

Linear Growth Curve Multilevel Modeling Results					
Module	N Attempts	N Participants	Range of Attempts	Intra-class Correlation	Intercept (Fixed Effect)
M1: Planning	11010	5760	1-54	0.22	62.16***
M2: Triage	7755	5647	1-29	0.23	70.41***
M3L Age-Specific Care	8395	5603	1-20	0.21	60.28***
M4: Disaster Management	10747	5577	1-43	0.34	71.09***
M5: Emergency Code Response	6208	5567	1-16	0.27	80.11***
	Intercept Variance (Random Effect)	Slope (Fixed Effect)	Slope Variance (Random Effect)	Role Difference (Fixed Effect)	
M1: Planning	127.69***	1.84***	0.86***	16.24***	
M2: Triage	117.05***	0.97***	0.07	13.25***	
M3L Age-Specific Care	122.91***	0.59***	0.06	15.27***	
M4: Disaster Management	123.54***	3.77*	0.28**	12.62***	
M5: Emergency Code Response	64.60***	6.40*	N/A (Constant Slope)	10.95***	

**Table 1.** Linear Growth Curve Multilevel Modeling Results. \*Significant effect at P < 0.05; \*\*Significant effect at P < 0.01; \*\*\*Significant effect at P ≤ 0.001

*Prehosp Disaster Med* 2017;32(Suppl. 1):s18–s19  
doi:10.1017/S1049023X1700070X

### A Pilot Study to Assess Whether the Public can Achieve Consensus on Patient Prioritization with Allocation of Scarce Resources during a Catastrophic Pandemic

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**Study/Objective:** To ascertain the lay public’s choice as to which of three critical case-scenarios should receive the only ventilator immediately available during a catastrophic, like the 1918 pandemic.

**Background:** The medical/ethical literature continues to prepare the medical community about patient prioritization and allocation of scarce resources issues during a pandemic like 1918. There remains no consensus about what ethical framework to adopt and which tactical markers (ie, physiologic or demographic) to employ when critically ill patients require the same few resources.

**Methods:** An IRB-approved survey was developed and presented to a convenience sample of the general public. It contained a previously-published, validated pandemic case scenario involving three patient-cases, all of whom were critically ill and requiring the only ventilator available. Specific demographics and SOFA (Sequential Organ Failure Assessment) scores differed for each patient. Survival estimates based on the SOFA scores were provided assuming each patient received optimal ICU management.

**Results:** There were 39 lay public individuals in the pilot study. The case selected by the study group for the only ventilator was #1 (young female overdose): 22 (56.4%); #2 (geriatric acute vascular crisis): 1 (2.6%); and #3 (septic, middle-aged male): 15 (38.5%). The factors they considered for their selections, in descending order, were SOFA score, age, Glasgow Coma Score, pregnancy status, and dependents. Noteworthy is that Case #2 had a better chance of survival than patient #3 based on SOFA scores (ie, 50% survival vs 30% survival) and yet received only one vote for the ventilator.

**Conclusion:** These results validate the authors’ hypothesis that the general public will not achieve consensus regarding patient prioritization during a catastrophic, resource-poor pandemic. Should future studies verify this data, it should sound an alarm that public education on this subject is essential to avoid, at the very minimum, loss of confidence in the health care infrastructure.

*Prehosp Disaster Med* 2017;32(Suppl. 1):s19  
doi:10.1017/S1049023X17000711

### Hierarchical Task Analysis as a Method to Support Emergency Response Planning

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**Study/Objective:** The objective of the current work was to use the Hierarchical Task Analysis (HTA) method to support the process of planning the emergency response to a train accident in cold climate and inaccessible terrain. The HTA was used in order to 1) capture essential and critical tasks in a structured manner, 2) to facilitate group workshops, and 3) to identify potential problem areas and pitfalls.

**Background:** HTA is a type of task analysis that focuses on the overall goal of a complex activity. It proceeds to deconstruct the complex activity into subgoals needed to reach the overall goal, and subgoals to those subgoals, etc., through multiple iterations down to specific simple tasks or actions. HTAs are often the foundation for more complex analysis, such as human error or situation awareness analysis.

**Methods:** Three workshops were conducted with regional stakeholders (eg. rescue services, hospitals, ambulance services, police, etc.). The purpose was to construct new emergency response plans to train accidents in the region. An observer participated in the workshops to collect the data necessary for the HTA. Additional observations were conducted during a train accident training course for emergency services personnel, to incorporate more specific tasks into the HTA.

**Results:** The three main subgoals recognized in the HTA were 1) mobilizing resources, 2) establish efficient accident site