Voluntary Faculty Conference

UK Department of Physician Assistant Studies

College of Health Sciences

Outline

1) Department Update
2) Onboarding of New Graduates: How times have changed
3) The Modern Learner: What to Expect as a Clinical Preceptor

Department Update

Kevin Schuer, DrPH, PA-C
Virginia Valentin, DrPH, PA-C

College of Health Sciences

Department Leadership

Virginia Valentin, DrPH, PA-C
Department Chair
Associate Professor

Kevin Schuer, DrPH, PA-C
Program Director
Associate Professor

Shelley Irving, MSPAS, PA-C
Site Director Morehead Campus
Associate Professor

Leslie Woltenberg, PHD
Director of Graduate Studies
Associate Professor

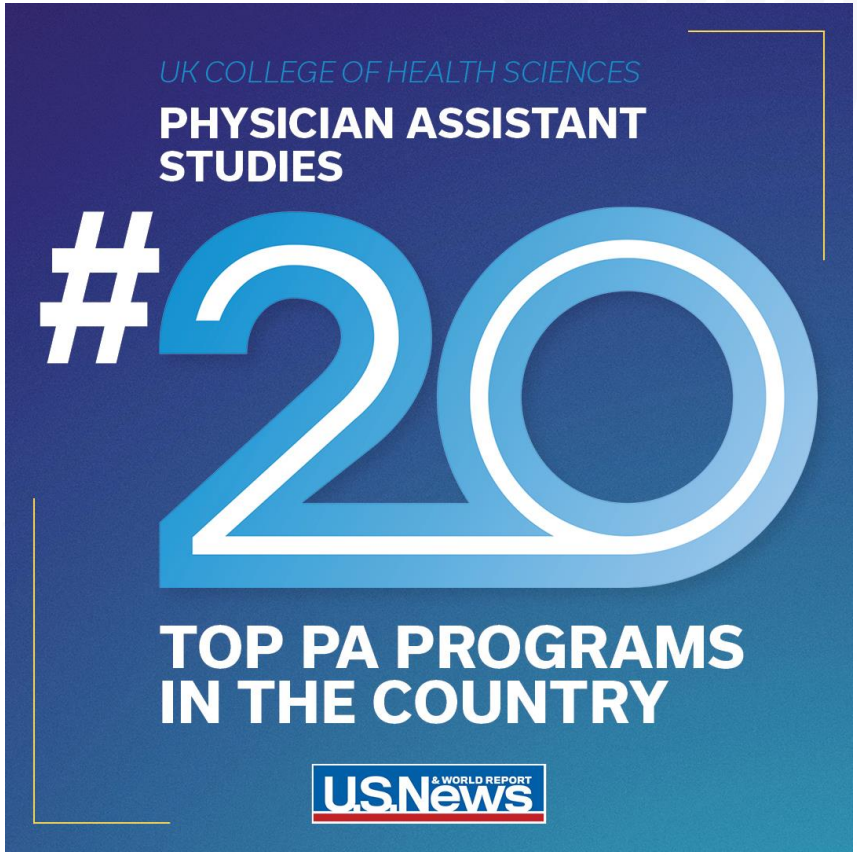
PA Department & Program

Vision

We improve the health of our communities by increasing access to care through training physician assistant leaders.

Mission

*We are steadfastly committed to **excellence** in academics, **service** to others, and fostering a collaborative environment where **all** thrive.*



PA Didactic Curriculum

- Reimagining teaching/learning for UKPAS – Curricular Revision
- What does it mean for students to be "practice ready"
  - Critical Thinking, Communication, Clinical Reasoning
- We hear you .. your feedback matters

