

The Relative Importance of Vital Signs in Campus-Based Emergency Services

THIRD PLACE

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POSTER PRESENTATION ABSTRACT | ORIGINAL RESEARCH CATEGORY

Introduction: One of the most important decisions a first-responder agency operating under Basic Life Support (BLS) jurisdiction can make is determining whether a medical emergency can be managed at the BLS level, or if additional resources must be requested in the form of Advanced Life Support (ALS) to facilitate transport to a hospital. This is particularly important in collegiate agencies, as not all may have the means or equipment to transport ALS patients. Studies show that ALS is beneficial in certain scenarios that BLS providers cannot treat effectively such as epileptic episodes or respiratory distress. This decision on whether to upgrade to ALS is based on several factors: patient demographics, the acuity and severity of the medical complaint, and provider-obtained metrics of health.

Methods: In this study, we examined the vital signs of patients (n = 357) at the University of Texas at Dallas, obtained by providers from the University Emergency Medical Response (UEMR) agency, and compared them to the established agency and local standards of upgrading to ALS.

Results: Compared to the national refusal rate of 5.1%, the refusal rate of UEMR is approximately seven times higher, which may be explained by the unique patient demographics found on college campuses. Through mono- and bi-factor analysis, we determined that there is a negligible correlation between the presence of abnormal vital(s) and ALS upgrade for a collegiate Emergency Medical Service (EMS) organization. Per UEMR Protocols, only 42% of patients presenting with an abnormal heart rate with normal rhythm, and 38% presenting with abnormal blood pressure, were upgraded to ALS, while only a slightly fewer number (~30%) were upgraded without abnormal vital indication. Furthermore, our research showed that out of all medical calls a provider did determine that ALS upgrade was required, only 31% of those patients presented with abnormal vitals, compared to about 24% of patients that presented with similarly abnormal vitals but were determined not to require an ALS upgrade.

Discussion/Conclusions: Due to the unique demographics and socioeconomic factors prevalent in a college patient population, this discrepancy, in contrast to traditional rural and urban EMS programs, indicates the changing role of vital signs as a diagnostic tool, rather than an inflexible reference point. Additionally, an internal poll of the UEMR members found that only 12% of providers have more than three years of experience and 21% having significant patient care experience outside of the organization itself. Inexperience tends to manifest in increased reliance on established protocols rather than a more holistic overview of the patient. This highlights the need for collegiate EMS organizations that have not yet reached internal ALS-transport capacity, to further examine vital sign assessments, and their inherent limitations against a general population, which is necessary to create and enforce effective healthcare protocol prior to and in the transference of medical care.

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