Resident Success Characteristics for Programs in Appalachia and Rural America Compared with Other Regions

Meg Wright Sidle, PhD
Director of Institutional Research & Effectiveness
UP-KYCOM
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This research was approved by the Pikeville Medical Center Institutional Review Committee.
Background

- The percent of physicians who choose to practice medicine in rural areas of the United States continues to fall short of the number necessary to care for the populations who live in these areas of the country.

- In spite of the documented need for more rural and frontier physicians, it remains unclear if there are any identifiable differences between resident success characteristics and selection criteria for graduate training in Appalachia and rural America and graduate training in other geographic locations.
National Distribution of University of Pikeville - Kentucky College of Osteopathic Medicine 2001-2013 Graduates (815)

29% Practice in Kentucky
38% Practice in the Appalachia Region
45% Practice in a Medically Underserved Area
37% Practice in a Rural Area
69% Practice in a Primary Care Speciality

UP-KYCOM Graduates

Data Sources: University of Pikeville - Kentucky College of Osteopathic Medicine (11/2013);
MUA Data from HRSA (12/2013);
Rural Areas based upon OMB’s county/census tract definition for Rural (09/2010)

No Graduates practicing in Alaska

Map created by the National Center for the Analysis of Healthcare Data
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Research Question

Which factors influence resident selection and success, specifically comparing graduate training in Appalachia and rural America with graduate training in other geographic settings?
Sample

- 297 current graduate medical education program directors at the 227 unduplicated residency locations where the 2001-2012 graduates from a college of osteopathic medicine (COM) in Central Appalachia completed at least one year of their residency program; and
- 747 graduates from this same time period who had completed at least one year of their residency program
- After removing those directors and graduates in the sample with incorrect email addresses or snail mail addresses, the final sample was 273 resident program directors and 709 graduates.
Choose the top ten characteristics that are the most important for student success in your specific residency program

1. Ability to Meet the Program Director’s Needs
2. Attentive
3. Basic Medical Knowledge
4. Clinical Reasoning Skills
5. Comprehension of New Concepts
6. Conscientious
7. Cooperative
8. Dependable
9. Diagnostic Test Selection & Interpretation Skills
10. Efficient
11. Flexible
12. Honesty
13. Interpersonal Skills (Health Care Team)
14. Interpersonal Skills (Patients)
15. Osteopathic Manipulative Medicine Skills
16. Performance of History & Physical Examinations
17. Professional
18. Punctuality
19. Self-confident
20. Self-motivated
21. Willingness to “Work”
Instrument (cont’d)

Choose the top five criteria that are the most important in selecting residents for your specific program

1. Application to your resident program
2. Application was flagged with Match by NRMP
3. Audition rotation within your department
4. Class Ranking
5. Commitment to specialty
6. Demonstrated involvement in research
7. Elective rotation within your department
8. Grades in clerkship in desired specialty
9. Grades in required clerkships
10. Graduate of an osteopathic medical school
11. Interview session with your resident program
12. Medical Student Performance Evaluation
13. National Board Scores
14. Personal Statement
15. Recommendation by colleague(s)
16. Recommendation by current resident(s)
17. Volunteer/extracurricular experiences

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Results

The majority of program directors agreed that the important characteristics for resident success were

- self-motivated
- professional
- willingness to work
- honest
- dependable
- conscientious
- clinical reasoning skills
- basic medical knowledge
- interpersonal skills with patients and other members of the health care team
Results (cont’d)
Results (cont’d)

Residency program directors from Appalachia and rural America more often cited characteristics of:

- professionalism ($\rho = .027$)
- punctuality ($\rho = .002$)

Residency program director from other regions more often cited characteristics of:

- clinical reasoning skills ($\rho = .011$)
- comprehension of new concepts ($\rho = .021$)
Results (cont’d)

The majority of graduates agreed that the characteristics important for resident success were

- willingness to work
- self-motivated
- professional
- dependable
- basic medical knowledge
- clinical reasoning skills
- interpersonal skills with patients and the healthcare team
Results (cont’d)

Graduates who completed residency programs in Appalachia and rural America more often cited characteristics of

- honesty
- performance history & physical examination skills

Graduates who completed residency programs in other regions more often cited characteristics of

- diagnostic test selection and interpretation skills
Results (cont’d)

• No strong consensus regarding the important selection criteria of applicants for residency slots by program directors

• Agreed that two of the important factors for selecting residents for their specific program were
  - applicant interview session
  - applicant’s national board scores
Results (cont’d)

Residency program directors from Appalachia and rural America more often cited as important criteria for selecting residents for their programs:

- Applicant’s commitment to the specialty ($\rho = .018$)
- Applicant’s personal statement ($\rho = .013$)
Results (cont’d)

Graduates agreed that the interview session with their resident programs and recommendations by current residents were important criteria for the selection of future residents.
Results (cont’d)

Graduates who completed residency programs in Appalachia and rural America more often cited selection criteria of

- the elective rotation within the potential residency department

Graduates who completed residency programs in other regions more often cited selection criteria of

- national board scores ($\rho=.038$)
- applicant’s audition rotation within the potential residency department ($\rho=.009$)
Discussion

The curricular and clinical experiences that can produce graduates who are successful residents who possess the characteristics of basic medical knowledge, clinical reasoning skills, professionalism, interpersonal skills with patients and with the health care team, and the ability to performance of history and physical examinations include:

- directed readings programs/journal clubs
- research activities that critically evaluate current medical information and scientific evidence
- experiences that teach how to (a) use reliable and current information in diagnosis and treatment, (b) use the medical library and electronically mediated resources to discover pertinent medical information; and (c) extract and apply evidence from scientific studies to patient care
The curricular and clinical experiences that promote stronger interpersonal skills with patients and with the health care team include those that make available:

- effective patient interviewing techniques
- an ability to assess the health of non-English-speaking and deaf patients
- the use of appropriate verbal and non-verbal skills when communicating with patients and families
- maintaining comprehensive, timely, and legible medical records
- understanding conflicts of interest inherent in medicine and the appropriate responses to societal, community, and healthcare industry pressures
- respectful interactions with health practitioners
- an ability to work effectively with others as a member of a healthcare team [e.g., interprofessional education programs]
The curricular and clinical experiences that develop personal attributes and other behavioral and contextual capacities include those that:

- develop in students an understanding of the idea of continuity in following up with patients and treating them thoroughly

Remember that student assessment forms which are completed by the rotation preceptors could more intentionally evaluate these characteristics as well as flexibility and punctuality
Next Steps

• Replicate this study with more residency program directors and graduates from other medical schools

• Medical educators and deans of graduate medical education need to be proactive and meet with the directors of the residency programs at which their graduates are applying and/or accepted to make sure that the curriculum and training provided is preparing the graduates to be successful in those programs

• Medical students must take ownership of their medical preparation to develop the skills and personal qualities that will lead to their being successful residency programs
ARE THERE ANY QUESTIONS? FEEL FREE TO ASK ANYTHING AT ALL.

WHY DO GHOSTS HAVE CLOTHES?

IF SOMEONE GIVES YOU A WEDGIE AT THE MOMENT YOU DIE, WILL YOU HAVE IT FOR ETERNITY?

Thank you for your attention!