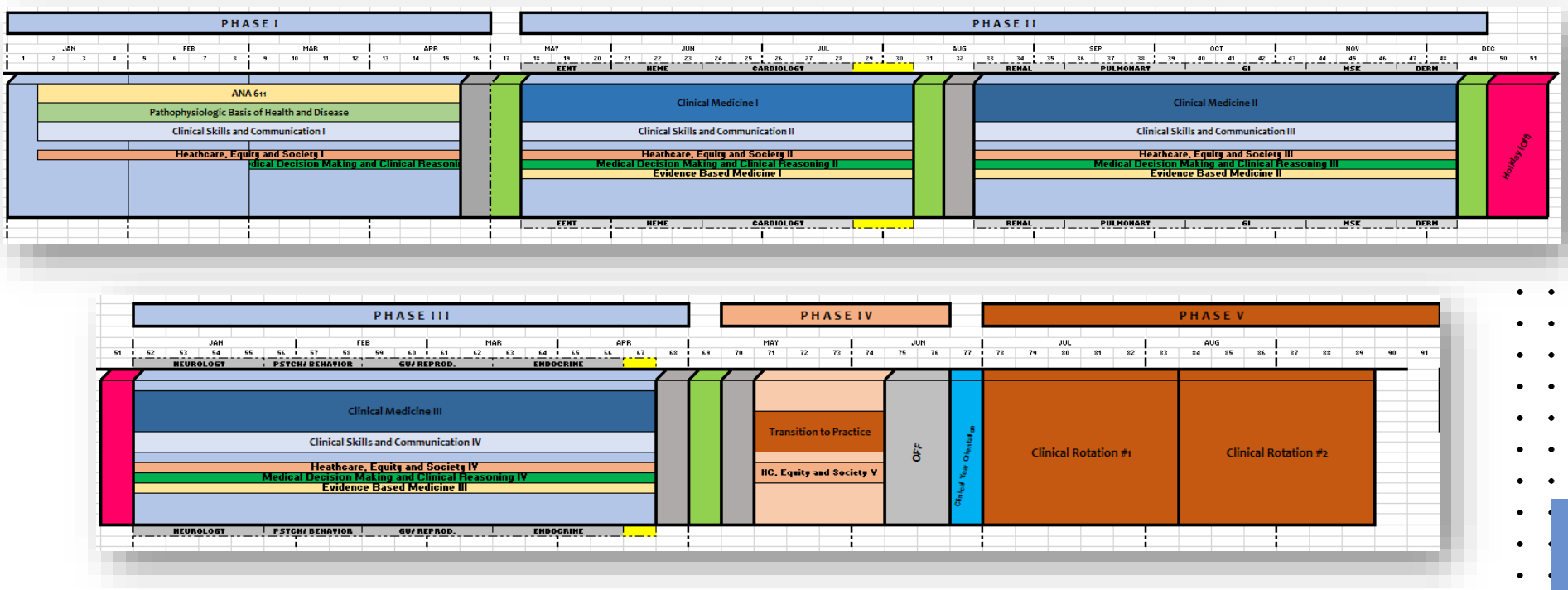
DIDACTIC CURRICULUM 2.0 – DRAFT MODEL

UKPAS Didactic Curriculum Organizing Principles Overview

The UKPAS didactic curriculum is structured around and continuously informed by the following organizing principles.

- **Team Inclusivity**
  This work will be informed by our commitment to valuing all voices at the table. We'll make a commitment to be present, participating while being careful to listen, respect and support one another during this work.
- **Responsive and Personalized**
  While learning outcomes need to be standardized, the curriculum recognizes the strengths and potential of each student in order to optimize outcomes for each individual.
- **Community and Service Engagement**
  We strive to provide students with opportunities for involvement in meaningful engagement to deepen their education and cultivate civic mindedness and commitment to the betterment of communities.
- **Competency-Based**
  We will seek to identify the knowledge, skills, behaviors, and values necessary to develop during the didactic year to achieve learner readiness for success and application in the clinical year.
- **Assessment and Data Informed**
  This project seeks to learn from as well as inform our departmental assessment apparatus – utilizing both qualitative and quantitative data for ongoing assessment and quality enhancement
- **Early Clinical Exposure**
  Exposure of learners to the clinical environment in meaningful ways early in their training is essential in development application abilities, clinical reasoning, clinical context and medical skills.
- **Continuity and Integration**
  Content is integrated across all parts of the curriculum both longitudinally and vertically. Clinical and foundational sciences are present throughout all phases of learning, which takes place in the context of patient care, and patient care is always based upon scientific principles.
- **Evidence-Based**
  State-of-the-art teaching methodologies, strategies and technologies are used throughout the curriculum, with an emphasis on the evidence-based practice of medicine.
- **Inclusive and Bias-Free**
  We are committed to building and sustaining a welcoming learning environment within which students experience belonging and acceptance while developing cultural humility and the practice of approaching patients, families, and others as a learner and not an expert.
- **Inquiry-Driven**
  Our learning environment motivates and prepares students to effectively seek, acquire, synthesize, and apply new knowledge to solve complex problems. Future UKPAS PAs will be equipped to assess, filter, and evaluate information accessed from multiple sources.
- **Professional Development**
  The UKPAS didactic curriculum will emphasize professionalism, reflection and personal as well as growth in emotional intelligence. The department will also provide students with a learning environment that models, supports and reinforces core values of respect for all people and compassion.

DIDACTIC CURRICULUM 2.0 – DRAFT MODEL



Developing the Science of Learning..

University of Kentucky
College of Health Sciences

The Differential Diagnosis Project: Defining and Assessing Mastery in a Sub-Skill Central to Clinical Reasoning

R.W. Hunton, DHSc, PA-C; D. Potter, MA; K.M. Schuer, DrPH, PA-C
Department of Physician Assistant Studies, College of Health Sciences, University of Kentucky

College of Health Sciences
Department of Physician Assistant Studies

INTRODUCTION

Among the sub-tasks within the clinical reasoning process, generating a differential diagnosis is central (Figure 1).[1] It is a complex cognitive skill that requires a clinician to posses medical and experiential knowledge applied to often ill-defined clinical problems (Figure 2).[2] It is one of the more challenging performance issues for physician assistant (PA), medical, and nurse practitioner students (Figure 3, Table 1). It is a core competency according to the *Accreditation Standards for Physician Assistant Education*, 5th Edition (B2.07c). However, traditional pedagogies and assessment measures do not address this skill well.[3] This study aimed to better understand the conceptual and operational definitions, outcome measures, and teaching and assessment methods for this skill.

