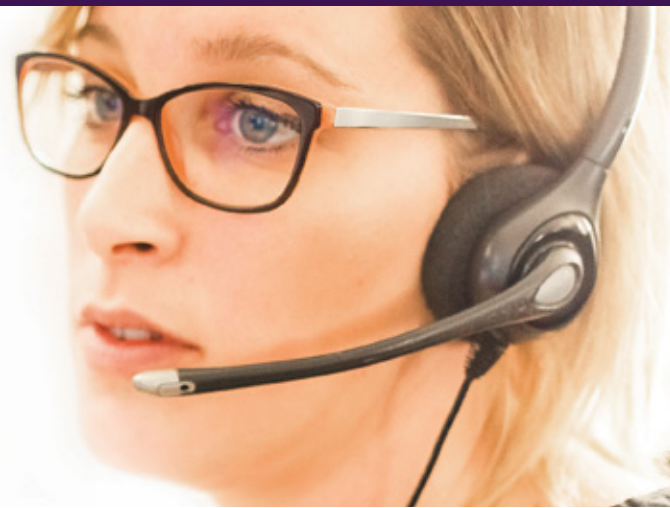




International Academies  
of Emergency Dispatch.



# EMERGENCY DISPATCH RESEARCH AT WORK

R E S E A R C H B R I E F

**EMDs  
IDENTIFIED  
AND SORTED  
NON-URGENT  
ILLNESS AND  
INJURY CASES  
TO A NON-  
EMERGENCY  
PRIORITY  
LEVEL (ALPHA)  
SAFELY AND  
CORRECTLY.**



## **CAN EMDs USING MPDS SAFELY IDENTIFY LOW-ACUITY ILLNESS AND INJURY?**

**Yes! By asking questions in order and as written.**

**Designed to Determine:** Low-acuity illness and injury are non-urgent medical conditions and symptoms. The Medical Priority Dispatch System™ (MPDS®) prioritizes emergency dispatch by illness and injury acuity. In order to use the system, Emergency Medical Dispatchers (EMDs) are trained to identify a caller's Chief Complaint, with particular attention to four priority symptoms: chest pain, alertness, breathing problems, and serious hemorrhaging.

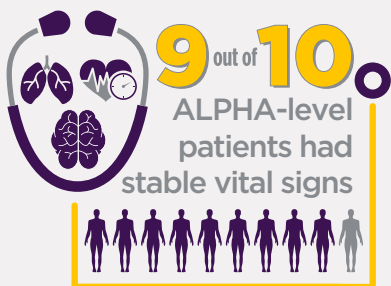
EMDs ask callers exactly what happened and actively listen to their response. Then the system leads them through a series of scripted questions whose answers reveal the presence or absence of priority symptoms or other relevant medical conditions and symptoms. It is a process of elimination and illumination. The system only includes questions that gather information directly impacting prioritization and response.

**Assign Acuity:** EMDs use callers' responses to assign acuity levels and select a Determinant Code used for response. There are six priority levels used to determine the urgency of the response: OMEGA (lowest), ALPHA, BRAVO, CHARLIE, DELTA, and ECHO (highest). Once EMDs identify callers' primary concerns through the scripted questions, they select one of these priority levels and a corresponding Determinant Code. Local agencies assign specific responses to each Determinant Code.

**Safe to Sort:** Triaging calls in this way reduces the chance of missing high-acuity illness and injury. To determine the safety of using the MPDS in practicing this type of medicine, a recent study identified and analyzed 16,763 patients assigned an ALPHA-level priority. On-scene medics measured these vital sign values: blood pressure, pulse rate, oxygen level, and alertness. They found that approximately 9 out of 10 patients did not have a single vital sign indicating an unstable patient status.

Additional studies confirm that trained and compliant EMDs correctly identify non-emergency calls more than 99% of the time. This means that these EMDs, using the system as designed, identified and sorted non-urgent illness and injury cases to a non-emergency priority level (ALPHA) safely and correctly.

