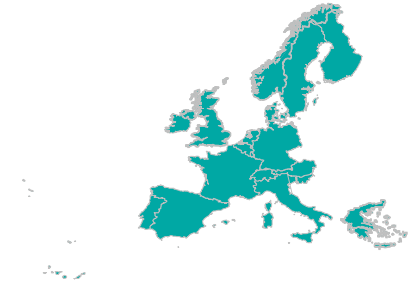


---

# European Emergency Data (EED) Project

## Benchmarking EMS in Europe



7th Congress of the  
European Resuscitation Council

**Jerry Overton**

**Richmond Ambulance Authority, Richmond, VA, USA**

**On behalf of the Steering Committee of the EED project**

**Contact: Ludwig-Maximilians-Universität München, Arbeitsgruppe GEOMED, D**

**[www.eed-project.de](http://www.eed-project.de)**

---

# Benchmarking

- EED Third Objective – “to develop crucial information . . .  
And to allow further comparisons
- Member States – Variety of System Designs
  - Hospital Based
  - Public Services
  - Contract Services
- Benchmarking Provides Conceptual Framework
  - System Performance
    - Clinical
    - Financial
  - Health Surveillance Monitoring

# Benchmarking Process

- Requirements
  - Standardized Definitions
  - Reliable Data
  - Accurate Reporting
  - Common Measurements
- Process
  - Instrument Developed
  - Pilot
    - Bonn, Germany
    - Cantabria, Spain
    - West Midlands, UK
    - Richmond VA, USA
  - Member States Input Gathered
  - Survey Conducted and Results Analyzed

## SYSTEMS BENCHMARKING SURVEY

Agency Name: \_\_\_\_\_

### 1. General Information

**Primary Services Area** – Defined as the geographical area for which the EMS agency has responsibility for emergency medical responses AND transports received from a publicly designated emergency access telephone number.

- 1.1 Organizational/legal structure, please describe (Government, nonprofit, private)  
\_\_\_\_\_  
\_\_\_\_\_
- 1.2 Reporting Period: Year ending \_\_\_\_\_ (Period for data provided)  
(month, day, year)
- 1.3 Agency's primary service area for emergency responses:  
Square Miles      Square Kilometers      *(Circle Appropriate Response)*
- 1.4 Primary service area population \_\_\_\_\_
- 1.5 Primary service area covers single or multiple jurisdictions:  
Single      Multiple      *(Circle Appropriate Response)*
- 1.6 A. Emergency responses (Designated emergency telephone number, and/or prioritized as emergencies) \_\_\_\_\_  
B. Non-emergency responses (Transfers, scheduled, and/or critical care) \_\_\_\_\_  
C. Total responses (1.6A + 1.6B) \_\_\_\_\_
- 1.7 A. Emergency transports (Designated emergency telephone number, and/or prioritized as emergencies) \_\_\_\_\_  
B. Non-emergency transports (Transfers, scheduled, and/or critical care) \_\_\_\_\_  
C. Total transports (1.7A + 1.7B) \_\_\_\_\_
- 1.8 Percentage of emergency responses resulting in a refusal or denial \_\_\_\_\_ %  
(A refusal or denial is defined as the arrival on scene and no patient is transported)