Figure 1.
Conceptual Model for Clinical Reasoning Process

Figure 2.
Sample Differential Diagnosis Concept Map During a Problem-Based Learning Exercise

Figure 4.
Sample Vignette for The Differential Diagnosis Project

Figure 3.
Sample Comments from a UK PA Preceptor Regarding Differential Diagnosis

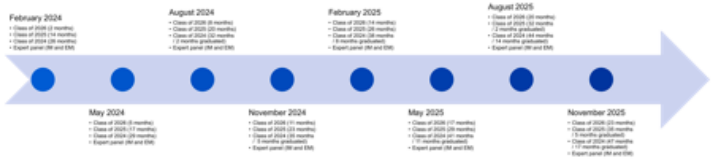
"Work on differential diagnosis…"
"Work on coming up with diagnosis and treatment plans…"
"Continue to work on differential diagnosis…"
"Ask more questions regarding a patient's complaints to help develop a differential diagnosis."

METHODS

A literature review was conducted to examine how the competency "formulating a differential diagnosis" has been previously defined and assessed. Additionally, a longitudinal descriptive study (IRB protocol # 92786), under the title The Differential Diagnosis Project, was designed to better understand how experienced internal medicine and emergency medicine physicians and advanced practice providers formulate differentials (Figures 4-6). The survey involves these clinicians providing a prioritized differential of no more than 10 diagnoses to a 50-word clinical vignette. Additionally, they will be asked to provide input regarding what elements make a great differential diagnosis. This expert panel will serve as a control group, representing what "right" or mastery looks like in a differential. The comparison or study groups includes three cohorts of UK PA students in various phases in training. Primary outcome measure is "most likely diagnosis" as determined by the expert panel. Exploratory outcome measures were developed to better understand the progression of this competency and the formation of clinical reasoning.

Figure 5.
Hypothesis for the progression of differential diagnosis ability among PA students

Figure 6.
Timeline for release of Quarterly Vignettes in each cohort



RESULTS

Conceptual definition:
- Vision for what is possible
- Involves imagination, experience, and knowledge
- Uses dual processing theory; subject to cognitive bias

Operational definition:
- List of plausible diagnostic hypotheses for a scenario
- Part of a larger clinical reasoning process
- Influenced by and influencing other components in this process
- Different specialties may prioritize the list differently
  - Emergency medicine prioritizing life-threatening
  - Internal medicine prioritizing most likely

Table 1
Sample Preceptor Evaluations of Differential Diagnostic Ability

Competency	Mean (4-pt scale)	Rank
9. Develop a prioritized differential diagnosis and select a working diagnosis following a patient encounter	3.326	20
Overall Total	3.492	27

Table 2
Outcome Measures for Mastery in Differential Diagnosis

Source	Outcome Measure
Sattely (2020)	• "Removable" choices • "Appropriately" designation as most likely to least likely • Diagnostic justification for prioritized list based on "deep" reasoning • Diagnostic justification based on "method accuracy and validity"
Thammasitboon et al. (2018), The Assessment of Reasoning Tool (ART)	• Accuracy in ranking likely and "can't rule" diagnoses • All key diagnoses listed • Appropriate ranking of diagnoses
Schuer et al. (2021), Baker et al. (2015), IDEA Assessment Tool	• Items on differential "explicitly stated" and "explicitly prioritized" • Strong commitment to most likely diagnosis • Inter-rater variability noted to be moderate (kappa .56, 95% CI .36 to .76) • Disagreements regarding relevance and completeness of information among raters

DISCUSSION

Outcome measures used in assessment tools and rubrics remain subjective and vulnerable to inter-rater variability (Table 2).[2,4-6] Inter-rater variability was measured to be moderate for this competency.[5] Objective criteria for mastery in differential diagnosis would help students in the deliberate practice of this sub-skill to improve overall diagnostic reasoning. Workplace-based assessments consistently outperform non-workplace-based assessments.[1] However, among non-workplace-based methods, oral examinations, essay questions, and objective structured clinical exams demonstrate the greatest strength.[1]

This project released the first iteration of Quarterly Vignettes in February 2024 for the five cohorts (Figures 4, 6).

CONCLUSION

This study demonstrated evidence-based definitions and outcome measures for generating a differential diagnosis. By better understanding mastery of this skill, health professions programs can engage in best practices in pedagogy and assessment to improve this skill in students. Follow-on studies will aim to describe objective outcome measures for assessing this skill and UK PA students' progression toward mastery.

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6. Baker EA, Ledford CH, Fogg L, Way DP, Park YS. The IDEA Assessment Tool: Assessing the Reporting, Diagnostic Reasoning, and Decision-Making Skills Demonstrated in Medical Students' Hospital Admission Notes. *Teach Learn Med*. 2015;27(2):163-173. doi:10.1080/10401334.2015.1011654

College of Health Sciences

We hear you, and it matters ..

- *"I teach a variety of students, but I prefer UKPA students because they take the rotation seriously."*
- *"Your students need more help with differential diagnosis and reasoning, not just the textbook response"*
- *"Thank you for encouraging your students to be on time. This seems to be a lost art."*

Clinical team

Shelley Irving, MSPAS, PA-C
Clinical Coordinator

Joshua Burkhart, MSPAS, PA-C
Assistant Clinical Coordinator

Donna Jones
Educational Services Assistant Senior

Nadia Henry
Clinical Education Staff Support

PA Clinical Curriculum

- PA clinical curriculum:
  - building partnerships
  - focusing on education
  - work force ready

Where are our graduates?

