
- Regulatory Science

- Nutrition
- Poison Control
- Veterinary
- Academia
- FDA
Dr. Emily Heil
PharmD, MS, BCIDP, AAHIVP

• Assoc. Professor, Pharmacy Practice
  – Lecture, Lab & Rotations
• University Teaching Hospital (Lusaka, Zambia)
• Clinical Pharmacy Specialist, Infectious Diseases
• Coordinator, UMMC Antimicrobial Stewardship Program
• Research interests: individualization of antimicrobial dosing, gram-negative resistance, antimicrobial stewardship
• Community Service: City Uprising HIV Outreach
• AACP, Teacher of the Year
Dr. Nicole Brandt
PharmD, MBA, BCPP, CGP, FASCP

• Professor, Pharmacy Practice
• Exec Director, Peter Lamy Center on Drug Therapy and Aging
• MedStar Center for Successful Aging
• Clinician of the Year Award from the Foundation for Post-Acute and Long-Term Care (PALTC) Medicine
• Past president, American Society of Consultant Pharmacists (ASCP)
• Established Elder Care Medicine Network along with regional partners to engage communities in patient-centered outcomes research
Dr. Charmaine Rochester-Eyeguokan,
PharmD, CDE, BCACP

- Professor, Pharmacy Practice
- Associate Director, P³ eHealth Clinical Services
- Ambulatory Care Preceptor, UMMC
- Research: Medication Adherence, Hypertension, Diabetes
- Practice in clinics with an emphasis on Diabetes Management, Tobacco Cessation, Medication Therapy Management, Medication Reconciliation and Collaborative Practices
Dr. Odera Ekwunife
PharmD, MPH

U.S. Food and Drug Administration (FDA)
• Consumer Safety Officer
• CSO/Pharmaceutical Investigator
• Office of Pharmaceutical Quality Operations (OPQO)
• Office of Regulatory Affairs (ORA) | FDA Pharmacist PRN, CVS Health
Lieutenant, U.S. Army Reserve

Certifications
• USPHS Rx for Change Tobacco Cessation Intervention Program Certificate
• Pharmacy-Based Immunization Delivery Certificate
• Certified Peer Health Educator (CPE)
• Delivering MTM Services Certificate
Maryland Pharmaceutical Society President Scholarship Award
Dr. Elisabet Tassis
PharmD, BCPS

Amgen, Senior Medical Science Liaison - Dermatology/Immunology
• Respond to medical inquiries/questions from HCPs
• Educate physicians on new clinical data and emerging evidence
• Assist with product launches and new indications
  – new Mild-to-Moderate PsO Otezla Indication (Dec 2021)
  – Humira biosimilar launch (AMJEVITA-2023)
  – Stelara biosimilar launch (Name TBD-2023)
• Support clinical trials for ongoing and future studies (PsO, PsA, CSU, AD)
• Facilitate Investigator Initiated Studies and Global Health Economics research

Amgen Dermatology Medical Communications Lead
Amgen Dermatology Digital & Core Insights Lead
Asst. Clinical Professor, UMB School of Pharmacy
Why PharmD @ UMB?

• Over 500 Rotations, electives
• Comprehensive program
• Interdisciplinary Opportunities
• Student Organizations
• Diverse student population
• Dual Degrees/Pathways
• Location
  – numerous hospitals, health facilities
  – NIH, FDA, US Public Health Service
What makes Maryland stand out?

University of Maryland, Baltimore

The School is one of seven professional schools and a graduate school located at the University of Maryland, a thriving center for life sciences research and community service:

- School of Medicine
- School of Law
- School of Dentistry
- School of Pharmacy
- School of Nursing
- School of Social Work

The University of Maryland, Baltimore shares a campus with:

- University of MD Medical Center
- Baltimore VA Medical Hospital
PharmD Program Curriculum

Year 1
• Coursework in biomedical science, pharmaceutical chemistry, principles of drug action, and immunology, as well as professionalism, ethics, and general patient management.

Year 2
• Therapeutic decision making in each major system/disease state, as well as infectious disease therapeutics, pharmacokinetics, health policy, and weekly clinical skills training.

Year 3
• Pharmacotherapy of multiple disease states, pharmacy practice management, pharmaceutics, public health pharmacy, and pharmacy law.
• Student pharmacists explore areas of interest through a wide variety of electives, pathways, and dual degrees.

