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**Objectives:** This qualitative study aims to explore the perspectives of residents who self-identified as facing difficulty completing the scholarly project.

**Methods:** We performed a qualitative study using a constructivist paradigm and conducted semistructured interviews at 4 American ACGME-accredited emergency medicine residency programs. We invited residents who self-identified as struggling with scholarship. Two researchers independently performed a thematic analysis of interview transcripts. Discrepancies were resolved through in-depth discussion and negotiated consensus.

**Results:** 13 residents consented to be interviewed. Many had participated in scholarship before residency. Major themes identified were: barriers to scholarly project development, advice to programs, and advice to residents. Barriers to scholarly productivity included lack of: time, perceived value of scholarship, clarity around the requirement, infrastructure, skills, and mentorship. Suggestions for residency programs included setting clear expectations, providing infrastructure, and facilitating mentorship. Participants' advice to residents included starting early and seeking a quality mentor.

**Conclusions:** Our analysis reveals that even residents with prior experience in scholarship can struggle to complete the scholarly project required in residency. Our participants highlight challenges to completing the scholarly project requirement and recommend strategies at multiple levels to help residents succeed. [This was completed as our group project for the MERC at CORD Program]

## 78 Artificial Intelligence May Benefit Experienced Users More than Novices in Point-Of-Care Ultrasound Acquisition

Jacob Lenning, Corey Garrison, Paul Thanel, Aaron Mahoney

**Background:** There is limited evidence defining the role of artificial intelligence (AI) guidance in point-of-care ultrasound (POCUS) education. It is unknown for which learners and for which POCUS studies AI guidance is most immediately helpful due to an absence of prior repeated-measure studies.

**Objective:** Determine the immediate effect of AI guidance on POCUS acquisition time and image quality in novice and experienced users.

**Methods:** A repeated-measure experimental study was conducted in a simulated setting. A convenience sample of 14 novice users with limited POCUS training during medical school and 10 experienced emergency medicine residents recorded right upper quadrant (RUQ) abdominal and apical-4 chamber (A4C) cardiac windows with and without AI guidance on three standardized patients in randomized order. Acquisition times were compared with the Mann-Whitney U test. Three blinded reviewers assigned Boolean values for the quality

criteria: essential structures visible, correct imaging plane, and proper probe orientation. Quality criteria proportions were compared with Pearson's chi-square for independent samples and McNemar's test for repeated measures.

**Results:** 286 ultrasounds were recorded. Median [interquartile range] acquisition time (seconds) was longer with AI than without for A4C (117 [125]; 69 [62];  $p < 0.01$ ) and RUQ (61 [64]; 38 [38];  $p < 0.01$ ) windows in all users (Table 1). All A4C and RUQ quality criteria were more likely in experienced

**Table 1.** Median (Interquartile Range; IQR) time in seconds to acquire ultrasound windows with and without Artificial Intelligence (AI) by study group. P-values from the Mann-Whitney U test. \*Four RUQ timing videos without AI missing for analysis.

| Study Group                  | Right Upper Quadrant Window |                      |       | Apical-4-Chamber Window |                      |       |
|------------------------------|-----------------------------|----------------------|-------|-------------------------|----------------------|-------|
|                              | Number of Recordings        | Median (IQR) Seconds | p     | Number of Recordings    | Median (IQR) Seconds | p     |
| All Participants             | 140*                        | 52 (58)              | -     | 144                     | 91 (88)              | -     |
| Novice Users                 | 80*                         | 69 (72)              | <0.01 | 84                      | 104 (89)             | 0.04  |
| Experienced Users            | 60                          | 34 (30)              |       | 60                      | 74 (74)              |       |
| All Participants With AI     | 72                          | 61 (64)              | <0.01 | 72                      | 117 (125)            | <0.01 |
| All Participants Without AI  | 68                          | 38 (38)              |       | 72                      | 69 (62)              |       |
| Novice Users With AI         | 42                          | 85 (91)              | <0.01 | 42                      | 136 (109)            | <0.01 |
| Novice Users Without AI      | 38*                         | 53 (59)              |       | 42                      | 75 (66)              |       |
| Experienced Users With AI    | 30                          | 44 (29)              | <0.01 | 30                      | 98 (132)             | 0.18  |
| Experienced Users Without AI | 30                          | 28 (21)              |       | 30                      | 66 (47)              |       |