46.4%

of licensed UK PAS graduates from 2016 to 2022 work in Fayette and Jefferson counties.

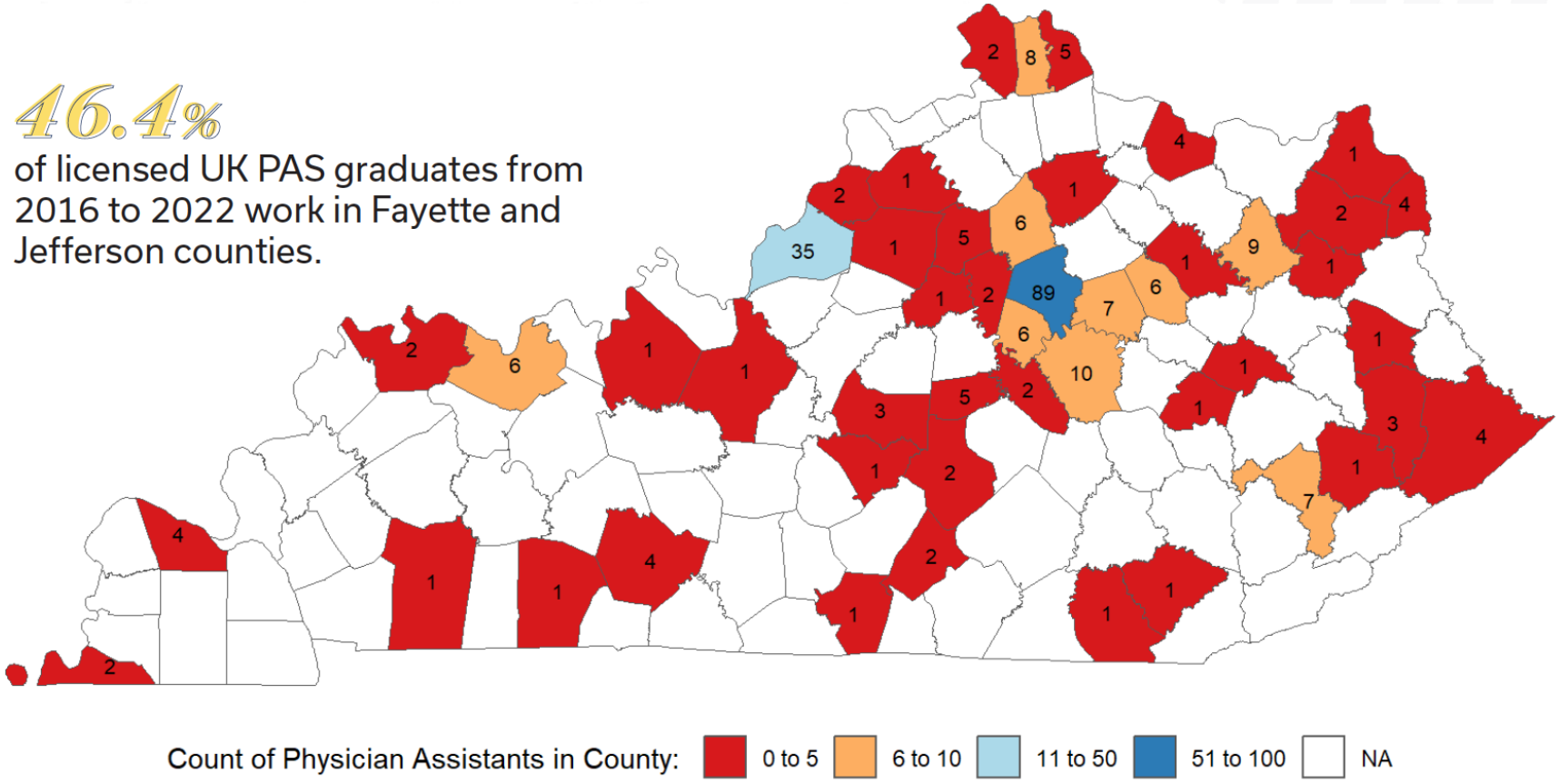
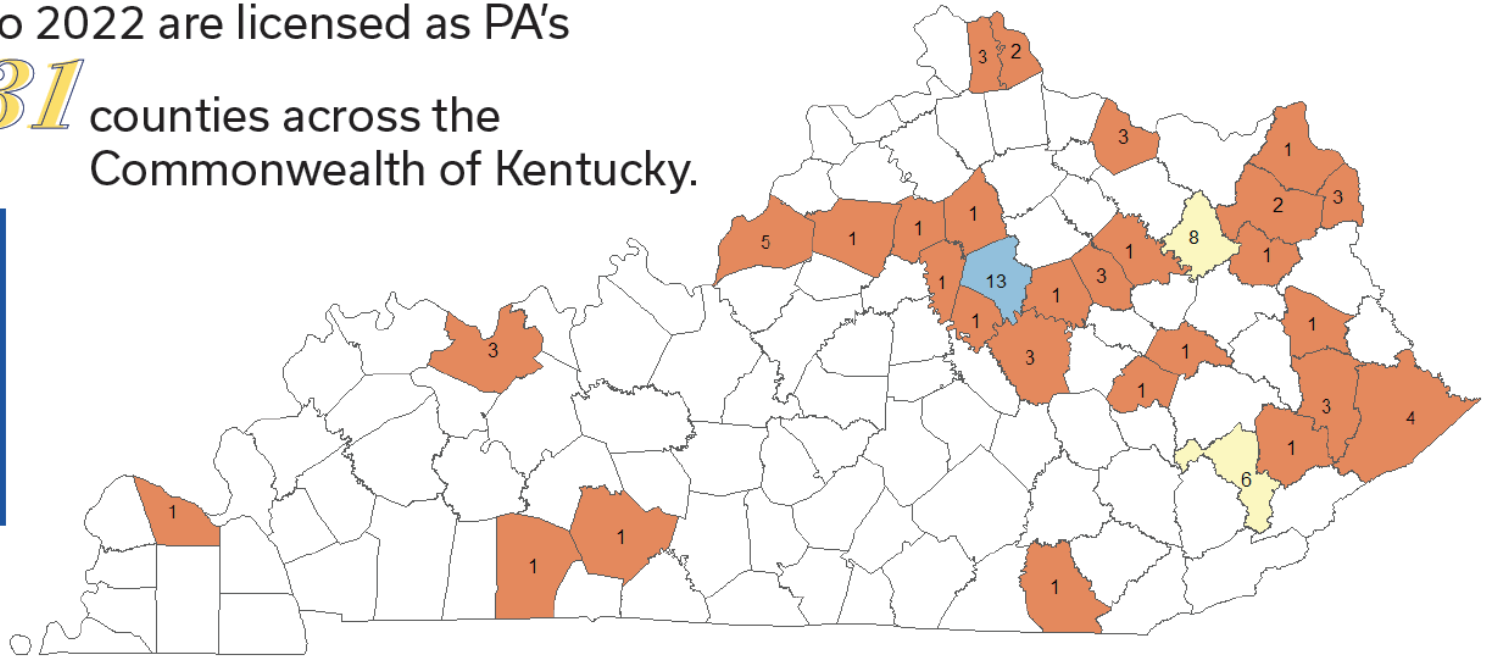