### Safely Identifying Low-Acuity Calls



**Reserve Resources:** Identifying and sorting low-acuity calls helps local agencies send the right responders in the right way to every call. It is common for patients who are not experiencing true emergencies to call their local emergency number. According to one estimate, about 21% of emergency calls are a low-acuity (OMEGA and ALPHA) injury or illness. Instead of sending the same response for every call, local agencies can use acuity-based Determinant Codes to set up a tiered response. A tiered response reserves expensive and scarce emergency responder crews for critical, life-threatening emergencies.

Reserving resources for true emergencies also preserves the safety of responders and civilians along the response route. When EMDs respond with lights-and-siren, it is potentially dangerous for everyone. The National Highway Traffic Safety Administration (NHTSA) reported there are about 4,500 ambulance-related crashes and 33 deaths a year in the U.S. A tiered response reserves these resources and risks for true emergencies. The recent study of ALPHA-level cases confirmed that nearly 99% of patients did not require lights-and-siren transport to the hospital.

**Expect an Expert:** The public has been successfully educated to call their local emergency number when they need help. EMDs are the *first*, first responders to these calls. They can expertly triage calls by acuity and connect callers to appropriate resources and response. For low-acuity patients, this can mean safely connecting them to alternative care instead of sending an ambulance to transport them to an emergency room. 🌟

#### FOR MORE INFORMATION:

- Fivaz M et al. "Assessing Call Demand and Utilization of a Secondary Triage Emergency Communication Nurse System for Low Acuity Calls Transferred from an Emergency Dispatch System." *AEDR*, 2015.
- Gardett I et al. "911 Emergency Communication Nurse Triage Reduces EMS Patient Costs and Directs Patients to High-Satisfaction Alternative Point of Care." *AEDR*, 2015.
- Scott G et al. "Using On-Scene EMS Responders' Assessment and Electronic Patient Care Records to Evaluate the Suitability of EMD-Triaged, Low-Acuity Calls for Secondary Nurse Triage in 911 Centers." *Prehospital and Disaster Medicine*, 2016.
- Fivaz M et al. "White Paper Secondary Medical Triage Components."
- [emergencydispatch.org/about\\_ecns](http://emergencydispatch.org/about_ecns)

#### TAKE THE QUIZ FOR CDE CREDIT:

- Go to [learn.emergencydispatch.org](http://learn.emergencydispatch.org)
- LOGIN with your Username and Password, click COURSES, and click RESEARCH BRIEF



Christian Fohringer

## ALTERNATIVE CARE IN ACTION

When one of the two million residents in Lower Austria calls 144, they have access to more than just emergency medical services. **Emergency Communication Nurses (ECNs)** use their clinical training, over 200 protocols, and a directory of local providers and transportation options to provide telephone care for patients who call with non-emergency concerns.

**144 Notruf NOE** serves residents living in roughly 2,000 square kilometers and receives calls from many sources: direct calls on the 144 emergency line, direct calls on the 1450 dial-a-nurse line, and transfer calls from poison control, doctor help lines, and pharmacies. Similar to the communication centers worldwide using the MPDS, EMDs answer and triage, or sort, these calls.

Recently, as a result of significant healthcare reforms, Dr. Christian Fohringer, Medical Director, intensified his search for a solution to meet new requirements to lower overall medical costs and provide alternative care to patients not in need of an emergency room visit. On April 7, 2017, Notruf NOE **went live with the Emergency Communication Nurse System™ (ECNS™) and LowCode®**, its software logic engine. Using MPDS and ECNS, Notruf now offers residents a tiered response for emergencies including alternate points-of-care, self-care instructions, and transportation options for low-acuity patients.

Before the implementation, all calls to 144 required a doctor-equipped ambulance response. Now, like 13 other Medical Accredited Centers of Excellence using LowCode on four continents, **EMDs "warm-transfer" eligible low-acuity callers to ECNs** stationed in the same center. If a patient's condition worsens, or in any way requires an emergency response, ECNs reconfigure the call and return it to EMDs for re-evaluation and an ambulance dispatch. In many cases, they also provide a 24-hour follow-up call to rule out returning high-acuity problems.

In the first six months after implementing, ECNs have answered about 2,000 calls each month. While current policies still have EMDs send an ambulance for low-acuity patients who are alone or for callers who demand an ambulance, **the number of ambulances sent for low-acuity calls has dropped 51%**. 🌟