

Cardiac Arrest Elapsed Patient Care Times by Urbanicity

National EMS Database Report Specification

Purpose

This report describes national EMS elapsed times for several common response intervals among patients presenting with (or experiencing) a cardiac arrest by the urbanicity of EMS service areas.

Definitions

1. **Urbanicity Index for EMS Service Areas:** The urban nature of EMS service areas is categorized into four groups; Urban, Suburban, Rural and Wilderness. The definition of each category is based upon an “Urban Influence” coding system utilized by the United States Department of Agriculture (USDA) and the Office of Management and Budget (OMB). These codes take into account county population size, degree of urbanization and adjacency to a metropolitan area or areas. For a detailed description of code composition, see

<http://www.nemsis.org/nemsisReporting/nationalEMSDatabaseDescription.html>.

Codes are applied to the county or counties (defined by FIPS codes) declared by each agency to represent their formal service area. The urbanicity terms and definitions used are general in nature and are for National EMS Database Reports only. Terms do not reflect state or agency terminology. The categories within the urbanicity index are defined as follows:

Urban: (Urban Influence Codes 1,2) Counties with large (1+ million residents) or small (less than 1 million residents) metropolitan areas.

Suburban: (Urban Influence Codes 3,5) Micropolitan (with an urban core of at least 10,000 residents) counties adjacent to a large of small metropolitan county.

Rural: (Urban Influence Codes 4, 6, 8, 9) Non-urban core counties adjacent to a large metropolitan area or a small metropolitan area (with or without a town).

Wilderness: (Urban Influence Codes 7, 10, 11, 12) Non-core counties that are adjacent to micropolitain counties (with or without own town).

2. **Average Value:** The average is the sum (total amount) of all of the numbers divided by the number of items for a specific measurement.
3. **50% Fractile (Median) Value:** The number in the middle of the distribution of numbers. It is the point such that half of the numbers fall below and half above.
4. **90% Fractile Value:** The value or measurement at which 90% of all events occur. This is typically used in time measurements to better standardize performance across systems.

5. **Cardiac Arrest Event:** Indication of the presence of a cardiac arrest at any time prior to (or after) EMS arrival.

Required Data Elements

- * D01_04: EMS Agency County
- * E11_01: Cardiac Arrest
- * E02_04: Type of Service Requested
- * E02_20: Response Mode to Scene
- * E05_04: Unit Notified by Dispatch Date/Time
- * E05_06: Unit Arrived on Scene Date/Time
- * E05_09: Unit Left Scene Date/Time
- * E05_10: Patient Arrived at Destination Date/Time

1. EMS Agency County (D01_04) is used identify the county (or counties) for which an agency formally provides service. Urbanicity is then calculated for each identified county.
2. The Unit Notified Date (E05_04) is used to select the records for the Date Range
3. Select only records with E11_01 = Yes, prior to (or after) EMS arrival
4. Select only records with E02_04 = 911 Response (Scene)
5. Select only records with E02_20 = Lights and Sirens

Formulas

Response Time = E05_06 – E05_04

Scene Time = E05_09 – E05_06

Transport Time = E05_10 – E05_09

Exclusions/Limitations

For the purposes of charting, all elapsed patient care times that were negative, zero, or greater than 24 hours were removed. These records were removed prior to stratification by cardiac arrest events. The actual number of excluded cases will vary based upon the date range specified for each chart (see specific chart footer for number of excluded cases).