

Economic Insights to Optimize Chain of Survival in Emergency Response

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Background:

Since economics is a social science studying individuals' behavior, it is plausible to employ its relevant concepts to study human behavior in the immediate response of lay citizens towards emergency incidents. In this context, economics has identified three types of policy lags in fiscal decisions that are of great interest to our study: recognition lag, decision lag, and implementation lag.

Objectives:

This study aims to apply the three policy lags in economics to the concept of 'chain of survival' (CoS), in the hope of enticing rethinking its first link, and to seek solutions for CoS's optimal activation.

Methods:

This cross-sectional study explores immediate responses to prehospital emergencies through a global online survey in four languages. It assesses how lay citizens recognize medical emergencies and activate the EMS system. Data is analyzed with SPSS v26 while summarizing qualitative variables via frequencies and percentages.

Results:

A total of 239 respondents were recruited in the survey from multiple countries. About 32% of the sample had recognition lag 95% CI of [26.3%, 38.2%]. Lower recognition lag scores were significantly associated with male gender, residing in Europe and Oceania, European and North American nationalities, and first aid training in last 5-10 years.

Around 70% of our sample had decision lag 95% CI of [63.6%, 75.3%]. The most statistically significant factor contributing to successful decision to calling for an ambulance was prior first aid training.

The average implementation lag score was 46%, which was defined as five minutes delay in calling for an ambulance or more.

Conclusion:

Applying concise terminology to the CoS's first link (i.e. calling EMS) reveals behavioral constrains to an effective and timely activation of the CoS. These findings clarify immediate behaviors at times of emergencies, and inform targeted awareness programs addressing behavioral elements for a successful activation of the EMS system.