Figure. Count of University of Kentucky PAS program graduates by physician assistant license location.

Where are our Morehead graduates?

UK PAS Morehead campus graduates from 2016 to 2022 are licensed as PA's working in *31* counties across the Commonwealth of Kentucky.

CAN HERE
learn more
bout the
KPA Program
Morehead



Physician Assistants in County: 0 to 5 | 6 to 10 | 11+ | NA

Figure. Count of University of Kentucky PAS Morehead campus graduates by physician assistant license location.

ıl Licensure
/index.aspx
vices Administration

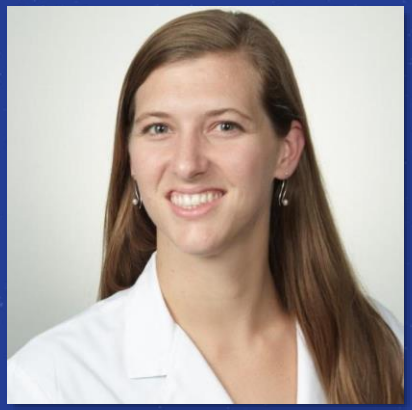
UK PA Academic Residency

Collaboration. Education. Innovation.

College of Health Sciences

Meet our Team

Virginia L. Valentin, DrPH, PA-C
Program Director
Department Chair



Hannah Anderson, MSPAS, PA-C
Director of Surgical Tracks

Ryan Hunton, MSPAS, PA-C
Director of Medical Tracks

Alex Schroeder, M.A.Ed.
Residency Coordinator

Sibu Saha, MD, MBA
Chief of Transition to Practice
& Advanced Training Programs

Residency Surgical Tracks

Cardiac Surgery: Baptist Healthcare, Louisville

General Surgery: Baptist Healthcare, Louisville

Acute Care Surgery/Trauma: UK Healthcare, Lexington

General Surgery: St. Elizabeth Healthcare, Florence

Cardiac Surgery: St. Elizabeth Healthcare, Florence

General Surgery: Baptist Healthcare, Lexington

Orthopedic Surgery: UK Healthcare, Lexington

Residency Medical Tracks

Cardiology: King's Daughters, Ashland

Critical Care: UK Healthcare, Lexington

Hospital Medicine: St. Claire Hospital, Morehead

Hospital Medicine: UK Healthcare, Lexington

Neurology: UK Healthcare, Lexington

Benefits of our Residency

1. Paid 1-year position with benefits packages
2. Specialized clinical experience- 60-80 hours/week
3. 1-1 Mentorship with customized didactic learning plan
4. CME funds & encouragement to attend conferences
5. Introduction to research and teaching
6. Continuous feedback, structure and support
7. Student loan deferral & Completion certificate
8. Meeting student needs of additional training in specialty
9. Meeting workforce need