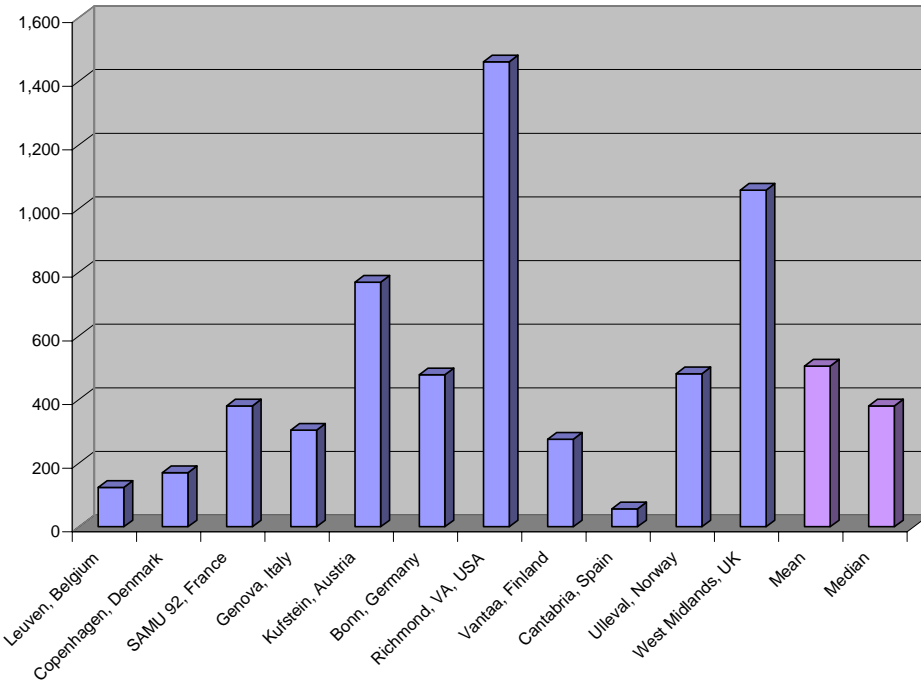
## Participants

- Leuven, Belgium
- Copenhagen, Denmark
- SAMU 92, France
- Genova, Italy
- Kustein, Austria
- Bonn Germany
- Richmond VA, USA
- Vantaa, Finland
- Cantabria, Spain
- Ulleval, Norway
- West Midlands, UK

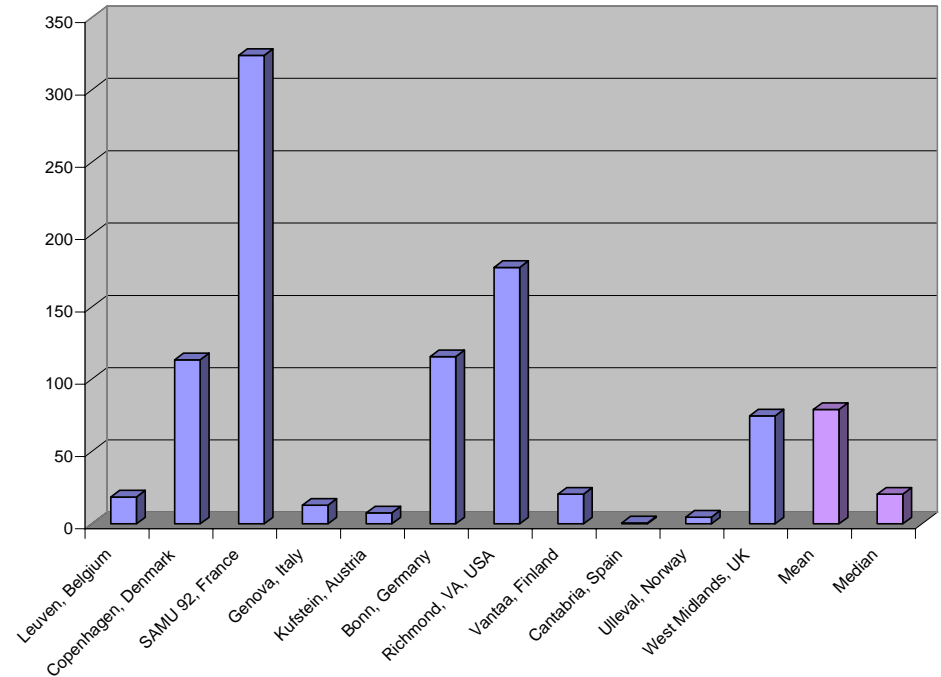
# European Emergency Data (EED) Project – Benchmarking EMS in Europe

