distance were also linked to extended times (75% and 63%, respectively). Resource limitations were more of a challenge for LMICs (30.77% vs 18% in HICs), whereas policy and administrative issues affected 20% of HIC participants compared to none from LMICs. Almost all participants suggested that regular training (95%) and past MCI experience (90%) were key factors for optimizing PHTs. HIC respondents emphasized the benefits of effective communication for shorter PHTs, and improved security was prioritized in LMICs.
Conclusion: While geographical location and distance are non-modifiable factors, improving communication in MCI settings may decrease PHTs. Effective communication strategies should be integrated into MCI training and planning.

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Enhancing Triage for Elderly Earthquake Victims: A Comprehensive Analysis Using LASSO Regression and Nomogram Development

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Introduction: Earthquakes pose a significant threat to public health, particularly among the elderly population, who are more susceptible to injury and have a higher prevalence of comorbidities. Traditional disaster triage protocols may not adequately account for the complex interplay between acute trauma and pre-existing health conditions. This study aims to refine the triage process for elderly earthquake victims by integrating comorbidities into the assessment.
Methods: We conducted a retrospective analysis of a large dataset comprising 25,006 trauma patients aged 60 and older, extracted from public databases. The dataset included information on patient demographics, pre-existing comorbidities (such as hypertension, coronary heart disease, cancer, and diabetes), post-injury vital signs, and outcomes (survival or death).

To identify the most significant predictors of mortality among these patients, we utilized the Least Absolute Shrinkage and Selection Operator (LASSO) regression technique. We applied LASSO regression with cross validation to determine the optimal penalty parameter (lambda) that minimizes the mean squared error and ensures the model's generalizability.

Variables with non-zero coefficients in the LASSO model were deemed significant predictors of mortality. Using these predictors, we developed a nomogram—a visual, user-friendly tool—to assist healthcare professionals in making informed triage decisions in the chaotic aftermath of an earthquake.
Results: The LASSO regression analysis revealed renal failure, coronary heart disease, and the Revised Trauma Score (RTS) as the most influential predictors of mortality in the elderly trauma patients ($p < 0.05$). The nomogram incorporating these factors was validated and shown to have good discriminative ability and calibration.
Conclusion: The integration of LASSO regression and nomogram development offers a statistically rigorous and practical approach to enhancing the accuracy and efficiency of triage decisions for elderly earthquake victims, potentially improving survival rates and resource allocation in disaster response scenarios.

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Injury Patterns and Associated Flight Factors in Air Carrier Turbulence Accidents

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Introduction: Turbulence accidents in aviation are common and can cause serious injuries, but injury patterns and relevant flight characteristics are often overlooked. This study aimed to analyze aviation accidents, classify turbulence-related injuries, and identify associated flight factors.
Methods: This study was a retrospective database and chart review. The National Transportation Safety Board database was searched for air carrier accidents with serious injuries or fatalities from January 2014 to December 2023. Accident charts were hand-searched, and flight details with injury patterns were manually extracted and categorized by axial or extremity location and Anatomic Profile (AP) (Category A = head and spinal cord, Category B = thorax and anterior neck, Category C = remaining serious, Category D = remaining non-serious injuries). Injury types and severity are compared by flight phase and seatbelt status.
Results: A total of 153 air carrier serious accidents resulted in 156 casualties with serious injuries and five deaths. Turbulence was the most common cause (107, 69.9%) and was responsible for 117 (75.0%) casualties with serious injuries and no deaths. Fractures were the most common injuries (112, 72.3%) and were more likely sustained in turbulence-related accidents (OR 4.79, 95% CI 1.63-14.07). Location of fractures was axial in 34 (22.8%) and extremity in 78 (52.3%). AP was Category A in 16 (10.7%), B in 11 (7.4%), and C in 102 (68.5%) injuries. Fractures were less likely during cruising (OR 0.09, 95% CI 0.01-0.80) and more likely during descending (OR 21.95, 95% CI 1.19-403.4) flight phases. There was no significant association between seatbelt sign presence and fractures (OR 2.22, 95% CI 0.09-52.1).
Conclusion: Turbulence was the leading cause of aviation accidents and inflicted serious injuries like head and spine fractures, especially during flight descent. These findings can help airlines

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