Our Past and Our Future

CELEBRATING 50 YEARS

Planned 50th Anniversary Celebration- October 25, 2025

Department Growth

Hannah Anderson, MSPAS, PA-C
Lecturer

Nadia Henry
Staff Support Associate II

Ashley Hicks
Staff Support Associate II

Ashley Quinlan, MSPAS, PA-C
Lecturer

Alexandra Schroeder
Program Coordinator II

Andy Williford, MSPAS, PA-C
Assistant Professor

Onboarding New PA Graduates: How Times Have Changed

Hannah Anderson, MSPAS, PA-C

College of Health Sciences


YOUR

In the Beginning

- 1966 – Barefoot doctors in China, Child Health Associate program at University of CO
- 1967 – First PAs graduate from Duke, AUB first surgical PA program
- 1970 – Kaiser Permanente is first HMO to employ a PA
- 1971 – AMA recognizes the profession
- 1972 – APAP aka PAEA established
- 1974 – First UK PA class
- 1975 – National Commission on Certification of Physician Assistants (NCCPA) is established

In the Beginning

- 1976 – First UKPA graduates
- 1978 – USAF begins appointing PAs as commissioned officers
- 1980 – PAs had prescriptive authority in 10 states
- 1988 – Duke establishes the first master's degree program
- 1990 – 30 states have prescriptive authority
- 1995 – 61 programs, 29,000 PAs
- 2024 – 300+ programs, 168,300+ PAs

PAs in Kentucky

- 2002 KRS 311.844
  - Certificate to License
- Extent of practice is delegated by supervising physician, delineated in application
  - Can initiate emergency evaluation and treatment without approval
- Regulatory Body
  - KBML

KY Legislative Changes

- 2008 HB-458 PAs can practice in a **separate location** from supervising physician.
- 2015 HB-258 **1:4** Physician to PA ratio
- 2016 SB-154 **Co-signature** requirements to be determined by supervising physician or institution
- 2020 HB-135 Grant PAs Prescriptive authority for **Schedule III-V**

PAs in the US

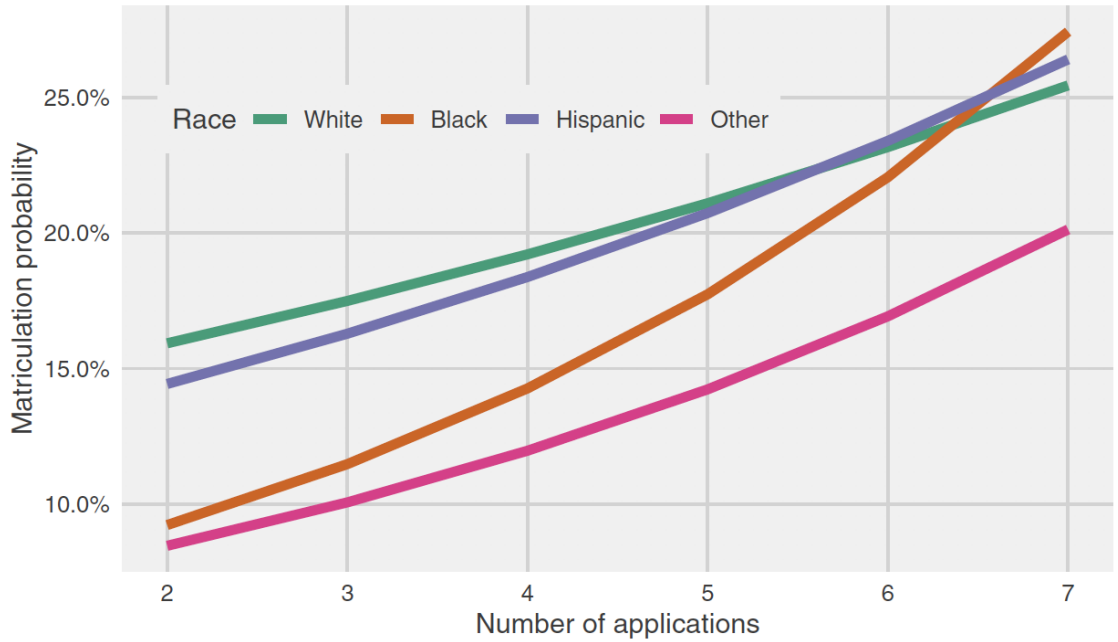


Fig. 2 Matriculation probability by race and number of applications for AN 2–7

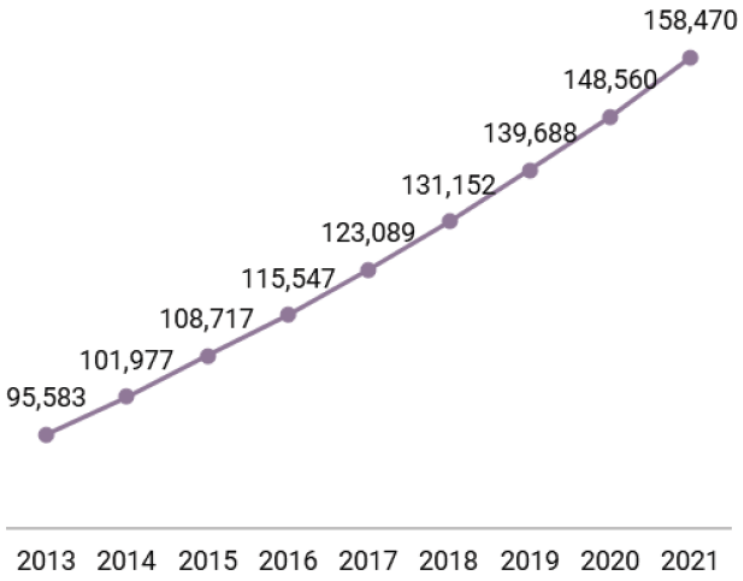
Who is the average PA student?

