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Ambulance response times – what is the standard?

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The basis for prioritisation of response

A note on triage

“... those dangerously wounded must be attended first entirely without regard to rank or distinction and those less severely wounded must wait until the gravely hurt have been operated and addressed. “

Dominique Jean Larrey (1814)

Ambulance response times – perspectives

- Public expectation
- Clinical outcome
- Politicisation
- Bolam Breach

No one standard

- Different standards for each of the administrations in the UK
  - Categories
  - Times
  - National monitoring

Response standards

England

- Category 1
  - Immediately life threatening
  - 7 min (mean) 15 min (90%)
- Category 2
  - Emergency
  - 18 min (mean) 40 min (90%0
- Category 3
  - Urgent
- Category 4
  - Less urgent

Wales

- Red
  - Immediately life threatening
  - 8 min (65%)
- Amber
  - Serious but not immediately life threatening
- Green
  - Non urgent

Response standards

Scotland

- Purple
  - Cardiac arrest rate >10%
  - Reported 7:30 (median) 16:36 (90%)
- Red
  - Cardiac arrest rate –10%
  - Reported 9:19 (median) 21:51 (90%)

Scotland cont…

- Amber
  - Cardiac arrest <1% but high likelihood need for definitive care
  - Reported 18:46 (median) 48:47 (90%)
- Yellow
  - Can be treated at local ED or on scene
  - Reported 38:08 (median) 3:18:44 (90%)
- Green
  - All other calls

Reported 11 Jan 2023

Response standards

Northern Ireland

- Category 1
  - Potentially immediately life threatening
  - 8 min (mean), 15 min (90%)
- Category 2
  - Potentially serious
  - 18 min (mean) 40 min (90%)

Northern Ireland cont…

- Category 3
  - Urgent
  - 2 hrs (90%)
- Category 4
  - Less urgent
  - 3 hrs (90%)

When does the clock start? [England as an example]

- T0 – Phone ring (call connect)
- T1 – Phone pickup
- T2 – Address verification
- T3 – Nature of chief complaint
- T4 – ProQA chief complaint
- T5 – First MPDS code

- C1, earliest of; call coded, first resource allocated, 30 seconds after T0
- C2,C3,C4 , earliest of; call coded, first resource allocated, 240 seconds after T0

When does the clock stop? [England as an example]

- C1 (first vehicle)
  - Fully equipped ambulance
  - Fully equipped RRV
  - Ambulance commissioned to work on behalf of the trust
  - A first responder

  But
- the clock only stops when a vehicle capable of transporting vehicle arrives

- C2,3,4 (first vehicle)
  - Fully equipped ambulance
  - Fully equipped RRV
  - Ambulance commissioned to work on behalf of the trust

  But
- the clock only stops at the arrival of first vehicle of the type that transports the patient.

Arrival on scene

- Within 200m of the scene of the incident
  - May be erroneous
- Should not be regarded as being at the side of the patient
  - Access
  - PPE

Prioritisation

- Algorithm/decision support
  - NHS Pathways
  - Advanced Medical Priority Dispatch (AMPDS)

Clinical outcome

- Cardiac arrest
  - Potential for irreversible brain injury within 3 minutes
  - Pre arrival instructions
  - Public access defibrillators
  - Widely held belief, but not evidenced, survival may diminish by 10 every minute without defibrillation (if appropriate)
- Acute Coronary Syndrome, specifically Myocardial Infarction
  - Treatment windows for thrombolysis and primary percutaneous coronary intervention.
- Stroke
  - Thrombolysis or other treatment window (where eligible) for stroke
- May have additional transfer times to specialist centres

Triage within triage

- England
  - 2021-2022
    - Circa 9,878,091 calls
    - Circa 4,857,683 Cat 2 (**49%** of total calls)
- Wales
  - 2021-2022
    - Circa 481,137 calls
    - Circa 223,172 Amber (**46%** of total calls)

- Stratification of calls within category
  - Known time sensitive outcomes
  - Non time sensitive outcomes
  - Time sensitive outcomes not known

National NHS objectives 2023/24

“Improve category 2 ambulance response times to an average of 30 minutes across 2023/24, with further improvement towards pre-pandemic levels in 2024/25”

Interfacility transfer – patient in a hospital not best placed to treat them

- Concurrent with 999 calls, calls from HCP & NHS 111 calls
- Scotland
  - Now
  - One hour
  - Within 4 hours
- NHS England – Framework for inter-facility transfer

Prioritisation

- IFT level 1
  - a facility is unable to provide immediate life-saving clinical intervention
  - Cat 1 through 999 triage tool
- IFT level 2
  - immediate life, limb or sight (globe trauma) threatening (ILT) situations that require immediate management in another healthcare facility
  - mapped to a Cat 2 response
- IFT level 3
  - patients who do not require immediate life or limb saving interventions but require an increase in their level of clinical care as an emergency.
  - 30 mins to 2 hrs
- IFT level
  - require urgent transport for ongoing care but do not need to be managed as an emergency transfer.
  - Timeframe determined through their normal commissioning arrangements

Protracted response – Bolam breach?

- Incorrect coding
  - May not make a material difference.
  - Vanishingly scarce expert witnesses in coding (defendants often rely on statements from their staff)
- No resources available
  - Adequate polling for resources
  - ***Kent v Griffiths*** [2000] 2 All ER 474

An important feature of this case is that there is no question of an ambulance not being available or of a conflict in priorities … However, once there are available, both in the form of an ambulance and in the form of manpower, the resources to provide an ambulance on which there are no alternative demands, the ambulance service would be acting perversely.

Lord Woolfe Mr

Sources of information – response times

- Sequence of Events Log
  - Part of the Computerised Aided Dispatch Log
  - Will show polling for available resources as well as coding
  - Beware of excessive redaction
- Transcript of call/s
  - May inform clinical condition compared to coding.
  - Inc. calls for IFT
- Specific algorithm used to code call, usefulness dependent upon specific circumstances
- Audit of call
  - Internal audit of compliance with algorithm
  - May confirm or refute coding of the call
  - Not undertaken on all calls, but is likely if a complaint has been made

Thank you
Any Questions?

Dr Tim Kilner