

EPIDEMIOLOGY SURVEY OF EMS SYSTEMS IN EUROPE

Updated 10th of September 2019

Baseline Characteristics

1. Country
 - Dropdown all European countries
2. Total number of started EMS missions per year in your country (including missions where EMS was alarmed but later “stood down”)
 - Number
 - Unknown
3. How is the EMS funded in your country?
 - Privat
 - Public
 - Both
 - Other – open answer
4. Number of hospitals with a 24/7 emergency department in your country?
(Definition: an emergency department/acute hospital can receive seriously ill or injured patients on a 24 hour basis)
 - Numbers only
 - Unknown
5. Are specialized Cardiac Arrest Centres for post Resuscitation care available in your country?
(Definition of cardiac arrest centres: institutions that have access to a 24-h cardiac catheterisation laboratory, targeted temperature management in a critical care facility and prognostication using multimodal approach including delayed clinical examination, neuroelectrophysiological measurements and biomarkers, (ERC Guidelines 2015))
 - Yes, all areas
 - Yes, some areas
 - None
 - Unknown
6. Are there bypass protocols in place which allow the EMS to bring patients directly to a primary PCI-capable hospital?
 - Yes
 - No
 - Unknown
7. Rural areas, median ambulance response time <10 minutes?
 - Yes, all areas
 - Yes, some areas
 - No
 - Unknown
8. Urban areas, median ambulance response time <10 minutes?
 - Yes, all areas
 - Yes, some areas
 - No
 - Unknown

Ambulance Service Characteristics

9. What is the occupation of the majority of health care providers in the EMS?

- Emergency physician
- Emergency nurse
- Paramedic
- Other
- Unknown

10. Does your EMS have a standardised report form for all EMS interventions?

- Yes, all areas
- Yes, some areas
- No
- Unknown

11. Does your country have a helicopter EMS?

- Yes
- No
- Unknown

If yes in question 11, answer 12 and 13, if no go to 14

12. Is helicopter EMS available 24/7?

- Yes, all areas
- Yes, some areas
- No
- Unknown

13. What proportion of your country is covered by the helicopter 24/7?

- 0-10
- 11-20
- 21-30
- 31-40
- 41-50
- 51-60
- 61-70
- 71-80
- 81-90
- 91-100

14. Does your country have an established first-responder system (alerted to OHCA by dispatch)?

(Definition of first responder: a person who is alerted and directed to the scene by an ambulance dispatch centre to help, but is NOT on-duty EMS personnel)

- Yes, all areas/regions
- Yes, some areas/regions
- No

15. In your ordinary EMS service, do you have volunteers staffing the ambulances?

- Yes

- No
 - Unknown
16. Level of training of ambulance personnel in your country
(ALS trained personnel have an ERC ALS course or similar)
- All are ALS trained
 - Some are ALS trained
 - None are ALS trained
17. Is equipment and expertise available for life-threatening trauma (life, limb) in all emergency ambulances?
- Yes, all
 - Yes, some
 - None
 - Unknown
18. ALS trained ambulance personnel in our country can do the following at arrival on scene without a doctor present (multiple choice):
(ALS trained personnel have an ERC ALS Course or similar training)
- Secure airways with supraglottic or endotracheal tubes
 - Intravenous/IO drug therapy
 - Manual defibrillation
 - Semi-automatic defibrillation
 - None of the above
19. Do physicians provide patient care on scene for OHCA patients as part of EMS?
- Yes, routinely
 - Yes, sometimes
 - No
 - Unknown
20. Are personnel on the first responding ambulance ALS trained?
- Yes, always
 - Sometimes
 - No
 - Unknown
21. Are personnel on the second responding ambulance ALS trained
- Yes, always
 - Sometimes
 - No
 - Unknown

Dispatch Characteristics

22. How many ambulance dispatch centres are in your country?
- Number
 - Unknown
23. Are the dispatch centres part of your ambulance service?
- All
 - Some
 - None

- Unknown
24. What is the approximate number of medical emergency calls received for your country in one year?
- Number only
 - Unknown
25. Is a standardised dispatch protocol used in your country?
- Yes, in all dispatch centres
 - Yes, in some
 - No
 - Unknown
26. Is 'dynamic deployment' used?
- Dynamic deployment means sending the nearest available ambulance/EMS resource
- Yes
 - In some areas
 - No
27. Is dispatch assisted bystander CPR offered?
- Yes
 - In some areas
 - No
28. Dispatch assisted CPR is:
- Compressions only
 - Full CPR
 - Situation dependent
 - Not implemented
29. Is a standard protocol for dispatch assisted bystander CPR used?
- Yes
 - In some areas
 - No