- 25 years old
- 74% female
- 77.5% white
- 10% Hispanic
- 10,000 graduate annually
- 1-2% attend post-grad training

Data from 2019, PAEA report

PA Profession in the US

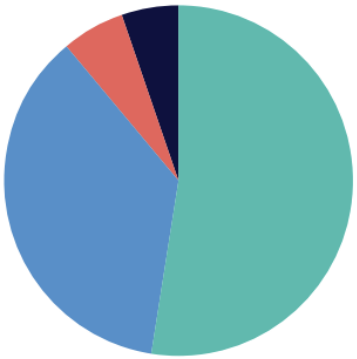
158,470 PAs in the US	1,702 PAs in KY	48 PAs per 100,000 population
Median salary $110,000	70% of practicing PAs are women	81% of practicing PAs are white
2% of PAs hold doctoral degrees	24% of PAs work in Primary Care	34% of PAs in KY work in Primary Care



Data from 2021, NCCPA report

Where are PAs working?

PAs practice in every work setting

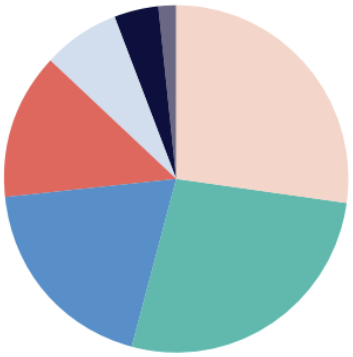


- 52.5% – Outpatient Office or Clinic
- 36.4% – Hospital
- 6.0% – Urgent Care Center
- 5.1% – Other

2023 AAPA Salary Survey,
All data based on clinically practicing PAs in the U.S.

*Other refers to a variety of work settings including but not limited to schools/universities, rehabilitation facilities, nursing homes and correctional facilities.

PAs practice medicine in all specialties



- 27.3% – Surgical Subspecialties
- 26.9% – Other*
- 19.2% – Primary Care
- 13.6% – Internal Medicine Subspecialties
- 7.4% – Emergency Medicine
- 4.0% – No Specialty
- 1.6% – Pediatric Subspecialties

2023 AAPA Salary Survey,
All data based on clinically practicing PAs in the U.S.

*Other refers to a variety of healthcare settings including but not limited to psychiatry, hospice and palliative care, obstetrics and gynecology, addiction medicine, pain management, public health and dermatology.

New PA Graduates

- **Certification - NCCPA**
- **Licensing - KBML**
- **Credentialing - Employer**
  - Privileges
  - Sign-off
- NPI - NPPES
- Medicare - PECCOS
- DEA - optional

National PA Certification

- PANCE
- Taken upon completion of an ARC-accredited PA program
- As soon as 7 days after program completion
- Passing score
- Renew every 10 years - PANRE

Kentucky PA License

- Basic Requirements:
  - Application with fee
  - Good character and reputation
  - Graduate of approved program
  - Passed PANCE within 3 attempts
  - Supervising Physician/*Alternate Supervising Physician* (with application)
  - *HIV/AIDS Training*
  - *Pediatric Abusive Head Trauma Training*
- Renew every 2 years
- Transfer from out of state: standards must be “Substantially equivalent”

Temporary License

- Permits new graduates to practice while awaiting board approval
- Granted by KBML executive director
- Valid for 6 months

Scheduled Medication Prescriptive Authority

- Granted in 2020
- PAs must
  - Have 1 year of clinical practice
  - Complete application
    - Supervising physician applies on the PA's behalf
  - Obtain DEA permit
  - Register with KASPER
  - Complete 7.5 hours of board-approved CME related to controlled substance diversion, pain management, addiction disorders, use of KASPER
- Schedule III, benzodiazepines and Carisoprodol limited to 30 day supply without refill
- Schedule IV or V refills limited to 6 months

The Bridge to Practice: Clinical Rotations

- Gain clinical experience
- Hone clinical skills
- Network and advocate for the profession

Affects on Graduate's Readiness to Practice

- Diversity of training
  - Primary Care vs Specialty-focused PA program
- Field of practice
- Proximity to other medical resources and support
- Individual Confidence
  - Sense of purpose and identity
  - Confidence in decisional hierarchy

Marketplace Changes Impacting New PAs

- Competition
  - Residency completion
- Specialty Opportunities
- Quality of onboarding
- Pay structure and reimbursement

Successful Onboarding

- Safe
  - Proctoring
- Effective
  - Follow-up
- Excellent
  - Response to challenge
  - Teaching others
- Burnout Prevention
  - Purpose and identity
  - Opportunity for growth