**Table 2. (A)** Proportion of recordings meeting quality criteria by ultrasound (US) window and experience level. **(B)** Likelihood the total number of criteria was greater with or without artificial intelligence (AI) and proportions for each criterion by US window and study group. P-values from McNemar's test for repeated measures unless noted. \*Pearson's chi square test. †Fisher's exact test. \*One A4C and RUQ recording without AI missing for analysis.

| (A)               |                      | Right Upper Quadrant Window |                  |                       |                | Apical-4-Chamber Window |                  |                       |        |
|-------------------|----------------------|-----------------------------|------------------|-----------------------|----------------|-------------------------|------------------|-----------------------|--------|
|                   |                      | Proportion [95% CI]         |                  | X <sup>2</sup> (df=1) |                | Proportion [95% CI]     |                  | X <sup>2</sup> (df=1) |        |
| Group             | Quality Criteria     | Novice                      | Experienced      | n                     | p              | Novice                  | Experienced      | n                     | p      |
| All Recordings    | Essential Structures | 0.65 [0.54,0.74]            | 0.92 [0.81,0.97] | 143                   | <0.01*         | 0.58 [0.47,0.68]        | 0.77 [0.64,0.86] | 143                   | 0.02*  |
|                   | Imaging Plane        | 0.58 [0.47,0.68]            | 0.78 [0.66,0.87] |                       | 0.01*          | 0.22 [0.14,0.32]        | 0.48 [0.36,0.61] |                       | <0.01* |
|                   | Probe Orientation    | 0.78 [0.68,0.86]            | 0.97 [0.88,1.00] |                       | 0.02*          | 0.41 [0.31,0.52]        | 0.73 [0.61,0.83] |                       | <0.01* |
|                   |                      |                             |                  |                       |                |                         |                  |                       |        |
| (B)               |                      | AI                          | WO               | -                     |                | AI                      | WO               | -                     |        |
|                   |                      | Greater # of Criteria       | Criteria         | n                     | p              | Greater # of Criteria   | Criteria         | n                     | p      |
| All Users         | Essential Structures | 0.23 [0.15,0.35]            | 0.20 [0.12,0.31] | 142                   | 0.37*          | 0.35 [0.25,0.47]        | 0.20 [0.12,0.32] | 142                   | 0.04*  |
|                   | Imaging Plane        | 0.75 [0.63,0.83]            | 0.78 [0.67,0.86] | 71                    | 0.62           | 0.69 [0.58,0.79]        | 0.62 [0.50,0.72] | 71                    | 0.32   |
|                   | Probe Orientation    | 0.65 [0.53,0.75]            | 0.68 [0.57,0.78] |                       | 0.64           | 0.40 [0.30,0.52]        | 0.25 [0.16,0.36] |                       | 0.02   |
|                   |                      | 0.89 [0.79,0.94]            | 0.83 [0.73,0.90] |                       | 0.29           | 0.56 [0.44,0.66]        | 0.54 [0.41,0.64] |                       | 0.85   |
| Novice Users      | Essential Structures | 0.29 [0.18,0.45]            | 0.24 [0.14,0.40] | 83                    | 0.62*          | 0.32 [0.20,0.47]        | 0.20 [0.10,0.34] | 83                    | 0.21*  |
|                   | Imaging Plane        | 0.63 [0.48,0.76]            | 0.67 [0.51,0.79] | 41*                   | 0.78           | 0.57 [0.42,0.71]        | 0.59 [0.43,0.72] | 41*                   | 0.80   |
|                   | Probe Orientation    | 0.54 [0.39,0.68]            | 0.62 [0.47,0.75] |                       | 0.37           | 0.26 [0.15,0.41]        | 0.17 [0.08,0.32] |                       | 0.21   |
|                   |                      | 0.83 [0.68,0.92]            | 0.74 [0.59,0.85] |                       | 0.25           | 0.43 [0.29,0.58]        | 0.39 [0.26,0.54] |                       | 0.80   |
| Experienced Users | Essential Structures | 0.17 [0.07,0.34]            | 0.13 [0.05,0.30] | 60                    | 1 <sup>†</sup> | 0.40 [0.24,0.58]        | 0.20 [0.09,0.38] | 60                    | 0.09*  |
|                   | Imaging Plane        | 0.90 [0.73,0.97]            | 0.93 [0.77,0.99] | 30                    | 0.56           | 0.87 [0.70,0.95]        | 0.67 [0.49,0.81] | 30                    | 0.06   |
|                   | Probe Orientation    | 0.80 [0.62,0.99]            | 0.77 [0.59,0.88] |                       | 0.71           | 0.60 [0.42,0.75]        | 0.37 [0.22,0.55] |                       | 0.03   |
|                   |                      | 0.97 [0.82,1.00]            | 0.97 [0.82,1.00] |                       | 1.00           | 0.73 [0.55,0.86]        | 0.73 [0.55,0.86] |                       | 1.00   |

