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32 Gender in Emergency Medicine Residency

Julia Saak, BA, BHS; Julie Stillely, PhD; Christopher Sampson, MD

Learning Objectives: The purpose of this study is to investigate both the gender composition of EM residency leadership and to determine if more female residency leaders begets more female residents.

Background: It is estimated that 33% of academic EM physicians are women. However, there are no published data describing the representation of women in EM residency leadership positions.

Objectives: The purpose of this study is to investigate both the gender composition of EM residency leadership and to determine if more female residency leaders begets more female residents. It was hypothesized that there would be minority number of women in leadership positions, and that residency programs with more women in leadership will have more female residents.

Methods: Residency leadership and residents were determined by accessing each residency's website, or by contacting the program coordinator. Gender was determined via listed pronouns, or by first name and photographic masculine or feminine cues. Of the 268 EM programs, data was collected on leadership for 248 (93%), residents for 209 (78%), and chief residents for 77 (29%).

Results: Women comprised 40% of leadership: 31% of program directors (PD), 42% of associate PDs, and 48% of assistant PDs. 36% of residents and 48% of chief residents were women. Through multivariate correlation analysis, percentage of female residents was found to be most strongly correlated with female assistant PDs. Women comprised 34% of overall residency leadership and 25% of PDs in the south, 43% and 33% in the midwest, 44% and 28% in the northeast, and 45% and 44% in the west. The differences did not reach statistical significance overall, however, there were less female PDs in the south.

Conclusions: Women are not highly represented in top EM residency leadership positions, but become more prevalent in junior positions. Residency programs were found to have a larger percentage of female residents when an assistant PD is a woman. While not statistically significant overall, it was striking that there were regional differences in gender of leadership, and that there were less female PDs in the southern region.

33 Google Translate versus Doctors: Who prepares better discharge instructions?

Johnathan Nieves, MD; Alexis Cordone, MD; Francise Lamothe, MD; Vikye Beauport, MD; Daniel Patino-Calle, MD; Shawn London, MD

Learning Objectives: This study compared the accuracy of

ED discharge instructions compare by native Spanish and Haitian Creole speakers compared to those prepared by a free, widely available machine learning translation tool (Google Translate).

Background: Medical students and residents are often required to care for patients with limited English proficiency but little guidance exists on the best way to prepare written discharge instructions (DCIs) in the patient's language. Consequently, some learners resort to unvalidated tools such as Google Translate (GT) to generate DCIs.

Objectives: It was hypothesized that if DCIs are translated from English to Spanish or Haitian Creole using human translators (HT) versus GT, the HT DCIs will (1) contain fewer errors and (2) be preferable to native speakers.

Methods: 211 DCIs were translated by blinded physicians who are native speakers or certified translators of Spanish or Creole. In Part 1 of the study, two Spanish-speaking and one Creole-speaking physicians who were not involved in data collection or HT reviewed the DCIs in English and evaluated errors in the HT and GT translations. In Part 2, the reviewers ranked HT and GT based on the accuracy and readability of the translations.

Results: In Part 1, the Spanish GT DCIs had more errors than HT (634 and 399 for GT versus 299 and 284 for HT), however, this difference was not statistically significant ($k=0.47$). Creole GT DCIs had more errors than HT (1720 for GT and 490 for HT). In Part 2, the Spanish reviewers preferred HT (82.0% and 77.9%); the Creole reviewer preferred the HT (93.3%). Notably, the Spanish GT DCIs, unlike the HT DCIs, included errors that would cause patients to miss follow-up care and overdose on medication. Moreover, many basic medical terms including "primary care doctor" and "sutures," produced nonsensical translations using GT in Creole.

Conclusions: The data suggests that HT DCIs had fewer errors than GT. Moreover, HT DCIs were preferred by reviewers for both languages. More importantly, GT may provide unintelligible or potentially harmful translations. Therefore, clinicians must remain vigilant of the potential risks of tools such as GT.

34 Hypoglycemia after Insulin for Hyperkalemia in Hemodialysis Patients

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Learning Objectives: To determine the risk factors for development of hypoglycemia, after administration of IV insulin, for the treatment of hyperkalemia, in patients requiring hemodialysis.

Background: Hyperkalemia is a common life-threatening complication in patients with end-stage renal disease (ESRD) requiring hemodialysis (HD). Acute treatment involves IV insulin, though this can lead to hypoglycemia (HG).