



Factors Predicting a Negative Perception of Patient Safety in the EMS Workplace

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Background: Perception of patient safety among healthcare providers is an important element of a culture of safety. Research regarding factors that impact EMS providers' perception of patient safety is scant. Our objective was to describe key factors associated with EMS providers' perceptions of patient safety practices at their agency. We hypothesized that job dissatisfaction would be associated with a negative overall agency patient safety rating.

Methods: This was a large, cross-sectional survey of nationally-certified EMS professionals. Data collected included safety perceptions, demographics and agency characteristics. Respondents were asked to rate their main EMS agency's overall safety using a 5-point scale dichotomized to "safe" (excellent/very good/good) or "unsafe" (fair/poor). Inclusion criteria consisted of currently practicing providers (EMT or higher) in non-military and non-tribal settings. A multivariable logistic regression model was constructed using investigator-controlled forward selection to identify variables associated with perceiving one's agency as "unsafe."

Results: A total of 35,588 responses were received (response rate = 11%) with 23,773 meeting inclusion criteria. There were 3,285 respondents (14%) who rated their agency as unsafe. Predictors of a negative patient safety rating included certification level, years of EMS experience, agency type, weekly call volume, community size, and job satisfaction. EMS professionals who reported being dissatisfied demonstrated a nine-fold increase in odds of perceiving their agency as unsafe (OR 9.44, 95% CI: 8.59–10.38). ALS providers (AEMTs/paramedics) had higher odds of perceiving negative safety practices at their agency compared to BLS providers (EMTs) (OR 1.58, 95% CI: 1.43–1.75). Compared to those at fire-based agencies, there was over a two-fold increase in odds of reporting negative safety ratings among those at private agencies (OR 2.10, 95% CI: 1.89–2.32). For years of EMS experience, there was a stepwise increase in odds of perceiving one's agency as unsafe (e.g., 3–10 years: OR 1.36, 95% CI: 1.20–1.53, referent: less than 3

years of experience). Likewise, a stepwise increase was noted for weekly call volume (e.g., 5–19 calls: OR 1.64, 95% CI: 1.44–1.86, referent: less than 5 calls per week).

Conclusions: This study identified variables significantly associated with negative agency patient safety ratings. Understanding the dynamics between these factors and provider safety perceptions may guide interventions that impact patient safety culture in EMS.