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22 Evaluation of the University of Utah Emergency Medicine Residency Patient Hand-Off Process

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Background: Recent studies suggest that structured hand-offs improve patient care and decrease poor patient outcomes in addition to decreasing post-shift length of stay for providers.

Objectives: We sought to evaluate the perception of our current informal patient hand-off process prior to developing and implementing a structured hand-off process.

Methods: A needs assessment was conducted and a Hand-off Evaluation Committee was assembled (PD, APDs, and residents (RES)). An electronic literature based 5-point likert scale survey was created and distributed anonymously and retrospectively (REDCAP software) to all RES and attendings (ATT) at our academic hospital site. The survey assessed perceptions of giving and receiving hand-offs, interruptions, and effectiveness. Additionally, a research associate observed and timed RES hand-offs in the ED. The survey assessed perceptions from the past two months.

Results: Response rate was 100% by ATT (n=21) and 96% by RES (n=27). Most respondents (90%) felt that a structured hand-off would be helpful. 61% of RES and ATT felt their informal hand-off process was effective, while 22% of RES and 0% of ATT felt it was not effective. Of the 77% of RES who noted compromised patient care secondary to a hand-off issue, 73% of those noted they did not review vital sign trends (p=0.0001). Non-matched RES and ATT shift schedules (RES= 1.63, ATT= 2.7) was a major barrier. RES who felt their hand-off was not effective reported high ED volume (1.61, p=0.001) and nurse interruptions (1.77, p=0.0002) as additional barriers. Most RES (77%) reported their hand-off differed (2.11) from ATT as compared to ATT reporting occasional differences (3.24). Thirteen hand-offs were observed with an average time = 692 seconds (min 33 sec; max 1860 sec) and interruption rate = 3.84 times/hand-off (min 0; max 15).

Conclusions: Most survey participants felt a structured hand-off process would benefit patient care, safety and workflow efficiency in an academic ED. The survey identified improvements for a structured hand-off process including more congruent timing of ATT and RES shifts and formal review of vital sign trends. Evaluation of current practice prior to implementing a formalized hand-off process is necessary to identify areas of improvement.

	How effective is your hand-off ^a	Structured hand-off helpful ^b	Average time spent after a shift ^c	Average time after hand-off providing care ^c	ED volume too high ^b	Residents/ Attendings coming at different times ^b	Nurse interruptions ^b	Last 2 months forgotten to pass important info after hand-off ^d	Last 2 months review the patients vital sign trends while signing out ^d	Average time per patient on hand-off ^e	Received a hand-off missing important information ^f	Compromised patient encounter secondary to hand-off ^g
PGY-2&3 Average	3.38	2.27	3.44	2.29	1.61	1.94	1.77	2	4	2.27	2.11	3.72
Attending Average	3.64	1.95	2.77	1.8	2.1	2.7	2.7	3.93	3.4	2.1	3.31	3.8

a	1=Very ineffective	2= Not Effective	3= Neutral	4= Effective	5=Very Effective
b	1= Strongly Agree	2= Agree	3= Neutral	4= Disagree	5= Strongly Disagree
c	1= 0-30 min	2= 30-60 min	3= 60-90 min	4= 90-120 min	5= >120 min
d	1= almost always	2= usually	3= Occasionally	4= Rarely	5= not at all
e	1=Never	2=1-5	3= 5-10	4= 10-15	5= >20

23 Geographic Trends in the DO/IMG Emergency Medicine Match

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Background: Each year hundreds of osteopathic (DO) and international medical graduates (IMG) match into ACGME accredited emergency medicine (EM) residency programs, making up respective averages of 11% and 6% of EM residents over the past 5 years. Previous data has shown that despite a relatively stable applicant pool compared to the number of intern positions available each year, applicants are applying to more programs than ever before to secure the same number of interviews.

Objectives: The purpose of this study was to determine if there are certain geographic areas in which DO and U.S. IMG students are more likely to match into EM.

Methods: The number of DO and U.S. IMG students matched per state per year were extracted from the 2012-2016 NRMP “Match Results by State, Specialty, and Applicant Type” reports. The number of residency programs in each state each year was determined using the NRMP “Main Residency Match: Results and Data” reports. The average number of DO/IMG students per ACGME program per year by state over a five-year period was calculated.

Results: Indiana, Iowa, Mississippi, Ohio, and Texas matched the most DO students, matching an average of greater than or equal to two DO residents per ACGME program per year. Louisiana, Michigan, Mississippi, and New Jersey matched the most U.S. IMG students, matching an average of greater than or equal to one U.S. IMG resident per program per year. The biggest limitation that must be considered when interpreting this data is that the heterogeneity of DO or IMG “friendliness” within a state is unknown and thus the “friendliness” of one or a few programs may be overshadowed by the statewide average.

Conclusions: Rather than applying to every program in the country, DO and IMG students may benefit from focusing on geographical areas which have historically matched higher percentages of their applicant type. Future studies examining the DO and IMG acceptance rates of individual EM residency programs may provide further guidance to applicants.