## General Information and Response Time Reliability

Emergency Transports Per 10,000 Population



Emergency Transports Per Square Kilometer



Life Threatening Emergency Response Time Standards

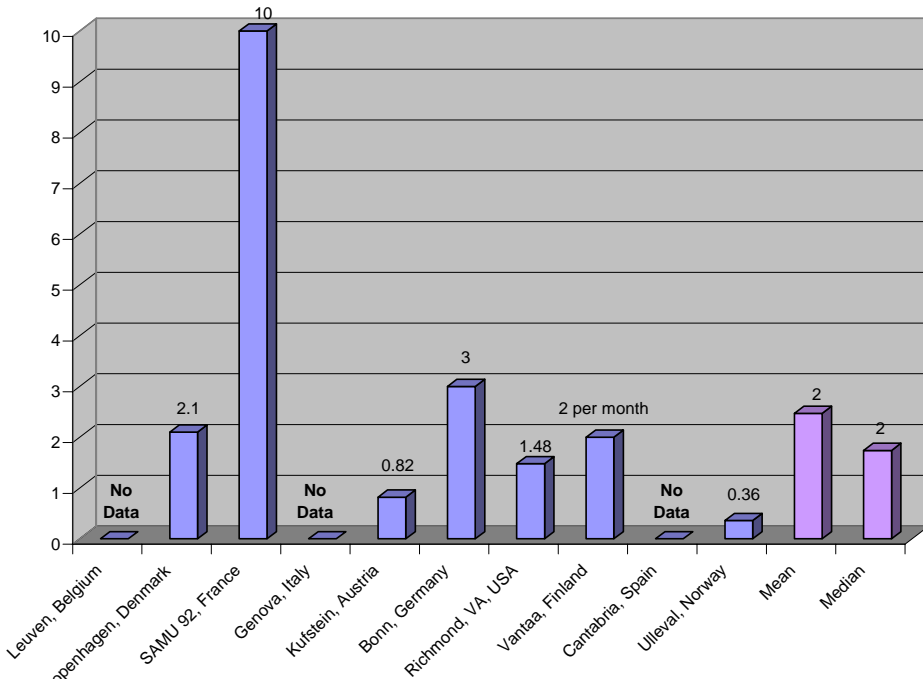
System	Minutes / Seconds	Compliance Standard
Copenhagen, Denmark	4:45	0%
Genova, Italy	8:00	0%
Bonn, Germany	7:59	90%
Richmond, VA, USA	8:59	90%
Ullevål, Norway	9:39	0%
West Midlands, UK	8:00	75%

**Mean** 7:53 43%  
**Mode** 8:00 NA

# European Emergency Data (EED) Project – Benchmarking EMS in Europe

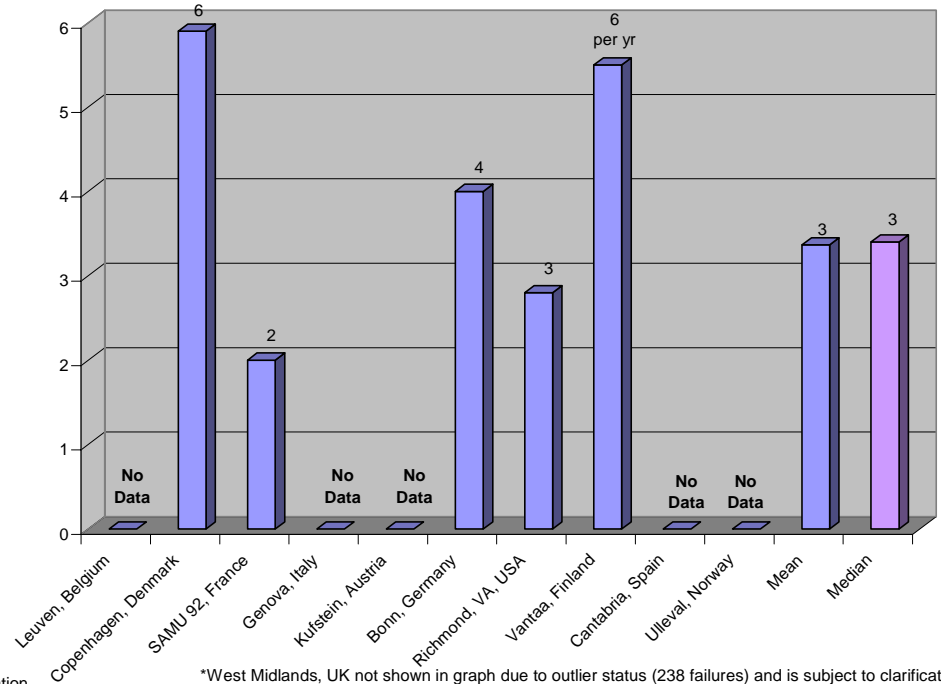
## Vehicle Reliability

Vehicle Collisions Per 100,000 Kilometers



\*West Midlands, UK not shown in graph due to outlier status (185 collisions) and is subject to clarification

Vehicle Failures Per 100,000 Kilometers



\*West Midlands, UK not shown in graph due to outlier status (238 failures) and is subject to clarification

# European Emergency Data (EED) Project – Benchmarking EMS in Europe

## Clinical Capability

### Minimal ALS Staffing

System	Number and Type of Staffing
Leuven, Belgium	1 nurse, 1 physician
Copenhagen, Denmark	1 intermediate, 1 basic
SAMU 92, France	1 physician, 1 nurse, 1 EMT
Genova, Italy	1 nurse, 1 physician
Kufstein, Austria	1 physician, 1 EMT
Bonn, Germany	1 paramedic, 1 physician
Richmond, VA, USA	1 paramedic, 1 basic
Vantaa, Finland	2 paramedics
Cantabria, Spain	1 physician, 1 nurse, 2 basic
Ullevål, Norway	1 paramedic, 1 intermediate
West Midlands, UK	1 paramedic, 1 basic

