

Implementing Urgency and Probability of Injury Algorithms (CARS-Mayday)

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CARS-Mayday, a software tool originally developed for the Idaho State Police Communications Center (State Comm), receives and displays Mayday crash reports from OnStar-equipped vehicles. OnStar technology, first developed by General Motors, detects when an impact has occurred and automatically delivers crash details to a centralized response center using a standardized Vehicular Emergency Information (VEI) message. VEI reports include data that emergency responders use to determine the crash severity, such as vehicle speed and airbag deployment.

The CARS-Mayday software developed by Castle Rock includes an “EMS Response Screen” designed specifically for displaying the VEI data to Idaho’s State Comm operators, assisting them in responding to the crash. In addition to viewing imported VEI reports, dispatchers can also manually add information about the crash to help calculate a “probability of injury” (PoI) using a predictive function developed by researchers at the University of Miami. This experimental algorithm calculates a probability that a passenger was injured in the incident, represented by a percentage. The PoI correlates to thresholds that define the level of EMS response needed. In the future, CARS-Mayday may also include other, competing algorithms for evaluating the crash data to determine the likelihood of casualty.

The algorithms implemented in CARS-Mayday allow raw data to be quickly given a potentially meaningful value, which could help equip EMS teams to provide critical medical care more quickly, and improve the timeliness and accuracy of incident reporting to both the State and the Idaho traveling public.