than novice users (Table 2A). The total number of A4C quality criteria was more often greater with AI (0.35 [95%CI 0.25, 0.47]) than without (0.20 [0.12, 0.32];  $X^2$ ,  $df=1$ ,  $n=142$ ,  $p=0.04$ ) for all users regardless of training level (Table 2B). The correct A4C imaging plane was more likely with AI for all users (0.40 [0.29, 0.52]; 0.25 [0.16, 0.36];  $X^2$ ,  $df=1$ ,  $n=71$ ,  $p=0.02$ ) and experienced users (0.60 [0.42, 0.75]; 0.37 [0.22, 0.55];  $X^2$ ,  $df=1$ ,  $n=30$ ,  $p=0.03$ ; Table 2B). No significant differences in quality criteria were observed for novices regardless of window or RUQ windows regardless of user.

**Conclusion:** AI guidance was associated with longer POCUS acquisition time for all users. The immediate effect on image quality trended more favorably for experienced users obtaining the A4C window. POCUS AI guidance is likely more beneficial for users with prior experience.

## 79 Measuring Our Worth: Results from the Emergency Medicine Coordinator Salary Survey

JanAlicia Ricker, Marie Hoyle, Tania Strout

**Background:** GME program coordinators are vital to training program success, but recent studies reveal high levels of professional burnout and job dissatisfaction. One area that may contribute to this is coordinators' perceptions of compensation; however, little is known regarding EM coordinator compensation.

**Objectives:** To explore: 1) EM program coordinators' compensation models, compensation satisfaction, and factors contributing to higher compensation, and 2) factors coordinators believe would improve job satisfaction. **Methods:** We conducted an anonymous, cross-sectional survey of US-based EM program coordinators using an electronic survey platform. Responses were summarized using descriptive statistics; hierarchical logistic regression models were used to examine predictors of higher salary and perceived compensation inadequacy. Free-text responses were summarized using a qualitative descriptive approach.

**Results:** 120/375 (32%) coordinators completed the survey; their characteristics are provided in Table 1. The mean number of residents managed was  $37.8 \pm 24.2$ , 95% CI: 33.4-35.6 and 36.7% endorsed also managing EM fellowships (44/120). Salaries ranged from  $\leq \$45,000$  (\$45K) to  $\geq \$85K$ , with most in the \$55K-\$64K (39/120, 32.5%) or \$65K-\$74K (31/120, 25.8%) ranges. Many participants endorsed their compensation as 'somewhat' or 'very inadequate,' 93/120, 77.5%. The number of residents managed was the only significant predictor of higher ( $\geq \$75K$ ) salary (OR 1.07, 95%CI 1.01-1.13,  $p=0.02$ ), while only years of GME experience predicted endorsing inadequate compensation (11+years' experience: OR 0.06, 95%CI 0.01-0.68,  $p=0.02$ ; 4-6 years' experience: OR 0.06, 95%CI 0.004-0.73,  $p=0.03$ ).