OHCA Resuscitation

30. Is real-time CPR performance data collected for feedback during CPR and/or debrief post-cardiac arrest?
- Yes
 - In some areas
 - No
 - Unknown
31. Is mechanical CPR used by ambulance personnel?
- Yes, in all of the country
 - Yes, in some areas
 - No
 - Unknown
32. Is advanced equipment used for resuscitation outside hospital in any part of your country (multiple choice)?
- ECMO

- REBOA
 - Other
 - No
 - Unknown
33. Is transport with ongoing CPR performed?
- Yes
 - Sometimes
 - No
 - Unknown
34. If yes in question 33: Under what circumstances is transport with ongoing CPR performed?
- Open answer
35. Is thrombolysis used in out-of-hospital cardiac arrest?
- Yes
 - In some areas
 - No
 - Unknown
36. Is a system for intraosseous (IO) access implemented and routinely used by ambulance personnel?
- Yes
 - In some areas
 - No
 - Unknown
37. Is a system for intraosseous (IO) access implemented and routinely used by emergency physicians?
- Yes
 - In some areas
 - No
 - Unknown
38. Is a team training in CPR for all EMS members implemented (ALS- BLS-paramedics, emergency physicians)?
- Yes
 - In some areas
 - No
 - Unknown
39. Are defibrillators (manual and/or automated external) available in vehicles dispatched for cardiac arrest?
- Yes, all
 - Yes, some
 - No
 - Unknown
40. Are there registries of publicly available AEDs in your country?
- Yes, all of the country
 - Yes, parts of the country
 - No

- Unknown

41. If yes, available in the dispatch centre

- Yes, all
- Yes, some
- No
- Unknown

Cardiac arrest registry

42. Is out-of-hospital cardiac arrest reported to a registry? (If yes or in some areas answer questions 42-50)

- Yes, national registry covering all of the country
- Yes, national registry covering parts of the country
- Yes, several local registries
- Yes, one local registry
- No
- Unknown

43. Is in-hospital cardiac arrest reported to a registry?

- Yes, national registry covering all hospitals
- Yes, national registry covering some hospitals
- Yes, several local registries
- Yes, one local registry
- No
- Unknown

44. What year was your out-of-hospital cardiac registry established?

- Four digit number

45. What year was your in-hospital cardiac registry established?

- Four digit number

46. How are out-of-hospital cardiac arrest registry cases identified by the registry (multiple choice)?

- Directly reported electronically from EMS
- Directly reported on paper from EMS
- Searching through patient records
- Identified from dispatch data
- Unknown

47. What are the case criteria for inclusion on your out-of-hospital cardiac arrest registry?

- Cardiac arrest confirmed by EMS
- Resuscitation started
- Unknown

48. Does your out-of-hospital cardiac arrest registry use Utstein definitions?

- Yes, 2004
- Yes, 2014
- Both 2004 and 2014
- No
- Unknown

49. Does your out-of-hospital cardiac arrest registry have a quality assurance process to ensure comprehensive data capture and accurate data recording?

- Yes
- No
 - If yes, please explain briefly (open text)

50. First time recorded in your dispatch centre for out-of-hospital cardiac arrest

- Time call received
- Time call answered
- Time call received in medical/ambulance dispatch centre
- Time call answered in medical/ambulance dispatch centre
- Time first ambulance resource dispatched to OHCA
- No dispatch time point recorded
- Other
- Unknown

51. When calculating response times, what timestamps from the ambulance are used?

- Time of first ambulance resource arrival on scene (i.e. car stopped)
- Time of arrival at patient side
- Other (please explain)
- Not calculated

52. Outcome variables available in the registry (multiple choice)?

- Any ROSC
 - All areas
 - Some areas
- Sustained ROSC
 - All areas
 - Some areas
- Status on arrival at hospital
 - All areas
 - Some areas
- Alive at discharge from hospital
 - All areas
 - Some areas
- Alive at 30 days
 - All areas
 - Some areas
- Alive at 1 year
 - All areas
 - Some areas
- CPC mRS or other at discharge
 - All areas
 - Some areas
- CPC or mRS 3-6 months after discharge
 - All areas
 - Some areas
- CPC or mRS more than 1 year after discharge

- All areas
- Some areas
- Quality of life (HUI-3, EQ-5D-3L, EQ-5D-5L, SF-36, SF-36v2, RAND or other standardised quality of life questioners)
 - All areas
 - Some areas
- Self-defined quality of life questions
 - All areas
 - Some areas

53. Have you published any articles relating to epidemiology from your country the last 10 years?

54. Please list first author and publication year of the last 5 articles from your country.