AAPA
#PAsGoBeyond
PAs
Other Professions
Employment Growth Between 2021-2031.
U.S. Bureau of Labor Statistics, 2023

The Modern Learner: What to Expect as a Clinical Preceptor

Josh Burkhart, MSPAS, PA-C
Ashley Quinlan, MSPAS, PA-C

College of Health Sciences

Areas of Discussion

- Discuss characteristics of the modern learner
- Identify expectations for preceptors and clinical learning environment
- Describe strategies for clinical preceptors

Generational Personalities

- 1997 – 2012: Generation Z (GenZ)
- 1981 – 1996: Millenials
- 1965 – 1980: Generation X
- 1946 – 1964: Baby Boomers

Table 1
Overview of Generational Characteristics

Generation (Birth Years) U.S. Population[5]	Societal Events	Childhood Family Characteristics	Personal Characteristics	Work Characteristics	Education Characteristics	Communication Styles	Technology
Traditionalists (1925–1945) 39 million	Great Depression, rebuilding after WWII, Cold War	Traditional family, married young, divorce uncommon	Loyal, reluctant to challenge status quo, dedicated, believe in honor and duty, patriotic	Value hierarchy, loyal "company man," job security	Process-oriented	Formal	Tend not to understand
Baby Boomers (1945–1964) 62 million	Civil rights and women's movements, Vietnam War, TV, economic prosperity	Traditional nuclear family, many grew up with stay-at-home mother and hardworking father	Optimistic, desire personal gratification, highly competitive	Workaholics, competitive, consensus builders, mentors	Learners dependent on educators, lecture format, process-oriented	Diplomatic	Not particularly techno-savvy
Generation X (1964–1980) 64 million	Limited economic prospects, fall of institutions, political scandals, divorce, AIDS, computers	Nontraditional families, single-parent homes, "latch-key kids," television as babysitter	Independent, self-directed, skeptical, resilient, more accepting of diversity, self-reliant	Value work–life balance, comfortable with change, question authority	Independent learners, problem-solvers, desire to learn on the job, outcome-oriented	Blunt	Interested and facile
Millennials (1980–1999) 76 million	Economic globalization, terrorism, 9/11, multiculturalism, technology boom	Protective "helicopter parents," play dates, close family relationships	Optimistic, need for praise, collaborative, global outlook	Team-oriented, used to following rules and having structured time, career change/ mobility	Grew up in team-based educational environment, turn to Internet, outcome-oriented	Polite	Very savvy, view technology as a necessity

Mohr, Nicholas M. et al.

Generational Personalities

Generation Z

- First generation to grow up with smartphones
- "Digital natives" and rely on technology
- Innovative
- Goal driven
- Desire personalized feedback

Generation Z – Innovative Teachers

- Enthusiastic
- Engage in interprofessional collaboration
- Efficient with new technology
- Interactive classes
- Motivated to innovate

Generational Personalities

Millennials

- Optimistic
- Need Praise
- Collaborative
- Global Outlook

Millennials – Empathetic Teachers

- Empathy
- Team-based approach
- Identify as understanding and patient, but strict
- Prefer small group learning
- Appreciate mentorship

Generational Personalities

Generation X

- Independent and self-reliant
- Value work-life balance
- Skeptical
- Question authority
- Entreprenurial

Generation X – Flexible Teachers

- Empathetic and Innovative
- Have taught both Millennials and Gen Z
- Continued growth throughout career
- Balance work performance and individual goals

Generational Personalities

Baby Boomers

- Respect for hierarchy
- Worth tied to career and performance
- Value hard work
  - Trained in a competitive, "merit based" system
  - Trained without duty hour regulations

Baby Boomers – Traditional

- Wealth of experience
- Prefer textbooks to multimedia
- Formal
- Follow unspoken rules of professionalism
- Mentors

The Modern Learner

Expectations

- Embrace interaction
- Prefer collaborative learning
- Desire instant gratification
- Struggle to prioritize most pertinent information

The Answer...Key

- Modern Learners prefer a single correct answer

Why??

- Measurable goal

- Ensure learning outcomes are met

What Does This Mean?

- Student create strategies that ensure a surface level understanding of connectiveness
  - *System 1 Thinking*
- Do not pursue a deep understanding of interactions and mechanisms
  - *System 2 Thinking*

Teaching Strategies

- Information is readily accessible
  - Shift from providing information to focusing on retention and relevancy
  - Help student recognize usefulness of information beyond this rotation and PA school
  - Push beyond basic answers to develop critical thinking, abstract reasoning
  - Encourage a balance of efficiency and skill development

Teaching Strategies

- Guide professionalism
  - Demonstrate appropriate level of formality
  - Agree upon a mode of communication, response time, and acceptable contact hours
  - Train out "text speak"

Teaching Strategies

- View teaching as cooperative
  - Allow for discussion and discourse
  - Remain open to learning
  - Use experience as a supplement, not a final say

Teaching Strategies

- Develop strong rapport
  - Provide frequent feedback
  - Dispel fear of failure
  - Connect as individuals
- Avoid social media relationships

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Thank You!

College of Health Sciences