

Converting USMLE Step 1 to Pass or Fail: The Impact on Female and Underrepresented Minority Applicants

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Background

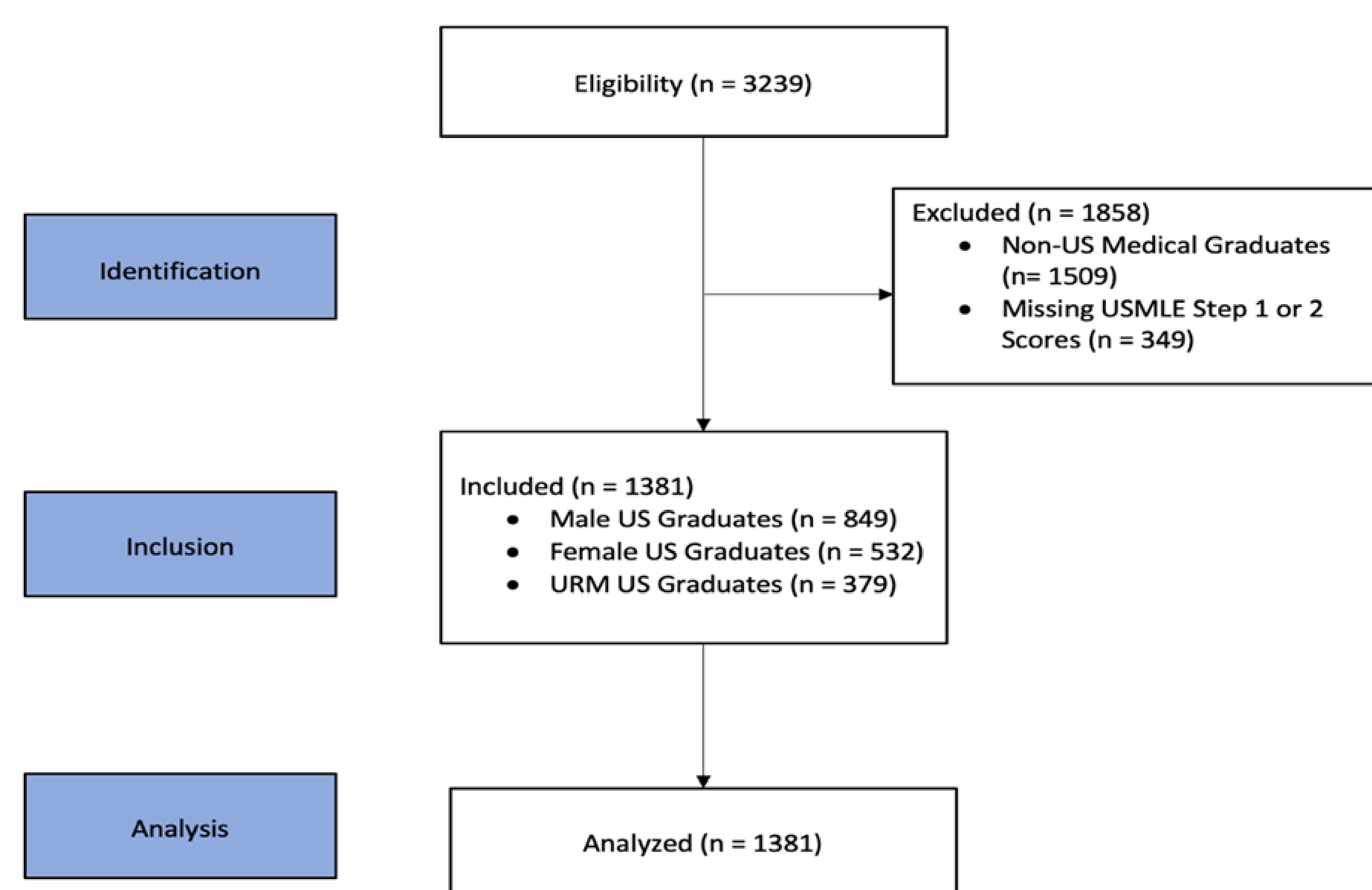
- As of January 2022, Step 1 score reporting transitioned to pass/fail which has led the majority of programs to begin looking at Step 2 as a filter.^{2,3}
- Goal to improve well-being, decrease burnout among students, and improve parity among female and URM applicants among different specialties.⁴ The AAMC defines URM applicants as Hispanics/Latinos, blacks/African Americans, American Indians/Alaska natives and Others.⁵
- Studies have shown that women and URM score lower on the USMLE Step 1 examination than their counterparts.⁵

Objective

Investigate the existence of relationships between sex, URM status, and Step 2 examination scores to clarify the affect this change could have on residency diversification.