Table 1. Participant characteristics (N=120).

|                                                                             | n  | %    |
|-----------------------------------------------------------------------------|----|------|
| <b>Educational attainment</b>                                               |    |      |
| High school diploma                                                         | 24 | 20.0 |
| Some college                                                                | 2  | 1.7  |
| Associates degree                                                           | 1  | 0.8  |
| Bachelor's degree                                                           | 23 | 19.2 |
| Master's degree                                                             | 42 | 35.0 |
| <b>TAGME certification</b>                                                  |    |      |
| No                                                                          | 99 | 82.5 |
| Yes                                                                         | 21 | 17.5 |
| <b>Years in GME</b>                                                         |    |      |
| Less than 1 year                                                            | 4  | 3.3  |
| 1-3 years                                                                   | 37 | 30.8 |
| 4-6 years                                                                   | 21 | 17.5 |
| 7-10 years                                                                  | 13 | 10.8 |
| 11+ years                                                                   | 45 | 37.5 |
| <b>Years in EM GME</b>                                                      |    |      |
| Less than 1 year                                                            | 9  | 7.5  |
| 1-3 years                                                                   | 42 | 35.0 |
| 4-6 years                                                                   | 22 | 18.3 |
| 7-10 years                                                                  | 16 | 13.3 |
| 11+ years                                                                   | 31 | 25.8 |
| <b>Geographic region</b>                                                    |    |      |
| Midwest                                                                     | 36 | 30.0 |
| Northeast                                                                   | 37 | 30.8 |
| Pacific                                                                     | 8  | 6.7  |
| South                                                                       | 26 | 21.7 |
| West                                                                        | 12 | 10.0 |
| Northeast and South                                                         | 1  | 0.8  |
| <b>Hospital or institution type</b>                                         |    |      |
| Academic medical center                                                     | 50 | 41.7 |
| Community hospital                                                          | 28 | 23.3 |
| University-affiliated hospital                                              | 29 | 24.2 |
| County hospital                                                             | 2  | 1.7  |
| Private, non-profit hospital                                                | 1  | 0.8  |
| Academic medical center, community hospital                                 | 1  | 0.8  |
| Academic medical center, university-affiliated hospital                     | 4  | 3.3  |
| University-affiliated hospital, community hospital                          | 2  | 1.7  |
| Academic medical center, community hospital, university-affiliated hospital | 3  | 2.5  |
| <b>Number of resident physicians in programs coordinated</b>                |    |      |
| 1-10                                                                        | 3  | 2.6  |
| 11-20                                                                       | 14 | 12.1 |
| 21-30                                                                       | 32 | 27.6 |
| 31-40                                                                       | 30 | 25.9 |
| 41-50                                                                       | 19 | 16.4 |
| 51-60                                                                       | 11 | 9.5  |
| 61-70                                                                       | 1  | 0.9  |
| 71-80                                                                       | 3  | 2.6  |
| 81-90                                                                       | 1  | 0.9  |
| 91-100                                                                      | 1  | 0.9  |
| >100                                                                        | 1  | 0.9  |
| <b>Also manage EM fellowship programs</b>                                   |    |      |
| No                                                                          | 76 | 63.3 |
| Yes                                                                         | 44 | 36.7 |
| <b>Current base salary, before taxes</b>                                    |    |      |
| Under \$45,000                                                              | 1  | 0.8  |
| \$45,000 - \$54,999                                                         | 18 | 15.0 |
| \$55,000 - \$64,999                                                         | 39 | 32.5 |
| \$65,000 - \$74,999                                                         | 31 | 25.8 |
| \$75,000 - \$84,000                                                         | 18 | 15.0 |
| \$85,000 or more                                                            | 13 | 10.8 |

Notes: TAGME=Training Administrators in Graduate Medical Education; GME=graduate medical education.

Eight major themes for improving job satisfaction were identified: compensation, respect, appreciation, recognition, workload, leadership team, professional development, and