

Disparities Concerning Medical Care Feedback in Emergency Medical Services

Rebecca E. Cash, MPH, NRP¹, Remle P. Crowe, MS, NREMT¹, Severo A. Rodriguez, PhD, NRP^{1,2}, Roger Levine, PhD³, Ashish R. Panchal, MD, PhD^{1,2}

¹ The National Registry of EMTs, ² Center for EMS, Wexner Medical Center, The Ohio State University, ³ Consultant



National Registry of
Emergency Medical Technicians®
THE NATION'S EMS CERTIFICATION™

BACKGROUND

- Feedback to healthcare providers regarding the medical care they have provided may lead to improved patient care and outcomes.
- In the prehospital setting, there is some evidence that this feedback is not provided regularly.¹ Little is known about prevalence of medical care feedback and factors associated with receiving this specific type of feedback in the prehospital setting.

OBJECTIVES

- Describe the prevalence of medical care feedback in the prehospital setting.
- Identify characteristics associated with receiving medical care feedback.

METHODS

- Study Design & Setting: A cross-sectional census survey was administered in October 2014 to nationally-certified EMS providers concerning feedback received in the previous 30 days.
 - This is a sub-analysis of specifically medical care feedback from the larger project assessing several types of prehospital feedback.
- Inclusion Criteria: Currently practicing patient care providers (Emergency Medical Technician [EMT] or higher) in non-military and non-tribal settings.
- Data Analysis: Descriptive statistics were calculated and a multivariable logistic regression model was constructed to assess the association between receiving medical care feedback and demographic/agency characteristics.

RESULTS

- Responses from 32,114 EMS providers were received (response rate = 10.4%) with 15,766 meeting inclusion criteria.
- 45% of respondents reported receiving **no** medical care feedback in the previous 30 days.
- The final multivariable logistic model included:
 - Minority status
 - Certification level
 - Years of EMS experience
 - Agency type
 - Service type
 - Weekly call volume
- Model displayed good calibration (Hosmer-Lemeshow Goodness-of-Fit Test: $\chi^2 = 13.35$, $p = 0.10$)

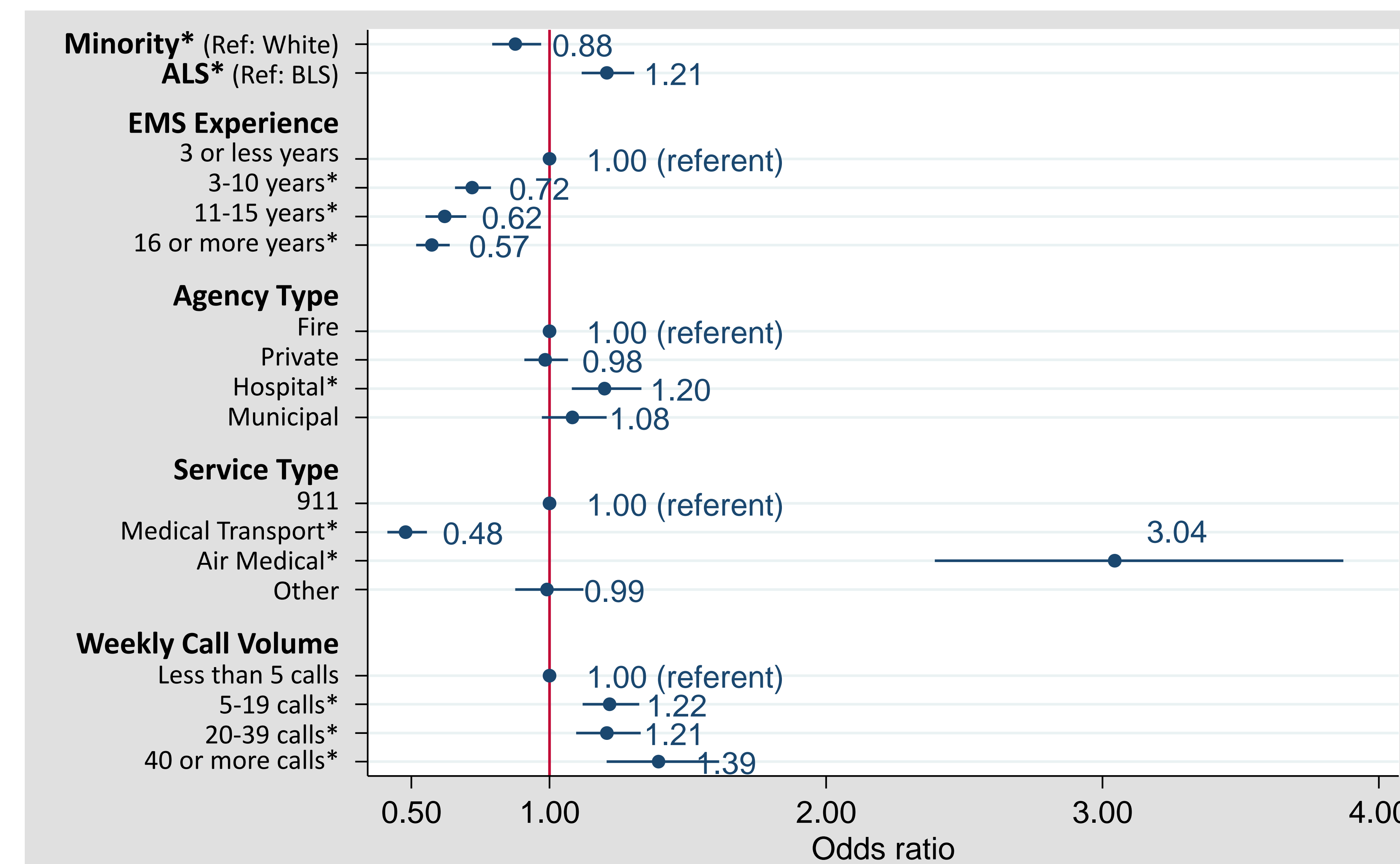


Figure 1: Forest plot of odds ratios for factors associated with receiving medical care feedback among nationally-certified EMS professionals. Odds ratio (OR) estimates displayed with 95% confidence intervals. OR to the left of the red line favor the referent, while those that cross the red line are non-significant. Significant factors denoted with asterisk ($p < 0.05$).

Abbreviations: ALS = advanced life support (Advanced EMT, paramedic); BLS = basic life support (EMT).

LIMITATIONS

- Bias from self-reported data possible.
- The content of feedback and resulting practice changes were not assessed.
- Non-response bias: a non-responder survey showed no significant differences with regards to receiving feedback among respondents and non-respondents.

CONCLUSIONS

- **Almost half of EMS professionals did not receive any medical care feedback in a 30 day period.**
- Disparities in receiving feedback exist with different provider levels and service settings.
 - Those providing **air medical** services had a three-fold increase in odds of receiving medical care feedback, whereas those providing **medical transport/convolescent** services had a 52% decrease in odds.
- **ALS-level** respondents had increased odds of medical care feedback.
- **Minority** EMS professionals had decreased odds of receiving medical care feedback.
- Odds of receiving medical care feedback decreased with **years of experience** in EMS.
- **Higher call volumes** were associated with increased odds of receiving medical care feedback.

REFERENCES

1. Mock EF, Wrenn KD, Wright SW, Eustis TC, Slovis CM. Feedback to Emergency Medical Services Providers: The Good, the Bad, and the Ignored. *Prehosp Disaster Med.* 1997;12(02):74-77.