### Clinical Certifications

System	ACLS Certified	PHTLS (or equivalent) Certified	PALS (or equivalent) Certified
Leuven, Belgium	no data	no data	no data
Copenhagen, Denmark	85%	65%	no data
SAMU 92, France	no data	no data	no data
Genova, Italy	20%	60%	20%
Kufstein, Austria	100%	no data	no data
Bonn, Germany	100%	no data	no data
Richmond, VA, USA	97%	97%	96%
Vantaa, Finland	14%	not available	not available
Cantabria, Spain	100%	100%	100%
Ullevål, Norway	81%	98%	0%
West Midlands, UK	7%	20%	5%
<b>Mean</b>	67%	73%	44%
<b>Median</b>	85%	81%	20%



# European Emergency Data (EED) Project – Benchmarking EMS in Europe

## Clinical Capability (cont'd)

### Emergency Medical Dispatchers Minimum Certification Required for Ambulance Dispatcher

System	EMD	Basic	Inter-mediate	Para-medical	CPR	No Certification Required	Fire Fighter	Other
Leuven, Belgium								yes
Copenhagen, Denmark						yes		
SAMU 92, France								yes
Genova, Italy					yes			yes
Kufstein, Austria	yes	yes			yes			
Bonn, Germany	yes			yes			yes	Fire squad leader
Richmond, VA, USA	yes		yes		yes			
Vantaa, Finland								National Training Certification
Cantabria, Spain						yes		
Ullevål, Norway			yes					Nurses
West Midlands, UK	yes							

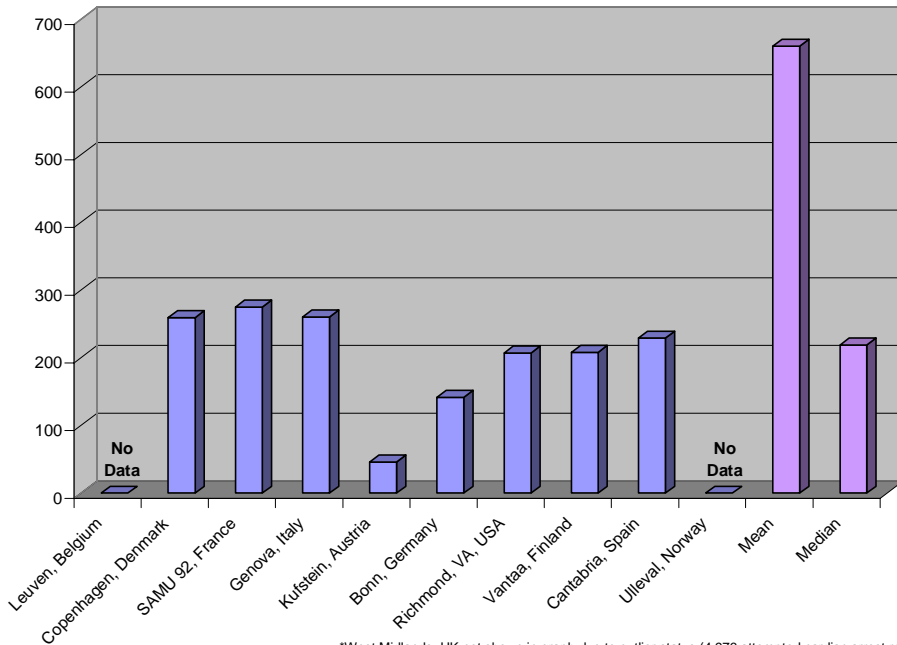
### Quality Improvement Case Review with Chart Review

System	Chart Review	Percentage
Leuven, Belgium	no data	
Copenhagen, Denmark	yes	3%
SAMU 92, France	yes	
Genova, Italy	no	
Kufstein, Austria	no	
Bonn, Germany	yes	100%
Richmond, VA, USA	yes	100%
Vantaa, Finland	no	100%
Cantabria, Spain	yes	100%
Ullevål, Norway	yes	
West Midlands, UK	yes	100%