Year 4
• Student pharmacists are off-campus during the entire fourth year for advanced pharmacy practice experiences.
Opportunities

Electives and Rotations

**Electives**
- IPE Medication Management in Mental Health
- Current Concepts and Controversies in Cardiology
- Introduction to the Poison Center
- Effective Leadership and Advocacy
- Pharmapreneurship seminar
- Advanced Pharmacogenomics
- Cannabis Pharmacology and Therapeutics
- IPE Culinary Health and Medicine
- Pharmacotherapy of Solid Organ Transplantation

**Rotations**
- Food and Drug Administration
- Centers for Medicare and Medicaid Services
- Community retail and independent pharmacies
- National Institute of Health
- University of Maryland Medical System
- The Johns Hopkins Hospital
- Public Heath Service/Indian Health Service
- International experiences
Career Navigation Program

Mission
To bridge the gap between the career preparation skills presented in the curriculum and the skills employers say are crucial for employment in the profession

Activities:
• Career Fair
• Workshops
• Informational sessions
• Mock interviews
• Roundtable discussions

Topics: Providing high quality customer service in a health care setting, interviewing for jobs and residencies, writing resumes and CVs. Developing an “elevator speech: and marketing oneself, negotiating a salary, being politically savvy in the workplace, managing finances, understanding the impact of using social media, and exploring opportunities in the pharmaceutical and regulatory industries.
What stage are you in your academic career?
Admissions

- Prerequisites – 65 credits
  - Can take at any accredited 2- or 4-year institution
  - Do not need Bachelors or Associates degree
- PharmCAS Application, deadline April 3, 2023
- PCAT – optional
- Deadlines posted on website
- AP Credits count towards prerequisite courses
### Sample Pre-Pharm Coursework Plan

<table>
<thead>
<tr>
<th>YEAR 1</th>
<th>YEAR 2</th>
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<tbody>
<tr>
<td>FALL</td>
<td>SPRING</td>
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<tr>
<td>Gen Chemistry I (4)</td>
<td>Gen Chemistry II (4)</td>
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<td>Statistics (3)</td>
<td>Microbiology (4)</td>
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<td>English Composition (3)</td>
<td>Calculus (3)</td>
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<td>Biology (4)</td>
<td>Public Speaking (3)</td>
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<td>Humanities (3)</td>
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<tr>
<td><strong>PCAT</strong></td>
<td><strong>PCAT</strong></td>
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<td><em>July - Nov</em></td>
<td><em>Jan - April</em></td>
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<tr>
<td>Attend Open House</td>
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Pre-Pharm Preparation

High School
- Take Chemistry and Biology courses
  - AP credits count towards prerequisites
- Talk to family and friends about health care/pharmacy careers

Year 1 College

Fall
- Begin pre-pharmacy courses
- Shadow a pharmacist/volunteer or work in pharmacy
- Participate in clubs and extracurricular activities
- Meet with undergraduate advisor to plan coursework

Spring/Summer
- Attend a UMSOP Open House
  - [www.pharmacy.umaryland.edu/admissions/pharmd/openhouse](http://www.pharmacy.umaryland.edu/admissions/pharmd/openhouse)
- Prepare for PCAT/take PCAT
- Meet with Admissions at UMSOP
- Notify references
- Personal Statement

Year 2 College

Fall
- Continue to take pre-pharmacy coursework
- Consider PCAT
  - April PCAT last acceptable exam before the deadline
- Apply through PharmCAS
- Complete Supplemental Application

Spring
- Admissions interviews conducted
- Complete remainder of coursework
- Apply for FAFSA
– Doctor of Pharmacy (PharmD)
– Doctor of Philosophy (PhD)
– Masters of Science (MS)

JOINT PROGRAMS
– PharmD/MBA – Business
– PharmD/PhD – Research
– PharmD/JD – Law
– PharmD/MPH – Public Health
– PharmD/MS – Palliative Care, Medical Cannabis, PHSR, PSC, Pharmacometrics, Regulatory Science
Financial Aid

• Tuition per year:
  – Maryland Resident: $28,352
  – Non-Maryland Resident: $45,836

• Most students receive financial aid
  – Combination of loans, grants, scholarships

• FAFSA Application
  – Priority deadline March
  – Scholarships applied
  – Financial packages available in April
Upcoming Events

• Admissions Workshop (Virtual)
  – Interview & Personal Statement Review
  – Thurs., Oct. 6

• PharmD Open House (at PH)
  – Sat., Oct. 15

• Lunch and Learn
  – First Fridays

• PharmD Online Session
  – Wed., Nov. 16
JuliAna Brammer
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Patrice Sharp
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