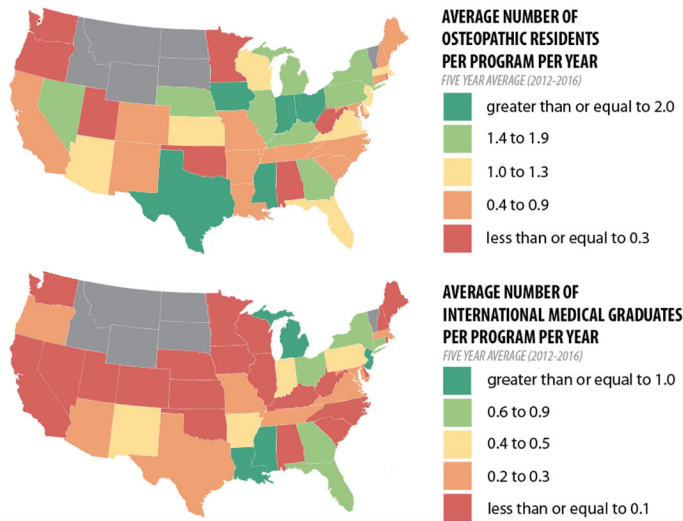


Image 1. Average Number of Matched Osteopathic (DO) and U.S. International Medical Graduates (IMG) Per ACGME Accredited Residency Program Per Year By State From 2012-2016.

Table 1. Average Number of Matched Osteopathic (DO) and U.S. International Medical Graduates (IMG) Per ACGME Accredited Residency Program Per Year By State From 2012-2016.

State	DO	IMG	State	DO	IMG
Alabama	0.2	0.0	Missouri	0.8	0.3
Arizona	1.0	0.2	Nebraska	1.6	0.0
Arkansas	0.4	0.4	Nevada	1.4	0.0
California	0.5	0.1	New Hampshire	0.6	0.0
Colorado	0.4	0.0	New Jersey	1.1	1.4
Connecticut	0.7	0.6	New Mexico	0.4	0.4
Delaware	1.0	0.0	New York	1.6	0.9
District of Columbia	0.2	0.0	North Carolina	0.4	0.1
Florida	1.3	0.6	Ohio	2.1	0.8
Georgia	1.6	0.6	Oklahoma	0.0	0.0
Illinois	1.5	0.1	Oregon	0.0	0.2
Indiana	2.3	0.4	Pennsylvania	1.8	0.4
Iowa	2.4	0.0	Puerto Rico	0.0	1.2
Kansas	1.0	0.0	Rhode Island	0.0	0.0
Kentucky	1.4	0.0	South Carolina	0.5	0.0
Louisiana	0.4	1.3	Tennessee	0.4	0.3
Maine	0.4	0.0	Texas	2.3	0.3
Maryland	0.6	0.3	Utah	0.2	0.0
Massachusetts	1.2	0.2	Virginia	1.1	0.2
Michigan	1.4	1.1	Washington	0.0	0.0
Minnesota	0.3	0.1	West Virginia	0.0	0.0

24 How do Emergency Medicine Programs Structure Resident Evaluations? A Survey

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Background: Timely resident evaluation is not only important for residents’ progress and development, but also a requirement of the Accreditation Council for Graduate Medical Education (ACGME). In 2013, the ACGME and the American Board of Emergency Medicine introduced the Emergency Medicine (EM) Milestone Project, a collection of competency-based developmental outcomes intended to demonstrate resident progression during training. Our program expects faculty to complete milestone-based end-of-shift evaluations (ESEs) for each resident shift. It is unknown what evaluation methods other programs utilize.

Objectives: We sought to determine what methods Council of Emergency Medicine Residency Directors (CORD) member programs use to evaluate residents, and to determine whether the use of ESEs is associated with higher satisfaction with the evaluation process.

Methods: An 11 item survey was distributed via the CORD listserv and was open from July through October 2016. Each member program was asked questions about the structure of their resident evaluation process. Responses were analyzed with simple descriptive statistics and Likert satisfaction scales using the Student’s t-test. Missing data was omitted from analysis (i.e. skipped questions).

Results: 107 of 170 programs responded, yielding a 63% response rate. 57% (61/107) expected faculty to complete ESEs for every shift worked with a resident, 19% used monthly evaluations, and the remainder utilized evaluations ranging from semi-annually to eight times per month. Of programs that employ ESEs, 38% use milestone rating scales (levels 1 through 5), 34% use a milestone checklist with a binary response, 24% employ a custom form that is not milestone-based, and 7% employ free-text only ESEs. 62% (38/61) reported that their ESEs provide useful information to the Clinical Competency Committee. Programs utilize a plethora of additional evaluation tools. 17 programs reported using a financial incentive to encourage faculty compliance. Overall, 60% (58/96) of programs reported being at least “somewhat satisfied” with their evaluation process. There was no association between the use of ESEs and level of satisfaction (p=0.57).

Conclusions: EM programs employ a plethora of strategies to evaluate residents, with a slight majority using ESEs. There is no association between the use of ESEs and level of satisfaction.