# European Emergency Data (EED) Project – Benchmarking EMS in Europe

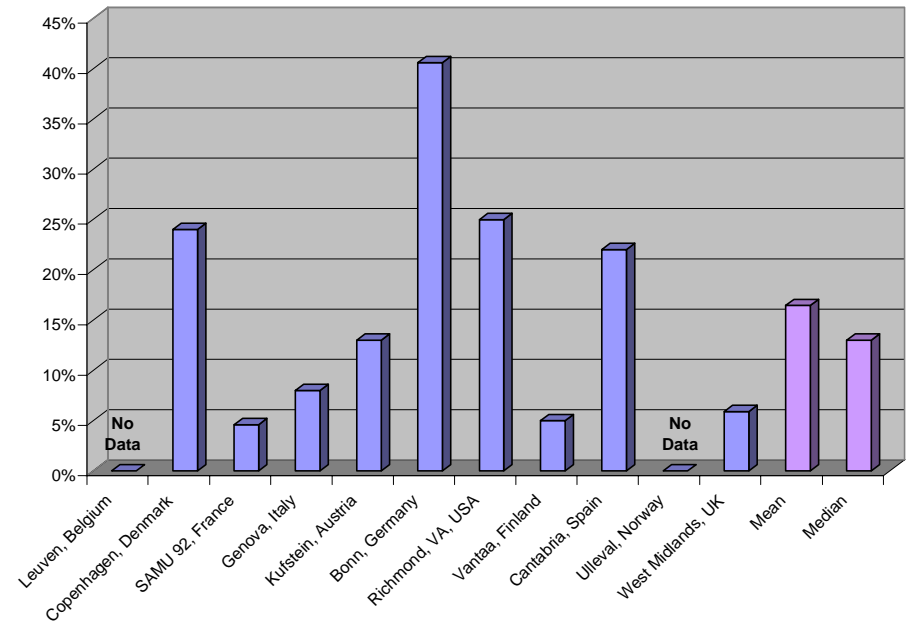
## Clinical Capability (cont'd)

**Number of Attempted Cardiac Arrest Resuscitations  
(Cardiac etiology)**



\*West Midlands, UK not shown in graph due to outlier status (4,976 attempted cardiac arrest resuscitations)

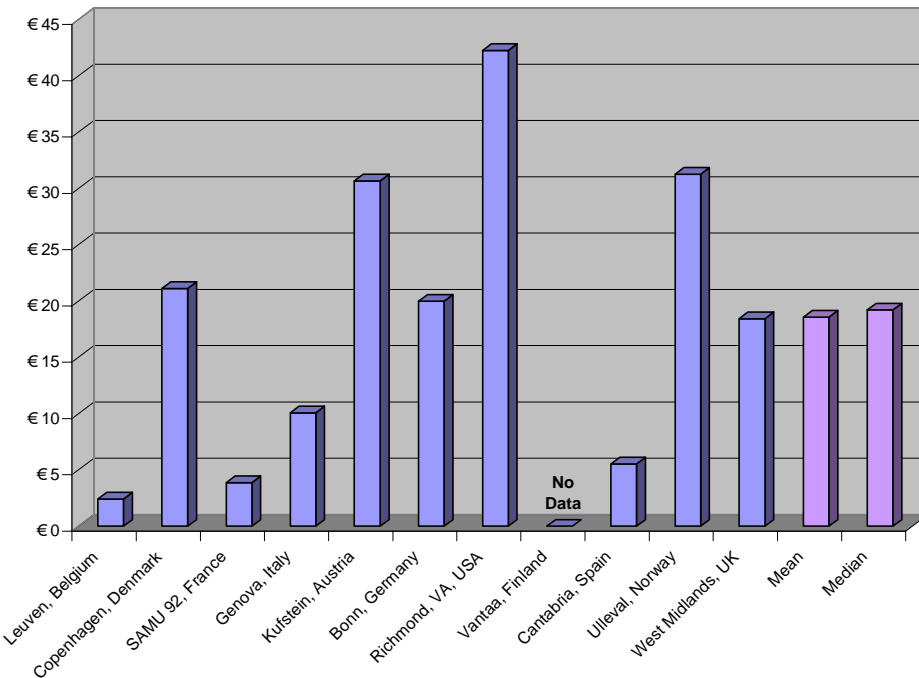
**Percentage of Successful Resuscitations  
(Cardiac etiology, patient reaching hospital with cardiac rhythm & pulse)**



# European Emergency Data (EED) Project – Benchmarking EMS in Europe

## Economic Efficiency

Total System Cost Per Capita



Cost Per Transport