Methods

Study population consisted of graduates who submitted applications to HCA Healthcare Houston Kingwood/Tilman Fertitta Family University of Houston Consortium EM, IM, General Surgery, and TY residency programs.



Results

Table 1. Applicant Data

	Overall N=1381	Female N=532	Male N=849	P-value	URM N=379	Non-URM N=1002	P-value
Age (mean)	29	28	29	0.002	29	29	0.001
Sex:							
Male	62%	-	-	-	59%	62%	0.320
Female	38%	-	-	-	41%	38%	
Race/Ethnicity:							
White	41%	37%	43%		-	56%	
Asian	32%	34%	30%		-	44%	
Hispanic	12%	11%	13%	0.005	44%	-	0.001
Black	8.1%	11%	6.1%		30%	-	
American Indian	1.0%	0.9%	1.1%		3.7%	-	
Others	6.4%	6.0%	6.6%		23%	-	

	Female N=532	Male N=849	P-value	URM N=379	Non-URM N=1002	P-value
USMLE Step 1:						
Male	-	230		-	-	
Female	225	-		-	-	
White	-	-	<0.001	-	228	<0.001
Asian	-	-		-	229	
Hispanic	-	-		223	-	
Black	-	-		219	-	
American Indian	-	-		217	-	
Others	-	-		231	-	
USMLE Step 2:						
Male	-	239		-	-	
Female	239	-		-	-	
White	-	-	0.85	-	241	<0.001
Asian	-	-		-	239	
Hispanic	-	-		236	-	
Black	-	-		229	-	
American Indian	-	-		230	-	
Others	-	-		238	-	

	Female N=532	Male N=849	P-value	URM N=379	Non-URM N=1002	P-value
Difference in Scores (Step 2-Step 1):						
Male	-	10		-	-	
Female	14	-	<0.001	-	-	<0.001
White	-	-		-	13	
Asian	-	-		-	10	
Hispanic	-	-		13	-	
Black	-	-		9	-	
American Indian	-	-		13	-	
Others	-	-		8	-	

Table 2. Regression of Delta USMLE

Variables	Coefficient	95% Confidence Interval	P-Value
Age	0.08	-0.12 to 0.29	0.423
Sex			
Male	Ref		
Female	4.01	2.64 to 5.37	<0.001
Race			
White	Ref		
Asians	-3.51	-5.10 to -1.93	<0.001
Hispanic	-0.68	-2.93 to 1.57	0.552
Black	-5.06	-7.61 to -2.51	<0.001
American Indian	-0.39	-6.85 to 6.08	0.907
Others	-5.53	-8.38 to -2.67	<0.001
Medical School			
US DO School	Ref		
US MD Private	1.86	-0.18 to 3.89	0.074
US MD public	3.15	1.65 to 4.68	<0.001
Specialty			
Transitional Year	Ref		
General Surgery	2.86	1.05 to 4.68	0.002
Emergency Medicine	4.29	2.43 to 6.16	<0.001
Internal Medicine	3.37	1.48 to 5.26	<0.001
Region			
Northwest	Ref		
South	1.47	-1.04 to 3.99	0.250
West	1.95	-0.85 to 4.76	0.172
Midwest	2.92	0.09 to 5.74	0.043

Discussion

- Making Step 1 pass/fail will likely result in Step 2 acting as a surrogate to screen medical student applicants
- Women tend to have greater improvements in USMLE Step 2 scores versus USMLE Step 1. Use of Step 2 as a primary screening tool may improve the equity between female and male applicants
- By making USMLE Step 1 pass/fail, URM may see greater disparity.



Conclusion

- Making Step 1 pass/fail may benefit female applicants while adversely impacting URM applicants during the interview process.
- As the interview screening process evolves, the impacts on female and URM applicants need to be carefully evaluated to achieve equitable representation in residency programs.

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